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s25

Intel Xeon E5-1650 v3 testing with a Supermicro X10SRi-F v1.01 (1.0b BIOS) and ASPEED on CentOS Linux 8 via the Phoronix Test Suite.

Automated Executive Summary

uk7 had the most wins, coming in first place for 54% of the tests.

Based on the geometric mean of all complete results, the fastest (s28) was 1.866x the speed of the slowest (h7). uk7 was 0.994x the speed of s28, s25 was 0.742x the speed of uk7, s27 was 1x the speed of s25, s26 was 0.89x the speed of s27, h7 was 0.816x the speed of s26.

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

Flexible IO Tester (Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory) at 11.682x
Flexible IO Tester (Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory) at 7.647x
perf-bench (Benchmark: Futex Lock-Pi) at 7.636x
Flexible IO Tester (Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory) at 7.626x
Flexible IO Tester (Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target:

Default Test Directory) at 7.111x
perf-bench (Benchmark: Epoll Wait) at 7.103x
Flexible IO Tester (Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory) at 7.081x
Flexible IO Tester (Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory) at 6.44x
Flexible IO Tester (Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory) at 6.421x
OpenSSL (RSA 4096-bit Performance) at 6.369x.

Test Systems:

s25

Processor: Intel Xeon Gold 6238R @ 4.00GHz (28 Cores / 56 Threads), Motherboard: Supermicro X11SPL-F v1.02 (3.3 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 6 x 32 GB DDR4-2933MT/s 36ASF4G72PZ-2G9J3, Disk: 5758GB MR9361-8i, Graphics: ASPEED, Network: 2 x Intel I210

OS: CentOS Linux 8, Kernel: 4.18.0-193.19.1.el8_2.x86_64 (x86_64), Compiler: GCC 8.3.1 20191121, File-System: xfs, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: MQ-DEADLINE / attr2,inode64,noquota,relatime,rw,seclabel,sunit=128,swidth=512
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5002f01
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

s26

Processor: Intel Xeon Gold 6238R @ 4.00GHz (28 Cores / 56 Threads), Motherboard: Supermicro X11SPL-F v1.02 (3.4 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 6 x 32 GB DDR4-2933MT/s 18ASF4G72PZ-2G9B1, Disk: 5758GB MR9361-8i, Graphics: ASPEED, Network: 2 x Intel I210

OS: CentOS Linux 8, Kernel: 4.18.0-240.10.1.el8_3.x86_64 (x86_64), Compiler: GCC 8.3.1 20191121, File-System: xfs, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: MQ-DEADLINE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel,sunit=128,swidth=512 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5003003
Security Notes: SELinux + itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

s27

Processor: Intel Xeon Gold 6238R @ 4.00GHz (28 Cores / 56 Threads), Motherboard: Supermicro X11SPL-F v1.02 (3.4

BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 6 x 32 GB DDR4-2933MT/s 18ASF4G72PZ-2G9E1, Disk: 5758GB MR9361-8i, Graphics: ASPEED, Network: 2 x Intel I210

OS: CentOS Linux 8, Kernel: 4.18.0-305.3.1.el8.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel,sunit=128,swidth=512 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5003006
Security Notes: SELinux + itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

s28

Processor: Intel Xeon Gold 6312U @ 3.60GHz (24 Cores / 48 Threads), Motherboard: Supermicro X12SPL-F v2.00 (1.1 BIOS), Chipset: Intel Device 0998, Memory: 8 x 32 GB DDR4-3200MT/s 18ASF4G72PDZ-3G2E1, Disk: 6718GB MR9361-8i, Graphics: ASPEED, Network: 2 x Intel I210

OS: CentOS Linux 8, Kernel: 4.18.0-305.12.1.el8_4.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel,sunit=128,swidth=512 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd0002a0
Security Notes: SELinux + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

uk7

Processor: Intel Xeon Gold 6312U @ 3.60GHz (24 Cores / 48 Threads), Motherboard: Supermicro X12SPL-F v2.00 (1.1 BIOS), Chipset: Intel Device 0998, Memory: 8 x 32 GB DDR4-3200MT/s Samsung M393A4G40AB3-CWE, Disk: 6718GB MR9361-8i, Graphics: ASPEED, Network: 2 x Intel I210

OS: CentOS Linux 8, Kernel: 4.18.0-305.19.1.el8_4.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel,sunit=128,swidth=512 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd0002a0
Security Notes: SELinux + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

h7

Processor: Intel Xeon E5-1650 v3 @ 3.80GHz (6 Cores / 12 Threads), Motherboard: Supermicro X10SRi-F v1.01 (1.0b BIOS), Chipset: Intel Xeon E7 v3/Xeon, Memory: 4 x 16 GB 2133MT/s Micron 36ASF2G72PZ-2G1A2, Disk: 2047GB MR9271-8i, Graphics: ASPEED, Network: 2 x Intel I350

s25

OS: CentOS Linux 8, Kernel: 4.18.0-305.19.1.el8_4.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x46
Security Notes: SELinux + itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	s25	s26	s27	s28	uk7	h7
Flexible IO Tester - Rand Read - Sync - No - Yes - 64KB (MB/s)	373	**224**	411	1693	**1713**	757
Normalized	21.77%	13.08%	23.99%	98.83%	100%	44.19%
Standard Deviation	1.5%	1.6%	1.4%	0.3%	1.6%	1.6%
perf-bench - Futex Lock-Pi (ops/sec)	141	**140**	143	375	375	**1069**
Normalized	13.19%	13.1%	13.38%	35.08%	35.08%	100%
Standard Deviation		0.4%	0.8%			2.3%
Flexible IO Tester - Rand Read - Sync - No - Yes - 64KB (IOPS)	5974	**3593**	6567	27100	**27400**	12100
Normalized	21.8%	13.11%	23.97%	98.91%	100%	44.16%
Standard Deviation	1.5%	1.6%	1.5%	0.4%	1.6%	1.4%
Flexible IO Tester - Rand Write - Sync - No - Yes - 2MB (IOPS)	1453	1417	1463	1528	**1536**	**216**
Normalized	94.6%	92.25%	95.25%	99.48%	100%	14.06%
Standard Deviation		0.1%		0%		9.7%
perf-bench - Epoll Wait (ops/sec)	13157	**10836**	11983	13110	13683	**76969**
Normalized	17.09%	14.08%	15.57%	17.03%	17.78%	100%
Standard Deviation	3.4%	3.8%	0.3%	2.4%	0.1%	0%
Flexible IO Tester - Rand Write - Sync - No - Yes - 2MB	2907	2836	2926	3057	**3073**	**434**
Normalized	94.6%	92.29%	95.22%	99.48%	100%	14.12%
Standard Deviation		0.2%		0%		9.6%
Flexible IO Tester - Rand Read - Sync - No - Yes - 32KB (IOPS)	7567	**5078**	8264	32600	**32700**	15567
Normalized	23.14%	15.53%	25.27%	99.69%	100%	47.61%
Standard Deviation	1%	0.5%	1.8%		0.5%	1%

Flexible IO Tester - Rand Read - Sync - No - Yes - 32KB (MB/s)	237	159	258	1018	1021	486
Normalized	23.21%	15.57%	25.27%	99.71%	100%	47.6%
Standard Deviation	1%	0.4%	1.8%	0.1%	0.5%	1.2%
OpenSSL - R.4.b.P	6259	6039	6236	5537	5440	982.7
Normalized	100%	96.48%	99.63%	88.46%	86.91%	15.7%
Standard Deviation	0.1%	0.4%	0.3%	0.1%	0.3%	0%
Sysbench - CPU	46781	46518	46812	66482	66487	11125
Normalized	70.36%	69.97%	70.41%	99.99%	100%	16.73%
Standard Deviation	0%	0%	0%	0%	0%	0%
Flexible IO Tester - Rand Read - Sync - No - Yes - 16KB (MB/s)	136	104	146	585	584	303
Normalized	23.25%	17.78%	24.96%	100%	99.83%	51.79%
Standard Deviation	0.4%			0.2%	0.4%	0.2%
Flexible IO Tester - Rand Read - Sync - No - Yes - 16KB (IOPS)	8675	6686	9333	37400	37333	19433
Normalized	23.2%	17.88%	24.95%	100%	99.82%	51.96%
Standard Deviation	0.1%	0.2%	0.1%	0.3%	0.3%	0.3%
Flexible IO Tester - Rand Write - Sync - No - Yes - 4MB (IOPS)	735	720	737	769	773	142
Normalized	95.08%	93.14%	95.34%	99.48%	100%	18.37%
Standard Deviation		0.2%		0.1%		6.9%
Flexible IO Tester - Rand Write - Sync - No - Yes - 4MB	2941	2882	2952	3079	3094	570
Normalized	95.05%	93.15%	95.41%	99.52%	100%	18.42%
Standard Deviation	0%	0.2%	0%	0.1%	0.1%	6.9%
perf-bench - Syscall Basic (ops/sec)	4883425	13164105	12777794	14112184	14178878	2723282
Normalized	34.44%	92.84%	90.12%	99.53%	100%	19.21%
Standard Deviation	0.1%	0.4%	0.7%	0.6%	0.7%	0%
GROMACS - Water Benchmark (Ns/Day)	2.586	2.307	2.320	3.198	2.861	0.661
Normalized	80.86%	72.14%	72.55%	100%	89.46%	20.67%
Standard Deviation	0.4%	1.2%	1%	0.1%	0.6%	0%
Flexible IO Tester - Rand Read - Sync - No - Yes - 8KB	10167	8401	10900	39433	39467	21300
Normalized	25.76%	21.29%	27.62%	99.91%	100%	53.97%
Standard Deviation	0.6%	0.1%		0.1%	0.4%	
Flexible IO Tester - Rand Read - Sync - No - Yes - 8KB	79.3	65.6	85.3	308	308	166
Normalized	25.75%	21.3%	27.69%	100%	100%	53.9%
Standard Deviation	0.1%	0.2%	0.1%		0.4%	
Flexible IO Tester - Rand Write - Sync - No - Yes - 8MB	2948	2888	2949	3076	3093	680
Normalized	95.31%	93.37%	95.34%	99.45%	100%	21.99%
Standard Deviation	0%	0.3%			0%	1.9%

Flexible IO Tester - Rand Write - Sync - No - Yes - 8MB (IOPS)	368	361	368	384	**386**	**85**
Normalized	95.34%	93.52%	95.34%	99.48%	100%	22.02%
Standard Deviation		0.3%				
C-Ray - Total Time - 4.1.R.P.P (sec)	**31.791**	37.572	31.833	34.321	35.716	**138.213**
Normalized	100%	84.61%	99.87%	92.63%	89.01%	23%
Standard Deviation	1.4%	2.1%	1.7%	0%	0.4%	0%
FFTE - N.2.3.C.F.R (MFLOPS)	87941	72401	72111	**103370**	95303	**24377**
Normalized	85.07%	70.04%	69.76%	100%	92.2%	23.58%
Standard Deviation	0.3%	0.4%	0.9%	0.4%	0.3%	0.5%
Flexible IO Tester - Rand Read - Sync - No - Yes - 4KB	44.3	**39.3**	48.3	155	**156**	88.7
Normalized	28.4%	25.19%	30.96%	99.36%	100%	56.86%
Standard Deviation	0.3%	0.1%	0.3%			0.3%
Flexible IO Tester - Rand Read - Sync - No - Yes - 4KB	11333	**10100**	12367	39600	**39800**	22700
Normalized	28.47%	25.38%	31.07%	99.5%	100%	57.04%
Standard Deviation	0.5%		0.5%	0.4%	0.4%	0.4%
Flexible IO Tester - Rand Write - Sync - No - Yes - 64KB (MB/s)	1325	1304	1320	1400	**1414**	**458**
Normalized	93.71%	92.22%	93.35%	99.01%	100%	32.39%
Standard Deviation		0.1%	0.5%	0.3%	0.4%	4.8%
Flexible IO Tester - Rand Write - Sync - No - Yes - 64KB (IOPS)	21200	20867	21133	22400	**22600**	**7333**
Normalized	93.81%	92.33%	93.51%	99.12%	100%	32.45%
Standard Deviation		0.3%	0.5%		0.4%	4.8%
Flexible IO Tester - Rand Write - Sync - No - Yes - 128KB (MB/s)	1692	1695	1709	1815	**1852**	**611**
Normalized	91.36%	91.52%	92.28%	98%	100%	32.99%
Standard Deviation	1.1%	0.8%	0.7%	0.1%	0.2%	4.8%
Flexible IO Tester - Rand Write - Sync - No - Yes - 128KB (IOPS)	13567	13567	13667	14500	**14800**	**4890**
Normalized	91.67%	91.67%	92.34%	97.97%	100%	33.04%
Standard Deviation	1.1%	0.9%	0.4%			4.8%
Flexible IO Tester - Rand Write - Sync - No - Yes - 256KB (IOPS)	7943	8059	7934	8721	**8822**	**2958**
Normalized	90.04%	91.35%	89.93%	98.86%	100%	33.53%
Standard Deviation	1%	0.8%	0%	0.9%	0.5%	7%
Flexible IO Tester - Rand Write - Sync - No - Yes - 256KB (MB/s)	1986	2015	1983	2180	**2205**	**740**
Normalized	90.07%	91.38%	89.93%	98.87%	100%	33.56%
Standard Deviation	1%	0.8%		0.9%	0.5%	7%

Flexible IO Tester - Rand Write - Sync - No - Yes - 512KB (IOPS)	4686	4696	4752	5081	**5114**	**1835**
Normalized	91.63%	91.83%	92.92%	99.35%	100%	35.88%
Standard Deviation	0.9%	0.9%	0%	0.6%	0.3%	6.9%
Flexible IO Tester - Rand Write - Sync - No - Yes - 512KB (MB/s)	2343	2348	2376	2541	**2557**	**918**
Normalized	91.63%	91.83%	92.92%	99.37%	100%	35.9%
Standard Deviation	0.9%	1%	0%	0.6%	0.3%	6.9%
Flexible IO Tester - Rand Read - Sync - No - Yes - 1MB (IOPS)	2337	**1902**	2554	5037	**5044**	2830
Normalized	46.33%	37.71%	50.63%	99.86%	100%	56.11%
Standard Deviation			0.1%	0%		4.2%
Flexible IO Tester - Rand Read - Sync - No - Yes - 1MB	2338	**1909**	2555	5038	**5045**	2844
Normalized	46.34%	37.84%	50.64%	99.86%	100%	56.37%
Standard Deviation		2.1%	0.1%	0%	0%	3.5%
perf-bench - Futex Hash (ops/sec)	**1285177**	2682313	2797237	**3237424**	2990937	1303269
Normalized	39.7%	82.85%	86.4%	100%	92.39%	40.26%
Standard Deviation	0%	1.8%	1.3%	0.3%	0.6%	0%
Flexible IO Tester - Rand Read - Sync - No - Yes - 128KB (IOPS)	12075	**8030**	12057	19400	**19700**	10300
Normalized	61.29%	40.76%	61.2%	98.48%	100%	52.28%
Standard Deviation	2.9%	1.7%	2.6%		2.4%	1.7%
Flexible IO Tester - Rand Read - Sync - No - Yes - 128KB (MB/s)	1513	**1004**	1506	2427	**2463**	1287
Normalized	61.43%	40.76%	61.14%	98.54%	100%	52.25%
Standard Deviation	2.9%	1.8%	2.5%	0.1%	2.4%	1.8%
Flexible IO Tester - Rand Read - Sync - No - Yes - 2MB (IOPS)	1582	**1086**	1610	2552	**2565**	1643
Normalized	61.68%	42.34%	62.77%	99.49%	100%	64.05%
Standard Deviation		5.9%			0%	0.1%
Flexible IO Tester - Rand Read - Sync - No - Yes - 2MB	3166	**2173**	3220	5104	**5131**	3288
Normalized	61.7%	42.35%	62.76%	99.47%	100%	64.08%
Standard Deviation	0.1%	5.9%	0%	0%	0%	0.1%
Flexible IO Tester - Rand Write - Sync - No - Yes - 32KB (IOPS)	25367	21200	21300	27200	**27333**	**11620**
Normalized	92.81%	77.56%	77.93%	99.51%	100%	42.51%
Standard Deviation	0.5%		2.4%		0.2%	5%
Flexible IO Tester - Rand Write - Sync - No - Yes - 32KB (MB/s)	792	663	686	850	**855**	**365**
Normalized	92.63%	77.54%	80.23%	99.42%	100%	42.69%
Standard Deviation	0.5%	0.5%	0.2%			3.6%

Flexible IO Tester - Rand Read - Sync - No - Yes - 4MB (IOPS)	918	618	884	1390	1384	954
Normalized	66.04%	44.46%	63.6%	100%	99.57%	68.63%
Standard Deviation	0.6%	0.5%		2.2%	1.9%	
Flexible IO Tester - Rand Read - Sync - No - Yes - 4MB	3674	2475	3539	5563	5539	3819
Normalized	66.04%	44.49%	63.62%	100%	99.57%	68.65%
Standard Deviation	0.6%	0.5%		2.2%	2%	
Apache Benchmark - S.W.P.S (Reqs/sec)	25359	15777	26159	35285	32891	22159
Normalized	71.87%	44.71%	74.14%	100%	93.22%	62.8%
Standard Deviation	0.2%	0.1%	0.3%	0.2%	0.1%	1.3%
NGINX Benchmark - S.W.P.S (Reqs/sec)	23545	17363	27437	34912	38394	20314
Normalized	61.33%	45.22%	71.46%	90.93%	100%	52.91%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Timed PHP Compilation - Time To Compile (sec)	44.749	46.084	45.808	41.217	41.489	87.975
Normalized	92.11%	89.44%	89.98%	100%	99.34%	46.85%
Standard Deviation	0.3%	0.8%	0.8%	0.3%	0.5%	0%
perf-bench - Memset 1MB (GB/sec)	60.699343	65.290936	66.308858	61.655670	57.786471	31.680593
Normalized	91.54%	98.46%	100%	92.98%	87.15%	47.78%
Standard Deviation	0.4%	0.8%	1.2%	2.2%	4.7%	0.1%
glibc bench - sqrt (nanoseconds)	2.05075	1.93536	1.94806	1.84941	1.84819	3.79132
Normalized	90.12%	95.5%	94.87%	99.93%	100%	48.75%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0%
Flexible IO Tester - Rand Read - Sync - No - Yes - 8MB (IOPS)	535	356	495	719	721	515
Normalized	74.2%	49.38%	68.65%	99.72%	100%	71.43%
Standard Deviation		0.7%				
Flexible IO Tester - Rand Read - Sync - No - Yes - 8MB	4286	2854	3962	5758	5775	4121
Normalized	74.22%	49.42%	68.61%	99.71%	100%	71.36%
Standard Deviation	0%	0.8%	0%	0%	0.1%	
Flexible IO Tester - Rand Write - Sync - No - Yes - 1MB	2641	2640	2667	2840	2861	244.9
Normalized	92.31%	92.28%	93.22%	99.27%	100%	8.56%
Standard Deviation	0.1%			0.1%	0.1%	31.9%
Flexible IO Tester - Rand Read - Sync - No - Yes - 512KB (IOPS)	6577	5263	6770	8552	8470	4295
Normalized	76.91%	61.54%	79.16%	100%	99.04%	50.22%
Standard Deviation	2.1%	2.5%	2.2%	2.2%	1.8%	1.4%
Flexible IO Tester - Rand Read - Sync - No - Yes - 512KB (MB/s)	3289	2632	3385	4276	4235	2148
Normalized	76.92%	61.55%	79.16%	100%	99.04%	50.23%
Standard Deviation	2.1%	2.5%	2.2%	2.2%	1.8%	1.4%

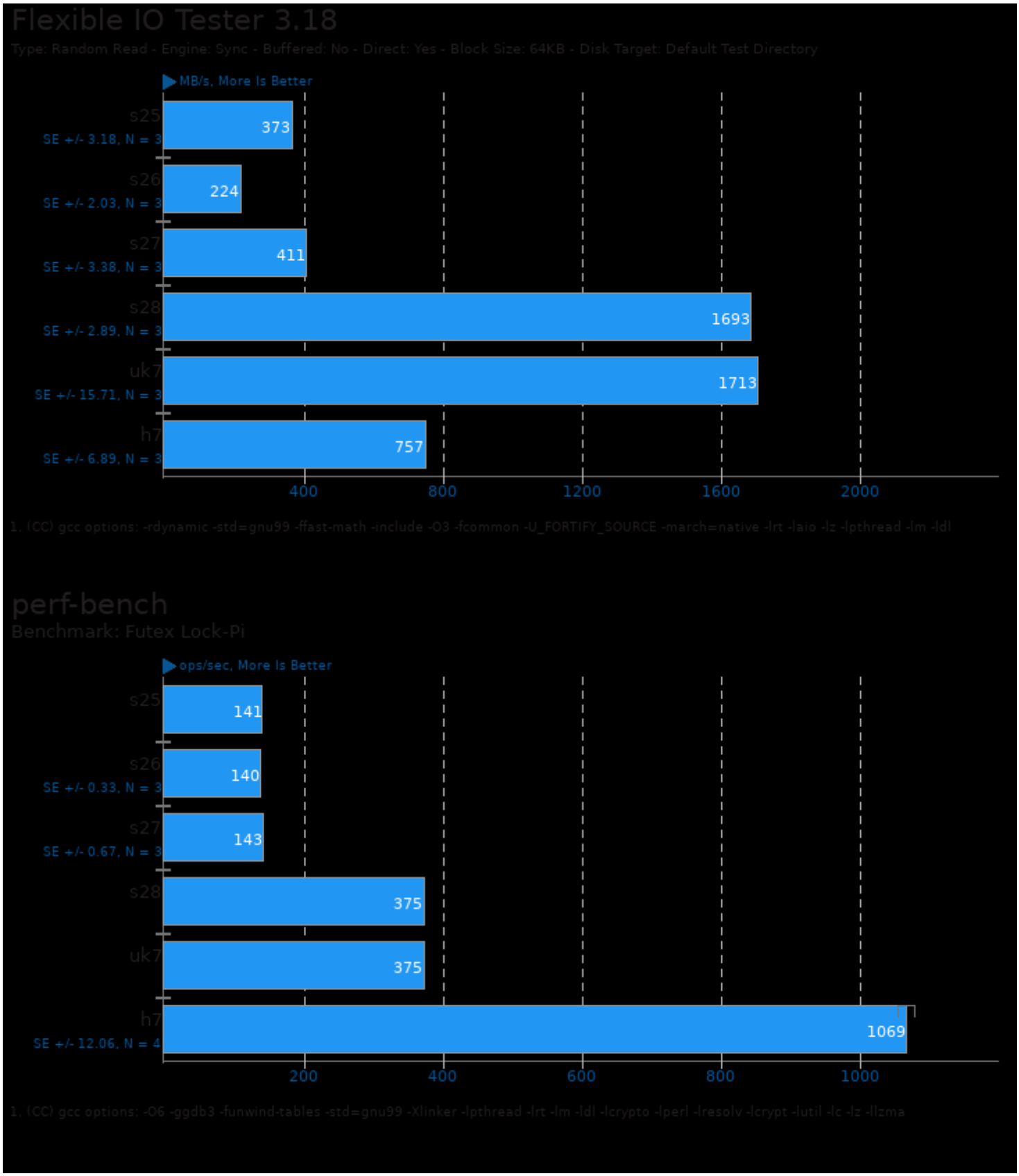
Flexible IO Tester - Rand Read - Sync - No - Yes - 256KB (MB/s)	2544	1870	2587	3217	**3230**	**1737**
Normalized	78.76%	57.89%	80.09%	99.6%	100%	53.78%
Standard Deviation	2.9%	2.2%	2.4%	0%	0.2%	1.7%
Flexible IO Tester - Rand Read - Sync - No - Yes - 256KB (IOPS)	10174	7478	10350	**12900**	**12900**	**6947**
Normalized	78.87%	57.97%	80.23%	100%	100%	53.85%
Standard Deviation	2.9%	2.2%	2.3%			1.7%
Flexible IO Tester - Rand Write - Sync - No - Yes - 16KB (MB/s)	444	354	370	473	**474**	**277**
Normalized	93.67%	74.68%	78.06%	99.79%	100%	58.44%
Standard Deviation		0.4%			0.1%	1.3%
Flexible IO Tester - Rand Write - Sync - No - Yes - 16KB (IOPS)	28433	22667	23667	30267	**30300**	**17733**
Normalized	93.84%	74.81%	78.11%	99.89%	100%	58.52%
Standard Deviation	0.2%	0.3%	0.2%	0.2%		1.2%
Flexible IO Tester - Rand Write - Sync - No - Yes - 4KB	29300	23500	24200	32300	**32367**	**19100**
Normalized	90.52%	72.6%	74.77%	99.79%	100%	59.01%
Standard Deviation			0.4%		0.2%	
Flexible IO Tester - Rand Write - Sync - No - Yes - 4KB	114	91.6	94.5	**126**	**126**	**74.5**
Normalized	90.48%	72.7%	75%	100%	100%	59.13%
Standard Deviation		0.1%	0.4%			0.1%
Flexible IO Tester - Rand Write - Sync - No - Yes - 8KB	227	183	188	249	**250**	**150**
Normalized	90.8%	73.2%	75.2%	99.6%	100%	60%
Flexible IO Tester - Rand Write - Sync - No - Yes - 8KB	29000	23433	24067	**31900**	31000	**19233**
Normalized	90.91%	73.46%	75.45%	100%	97.18%	60.29%
Standard Deviation		0.2%	0.2%			0.3%
glibc bench - log2 (nanoseconds)	9.46907	9.19731	9.16721	**7.81388**	7.81484	**11.9929**
Normalized	82.52%	84.96%	85.24%	100%	99.99%	65.15%
Standard Deviation	0%	0%	0%	0%	0%	0%
glibc bench - tanh (nanoseconds)	13.4317	13.1938	13.5677	**11.5451**	**11.5451**	**17.0957**
Normalized	85.95%	87.5%	85.09%	100%	100%	67.53%
Standard Deviation	0%	0%	6.1%	0.1%	0.1%	0.1%
glibc bench - sinh (nanoseconds)	11.5665	11.4660	11.5065	9.98145	**9.97209**	**14.6875**
Normalized	86.22%	86.97%	86.66%	99.91%	100%	67.9%
Standard Deviation	0.1%	0.1%	0%	0%	0.1%	4.3%
glibc bench - modf (nanoseconds)	2.56227	2.88061	2.19636	2.13077	**2.12997**	**3.12993**
Normalized	83.13%	73.94%	96.98%	99.96%	100%	68.05%
Standard Deviation	0.2%	0.3%	0.1%	0%	0%	0.1%

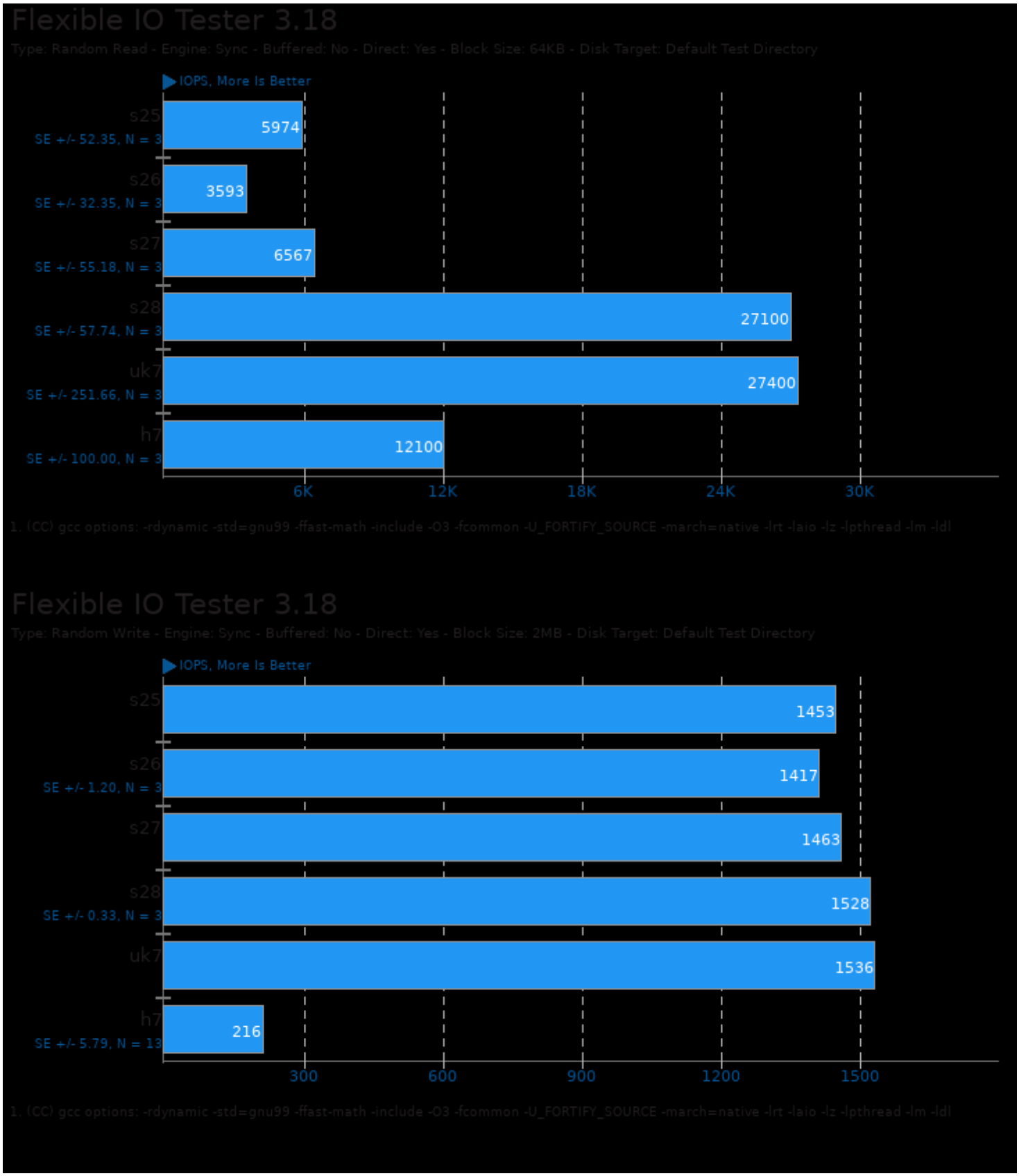
glibc bench - asinh (nanoseconds)	16.1367	15.7602	15.7573	**14.7259**	14.7423	**20.3084**
Normalized	91.26%	93.44%	93.45%	100%	99.89%	72.51%
Standard Deviation	0.2%	0.1%	0.1%	0%	0.2%	0.1%
Minion - Solitaire (sec)	69.324861	69.888077	70.052898	**60.730609**	61.132379	**82.818578**
Normalized	87.6%	86.9%	86.69%	100%	99.34%	73.33%
Standard Deviation	1.4%	1.8%	2.4%	2.2%	2.1%	0.9%
glibc bench - exp (nanoseconds)	7.39950	7.59185	7.38088	6.77176	**6.72517**	**9.09046**
Normalized	90.89%	88.58%	91.12%	99.31%	100%	73.98%
Standard Deviation	0%	0%	0.1%	1.2%	0%	0%
Minion - Graceful (sec)	51.374509	51.615354	50.453271	**45.726860**	46.548537	**61.755549**
Normalized	89.01%	88.59%	90.63%	100%	98.23%	74.04%
Standard Deviation	1.6%	0.9%	1.4%	2.3%	0.6%	0.8%
RAMspeed SMP - Scale - Integer (MB/s)	30654	**24190**	24775	**32627**	31568	24377
Normalized	93.95%	74.14%	75.93%	100%	96.75%	74.71%
Standard Deviation	1.3%	5.9%	1.5%	0.1%	1.2%	1.1%
RAMspeed SMP - Average - Integer (MB/s)	32784	**24888**	27899	**32912**	31582	26392
Normalized	99.61%	75.62%	84.77%	100%	95.96%	80.19%
Standard Deviation	1.5%	1.3%	5.9%	0%	1.2%	0.7%
glibc bench - pthread_once (nanoseconds)	1.80634	1.70242	1.68921	1.58193	**1.56822**	**2.05981**
Normalized	86.82%	92.12%	92.84%	99.13%	100%	76.13%
Standard Deviation	0.1%	0.2%	0%	0.2%	0%	0.1%
glibc bench - ffsll (nanoseconds)	1.78799	1.68660	1.68664	1.57086	**1.56877**	**2.05830**
Normalized	87.74%	93.01%	93.01%	99.87%	100%	76.22%
Standard Deviation	0%	0.1%	0.1%	0%	0%	0%
glibc bench - ffs (nanoseconds)	1.78604	1.68702	1.68543	1.57120	**1.57074**	**2.05825**
Normalized	87.95%	93.11%	93.2%	99.97%	100%	76.31%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0%
RAMspeed SMP - Scale - Floating Point (MB/s)	30928	25493	26467	**32396**	31154	**24838**
Normalized	95.47%	78.69%	81.7%	100%	96.17%	76.67%
Standard Deviation	1.5%	4.4%	3.8%	0.1%	0.8%	0.4%
RAMspeed SMP - Copy - Integer (MB/s)	32500	**25455**	27054	**32796**	31655	26019
Normalized	99.1%	77.62%	82.49%	100%	96.52%	79.34%
Standard Deviation	0.2%	4.5%	0.2%	0.1%	1%	0.4%
RAMspeed SMP - Triad - Floating Point (MB/s)	32819	**26180**	28611	**33670**	31972	27933
Normalized	97.47%	77.75%	84.98%	100%	94.96%	82.96%
Standard Deviation	0.3%	0.4%	4.4%	0.1%	0.2%	0.3%
RAMspeed SMP - Copy - Floating Point (MB/s)	32705	26234	26988	**32841**	31687	**25725**
Normalized	99.59%	79.88%	82.18%	100%	96.49%	78.33%
Standard Deviation	0.8%	7.1%	4.7%	0.1%	1%	0.5%
glibc bench - atanh (nanoseconds)	12.9182	12.4072	**12.4039**	12.4167	12.4383	**15.7905**
Normalized	96.02%	99.97%	100%	99.9%	99.72%	78.55%

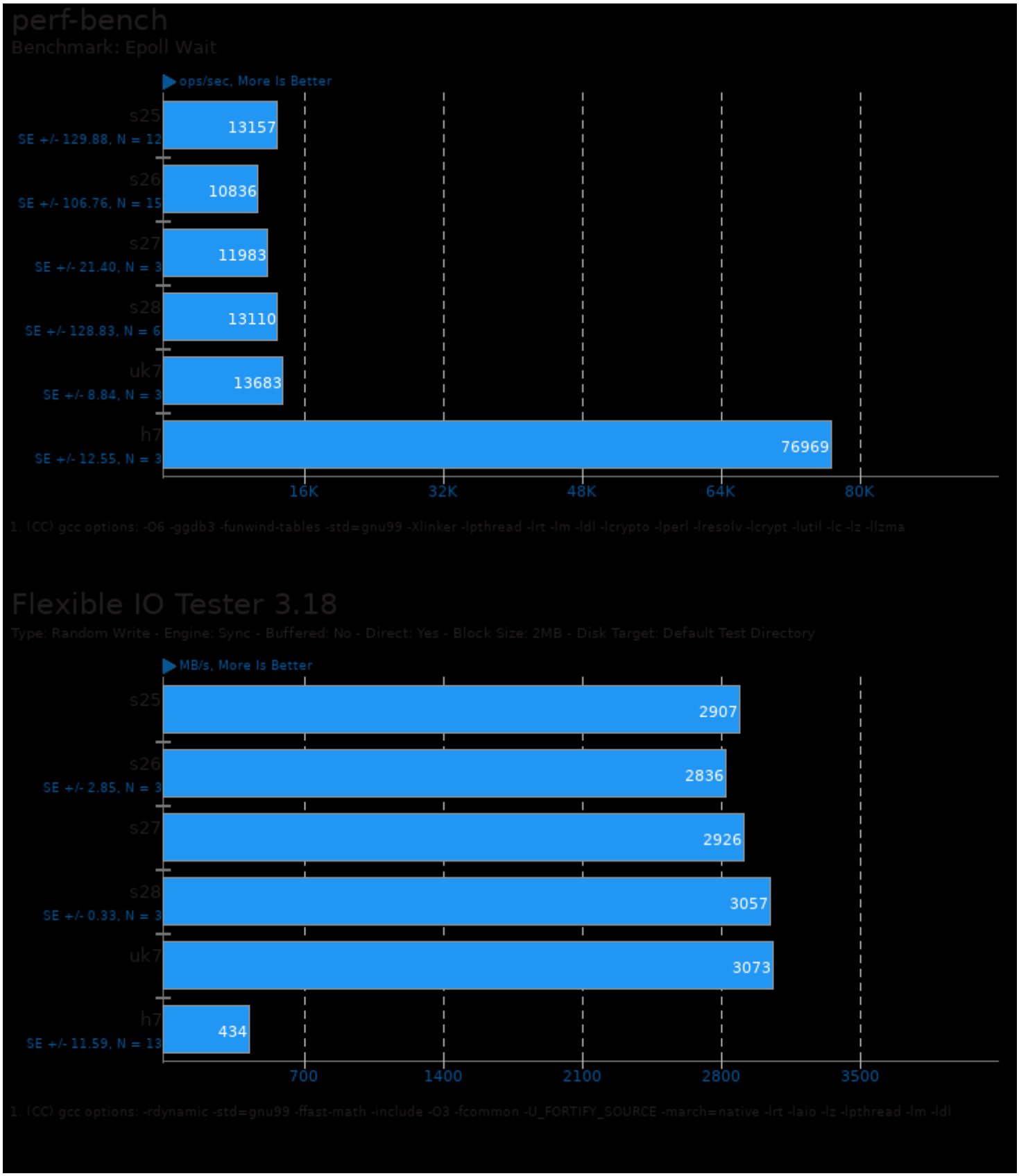
Standard Deviation	3%	0%	0%	0%	0.3%	0.2%
PHP Micro Benchmarks - Zend bench (sec)	0.415	0.416	0.416	0.367	0.362	0.453
Normalized	87.23%	87.02%	87.02%	98.64%	100%	79.91%
Standard Deviation	0.1%	0.2%	0.3%	2.3%	0.7%	0.3%
RAMspeed SMP - Average - Floating Point (MB/s)	32133	26679	27312	33208	31641	26569
Normalized	96.76%	80.34%	82.25%	100%	95.28%	80.01%
Standard Deviation	0.5%	6.2%	4.4%	0.1%	0.1%	0.2%
RAMspeed SMP - Add - Floating Point (MB/s)	32963	27230	28158	33692	32385	28158
Normalized	97.84%	80.82%	83.58%	100%	96.12%	83.58%
Standard Deviation	2%	2.3%	4.2%	0.2%	1.4%	1.1%
glibc bench - sincos (nanoseconds)	15.4933	15.5203	15.5193	14.0148	14.0107	17.2961
Normalized	90.43%	90.27%	90.28%	99.97%	100%	81%
Standard Deviation	0.2%	0.2%	0.2%	0.1%	0%	0.3%
PHPBench - P.B.S (Score)	597554	594332	597504	677935	676329	550854
Normalized	88.14%	87.67%	88.14%	100%	99.76%	81.25%
Standard Deviation	0.2%	0.3%	0.2%	0.2%	0.2%	0.6%
RAMspeed SMP - Add - Integer (MB/s)	33622	28518	28613	33076	31205	27449
Normalized	100%	84.82%	85.1%	98.38%	92.81%	81.64%
Standard Deviation	1%	6.1%	4.9%	0.1%	0.2%	0.3%
RAMspeed SMP - Triad - Integer (MB/s)	32591	27267	27734	32921	31269	26961
Normalized	99%	82.83%	84.24%	100%	94.98%	81.9%
Standard Deviation	2.2%	8.4%	6.2%	0.1%	0.3%	0.3%
glibc bench - cos (nanoseconds)	54.1252	54.1369	54.1195	46.6746	46.5860	56.6240
Normalized	86.07%	86.05%	86.08%	99.81%	100%	82.27%
Standard Deviation	0%	0.1%	0%	0.4%	0.1%	0.6%
glibc bench - sin (nanoseconds)	52.8859	52.8484	52.8056	45.8526	45.8828	55.7304
Normalized	86.7%	86.76%	86.83%	100%	99.93%	82.28%
Standard Deviation	0.2%	0.2%	0.2%	0%	0.1%	0.1%
PHP Micro Benchmarks - Zend micro_bench (sec)	2.215	2.214	2.207	1.959	1.965	2.380
Normalized	88.44%	88.48%	88.76%	100%	99.69%	82.31%
Standard Deviation	0.5%	0.6%	0.1%	0.9%	1.1%	0.4%
Sysbench - Memory (Events/sec)	17930664	18613408	17640125	20738247	21304511	17590807
Normalized	84.16%	87.37%	82.8%	97.34%	100%	82.57%
Standard Deviation	0.2%	1.5%	0.9%	2.3%	1.1%	0.2%
Minion - Quasigroup (sec)	110.193229	110.516612	110.644700	111.014869	111.970120	131.649501
Normalized	100%	99.71%	99.59%	99.26%	98.41%	83.7%
Standard Deviation	0.3%	0.6%	0.1%	0.2%	1.6%	0.1%
perf-bench - Sched Pipe (ops/sec)	208562	220132	211376	200625	196930	227785
Normalized	91.56%	96.64%	92.8%	88.08%	86.45%	100%
Standard Deviation	1.6%	2%	1.7%	7.9%	0.7%	0.3%

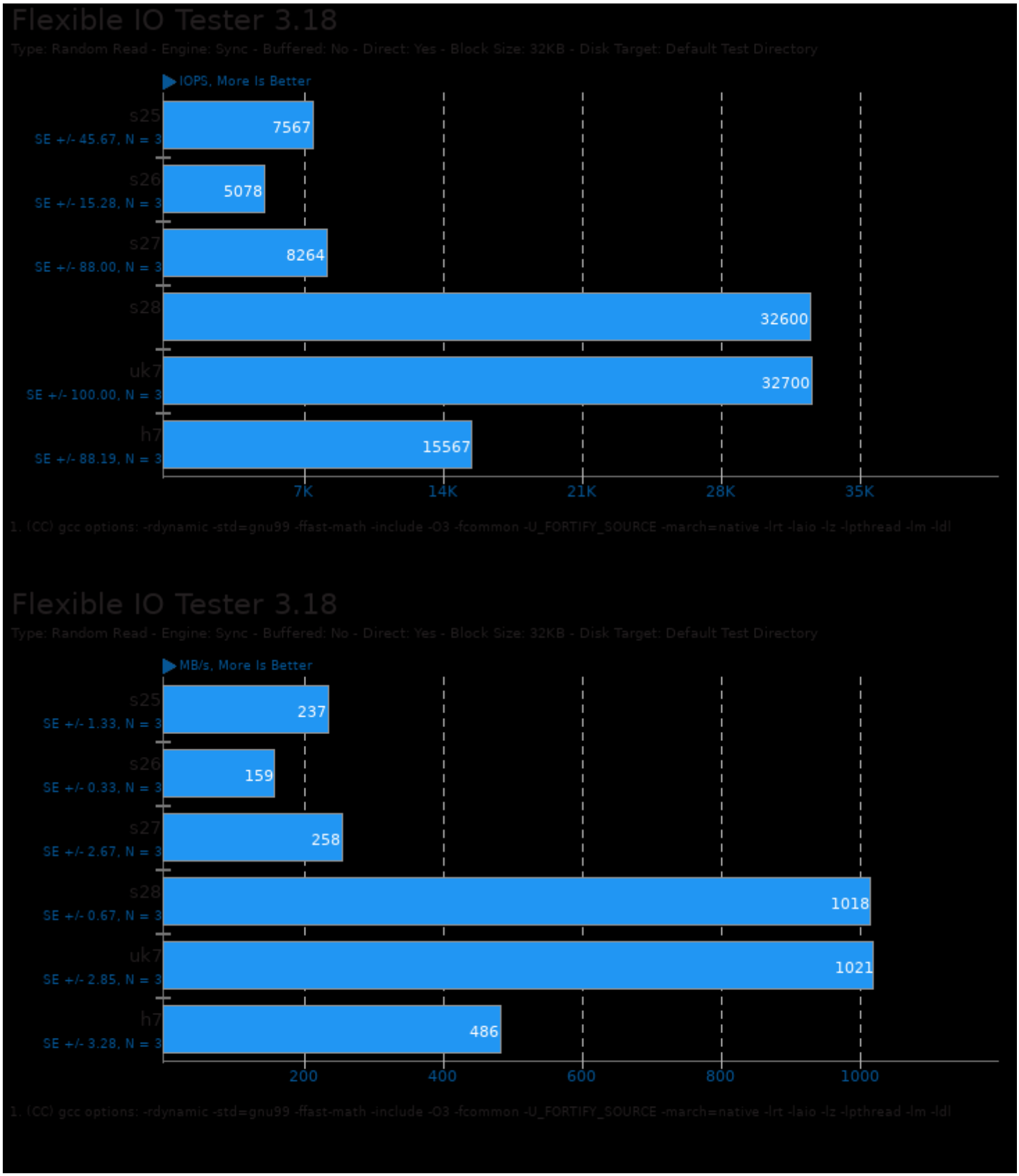
s25

perf-bench - Memcpy 1MB (GB/sec)	**15.927344**	17.136837	**17.147632**	16.418132	16.899801	16.372118
Normalized	92.88%	99.94%	100%	95.75%	98.55%	95.48%
Standard Deviation	1.4%	1.7%	1.9%	0.4%	1.4%	0%
Gzip Compression - L.S.T.A.T.t.g (sec)	40.895	**40.922**	40.586	**38.855**	38.857	40.267
Normalized	95.01%	94.95%	95.73%	100%	99.99%	96.49%
Standard Deviation	0.2%	0.2%	0.2%	0%	0.1%	1%
MariaDB - 256 (Queries/sec)	506					
Standard Deviation	0.1%					
MariaDB - 128 (Queries/sec)	620					
Standard Deviation	0.1%					
MariaDB - 64 (Queries/sec)	1497					
Standard Deviation	0.3%					
MariaDB - 32 (Queries/sec)	3713					
Standard Deviation	0.2%					
MariaDB - 16 (Queries/sec)	7958					
Standard Deviation	0.9%					
MariaDB - 8 (Queries/sec)	10992					
Standard Deviation	1.9%					
MariaDB - 4 (Queries/sec)	13575					
Standard Deviation	0.8%					
MariaDB - 1 (Queries/sec)	16195					
Standard Deviation	0.8%					
Flexible IO Tester - Rand Write - Sync - No - Yes - 1MB (IOPS)	2639	2641	2665		**2858**	**197**
Normalized	92.34%	92.41%	93.25%		100%	6.89%
Standard Deviation	0.1%					34.2%

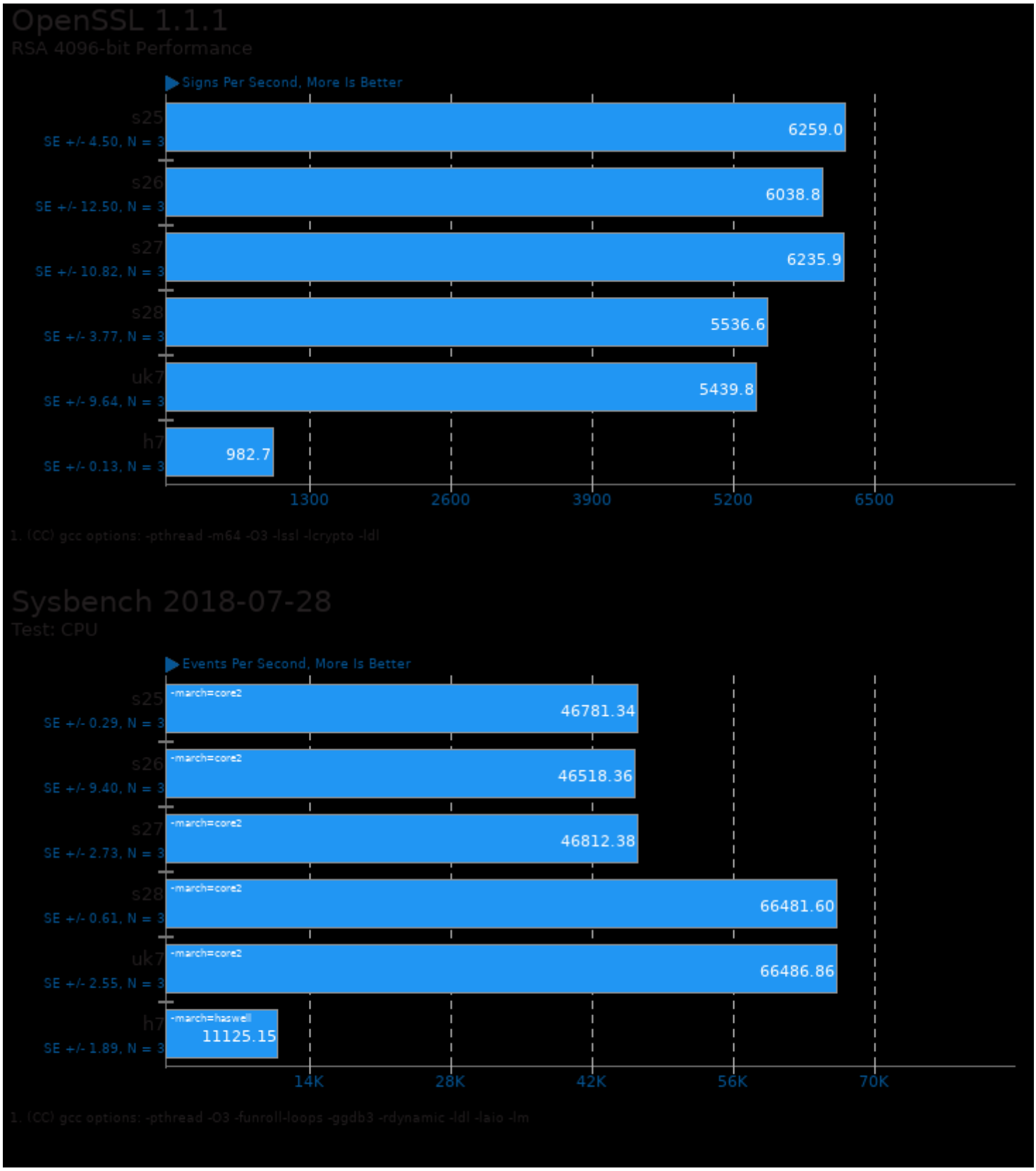

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
373
SE +/- 3.18, N = 3
s26
224
SE +/- 2.03, N = 3
s27
411
SE +/- 3.38, N = 3
s28
1693
SE +/- 2.89, N = 3
uk7
1713
SE +/- 15.71, N = 3
h7
757
SE +/- 6.89, N = 3
400
800
1200
1600
2000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
perf-bench
Benchmark: Futex Lock-Pi
ops/sec, More Is Better
s25
141
s26
140
SE +/- 0.33, N = 3
s27
143
SE +/- 0.67, N = 3
s28
375
uk7
375
h7
1069
SE +/- 12.06, N = 4
200
400
600
800
1000
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma

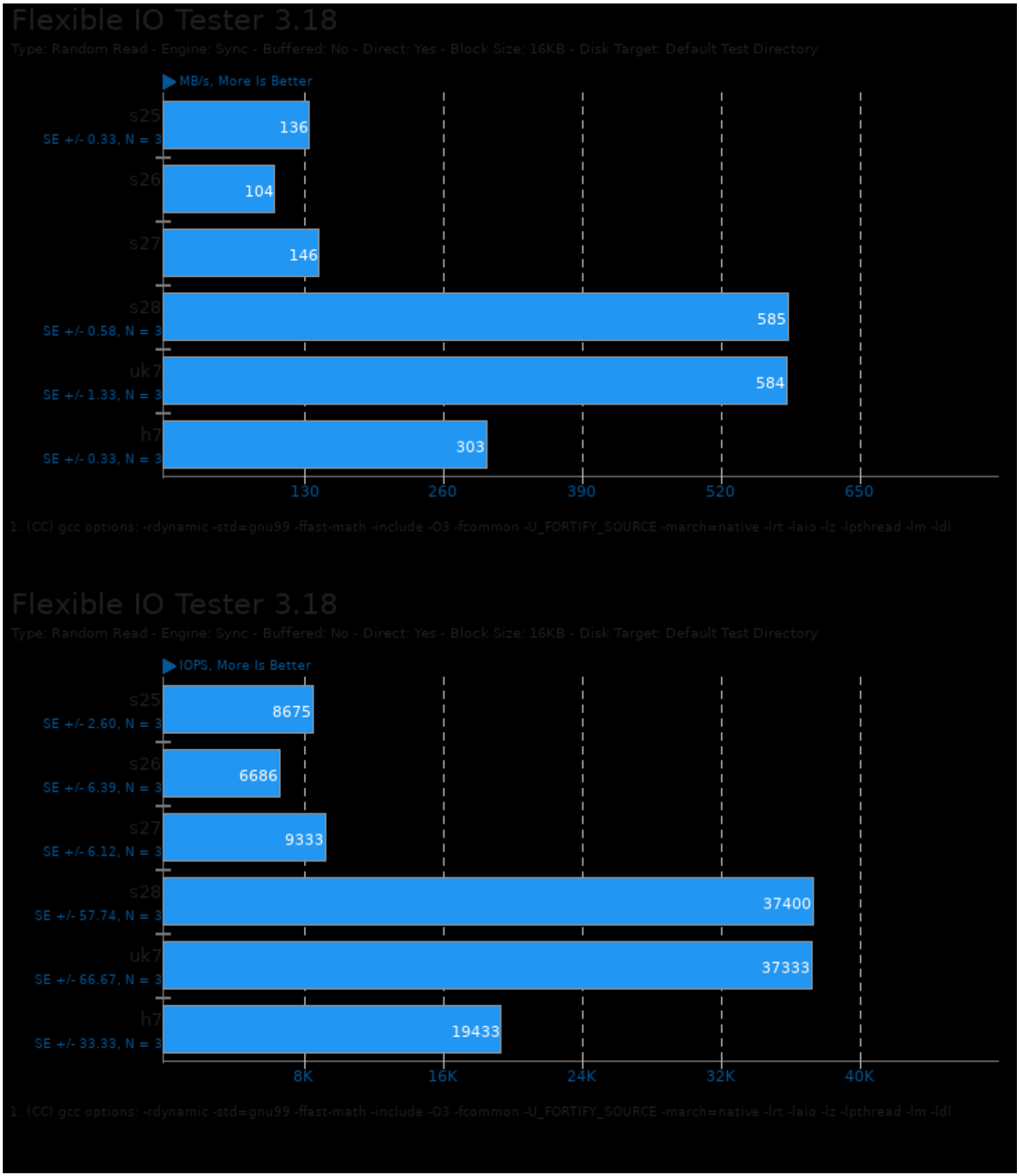

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 52.35, N = 3
5974
s26
SE +/- 32.35, N = 3
3593
s27
SE +/- 55.18, N = 3
6567
s28
SE +/- 57.74, N = 3
27100
uk7
SE +/- 251.66, N = 3
27400
h7
SE +/- 100.00, N = 3
12100
6K
12K
18K
24K
30K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
1453
s26
SE +/- 1.20, N = 3
1417
s27
1463
s28
SE +/- 0.33, N = 3
1528
uk7
1536
h7
SE +/- 5.79, N = 13
216
300
600
900
1200
1500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

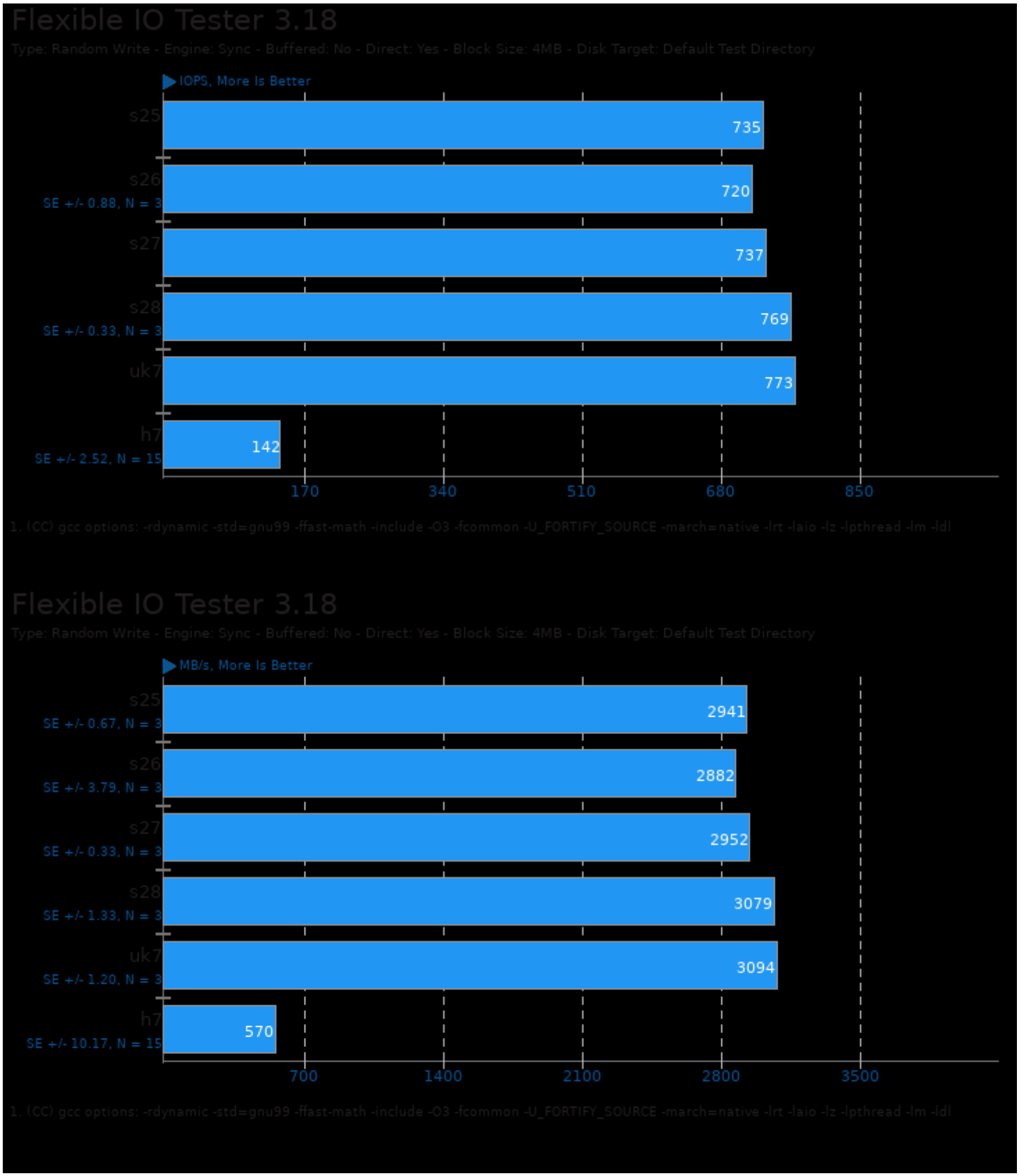

perf-bench
Benchmark: Epoll Wait
ops/sec, More Is Better
s25
SE +/- 129.88, N = 12
13157
s26
SE +/- 106.76, N = 15
10836
s27
SE +/- 21.40, N = 3
11983
s28
SE +/- 128.83, N = 6
13110
uk7
SE +/- 8.84, N = 3
13683
h7
SE +/- 12.55, N = 3
76969
16K
32K
48K
64K
80K
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
2907
s26
SE +/- 2.85, N = 3
2836
s27
2926
s28
SE +/- 0.33, N = 3
3057
uk7
3073
h7
SE +/- 11.59, N = 13
434
700
1400
2100
2800
3500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

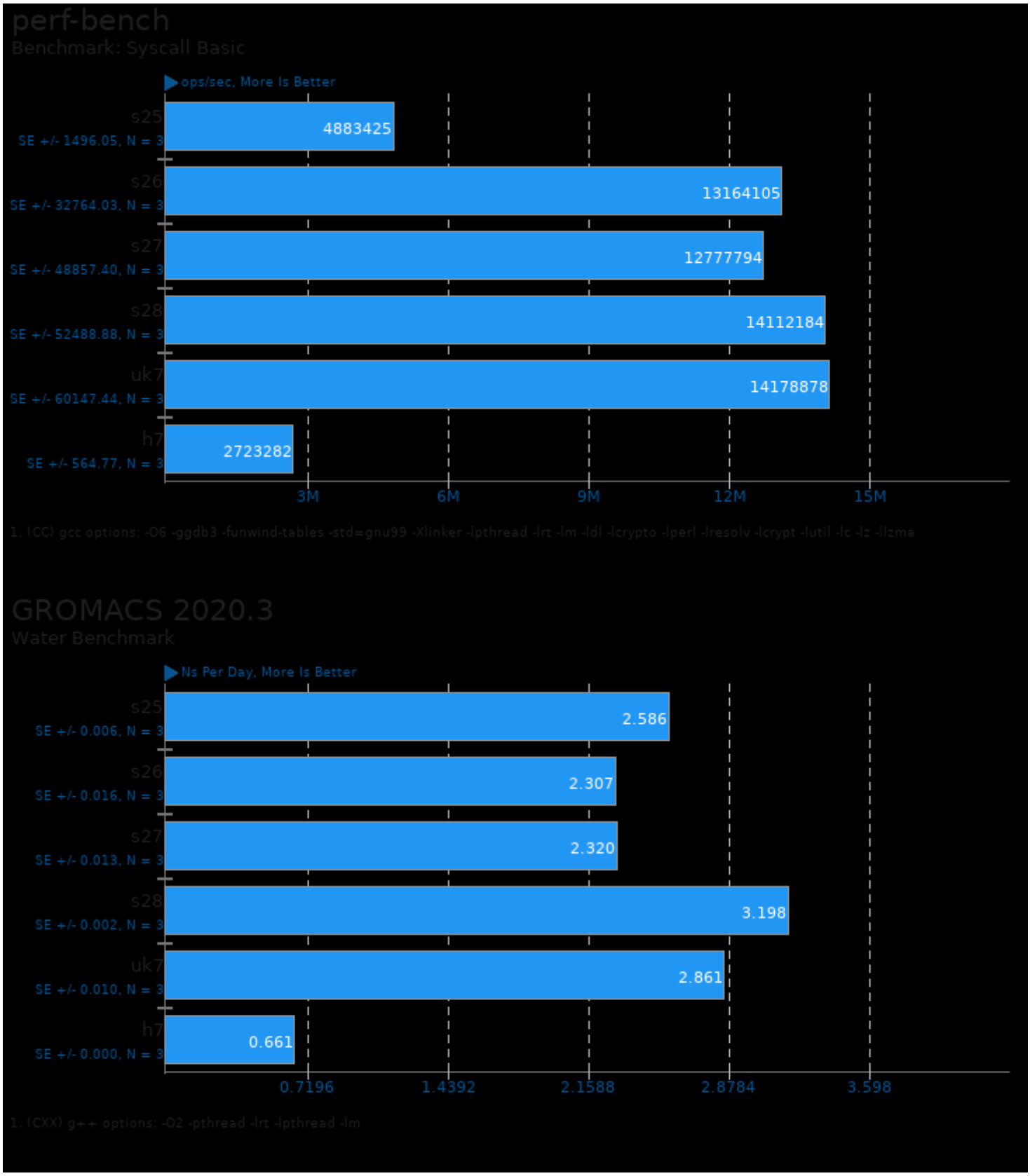

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 45.67, N = 3
7567
s26
SE +/- 15.28, N = 3
5078
s27
SE +/- 88.00, N = 3
8264
s28
32600
uk7
SE +/- 100.00, N = 3
32700
h7
SE +/- 88.19, N = 3
15567
7K
14K
21K
28K
35K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 1.33, N = 3
237
s26
SE +/- 0.33, N = 3
159
s27
SE +/- 2.67, N = 3
258
s28
SE +/- 0.67, N = 3
1018
uk7
SE +/- 2.85, N = 3
1021
h7
SE +/- 3.28, N = 3
486
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

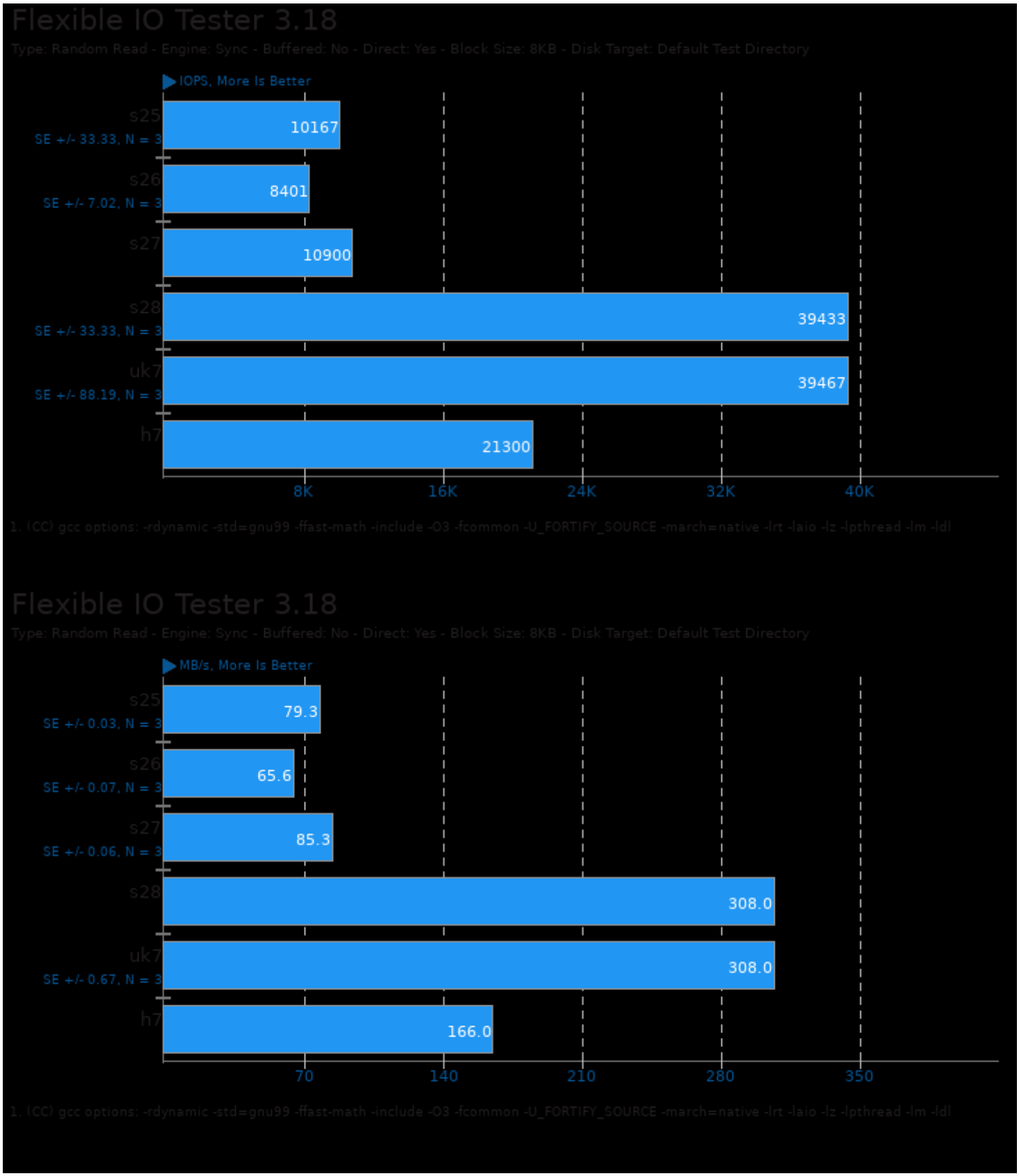

OpenSSL 1.1.1
RSA 4096-bit Performance
Signs Per Second, More Is Better
s25
SE +/- 4.50, N = 3
6259.0
s26
SE +/- 12.50, N = 3
6038.8
s27
SE +/- 10.82, N = 3
6235.9
s28
SE +/- 3.77, N = 3
5536.6
uk7
SE +/- 9.64, N = 3
5439.8
h7
SE +/- 0.13, N = 3
982.7
1300
2600
3900
5200
6500
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
Sysbench 2018-07-28
Test: CPU
Events Per Second, More Is Better
s25
SE +/- 0.29, N = 3
-march=core2
46781.34
s26
SE +/- 9.40, N = 3
-march=core2
46518.36
s27
SE +/- 2.73, N = 3
-march=core2
46812.38
s28
SE +/- 0.61, N = 3
-march=core2
66481.60
uk7
SE +/- 2.55, N = 3
-march=core2
66486.86
h7
SE +/- 1.89, N = 3
-march=haswell
11125.15
14K
28K
42K
56K
70K
1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -rdynamic -ldl -laio -lm

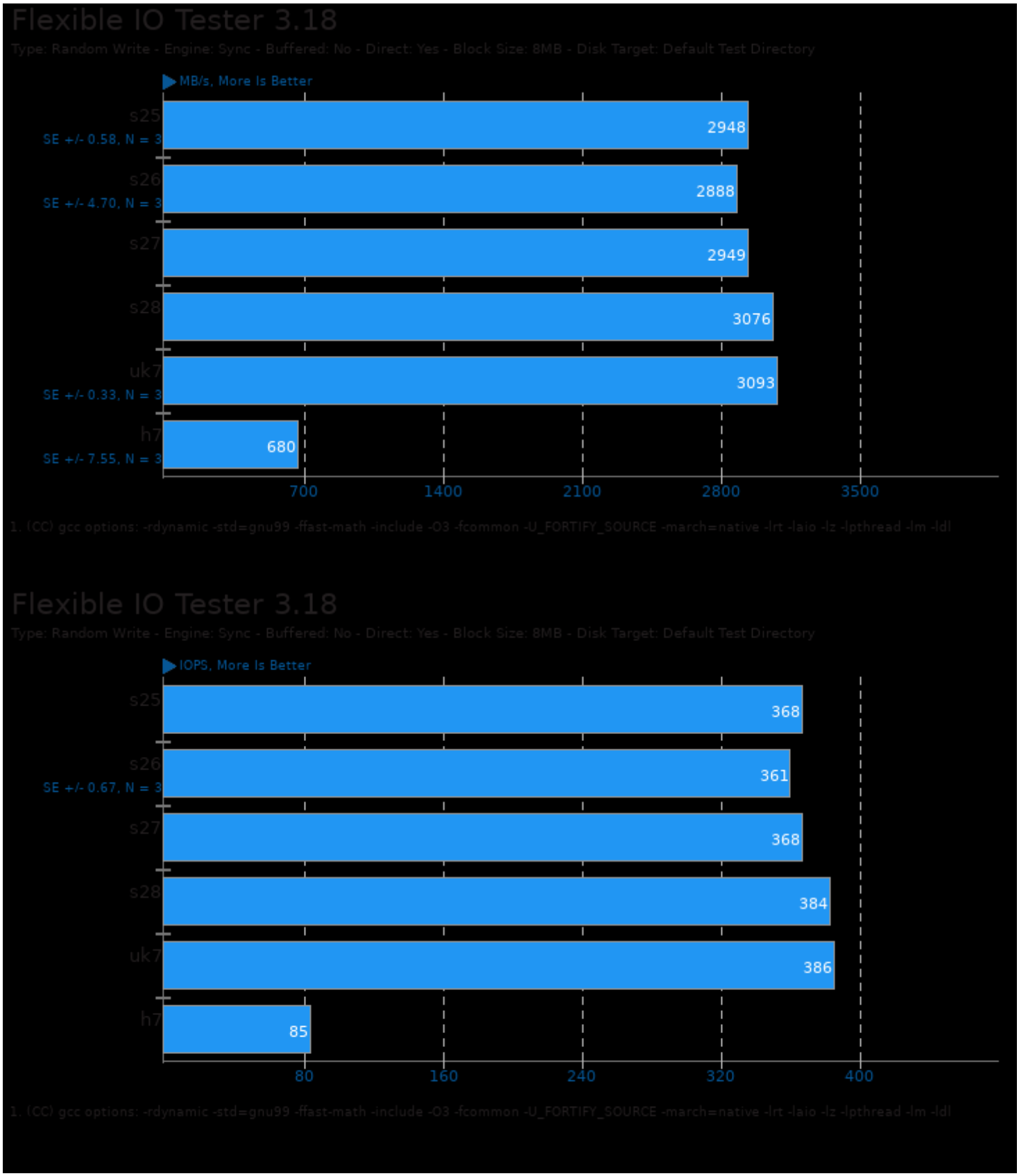

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 16KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.33, N = 3
136
s26
104
s27
146
s28
SE +/- 0.58, N = 3
585
uk7
SE +/- 1.33, N = 3
584
h7
SE +/- 0.33, N = 3
303
130
260
390
520
650
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 16KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 2.60, N = 3
8675
s26
SE +/- 6.39, N = 3
6686
s27
SE +/- 6.12, N = 3
9333
s28
SE +/- 57.74, N = 3
37400
uk7
SE +/- 66.67, N = 3
37333
h7
SE +/- 33.33, N = 3
19433
8K
16K
24K
32K
40K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

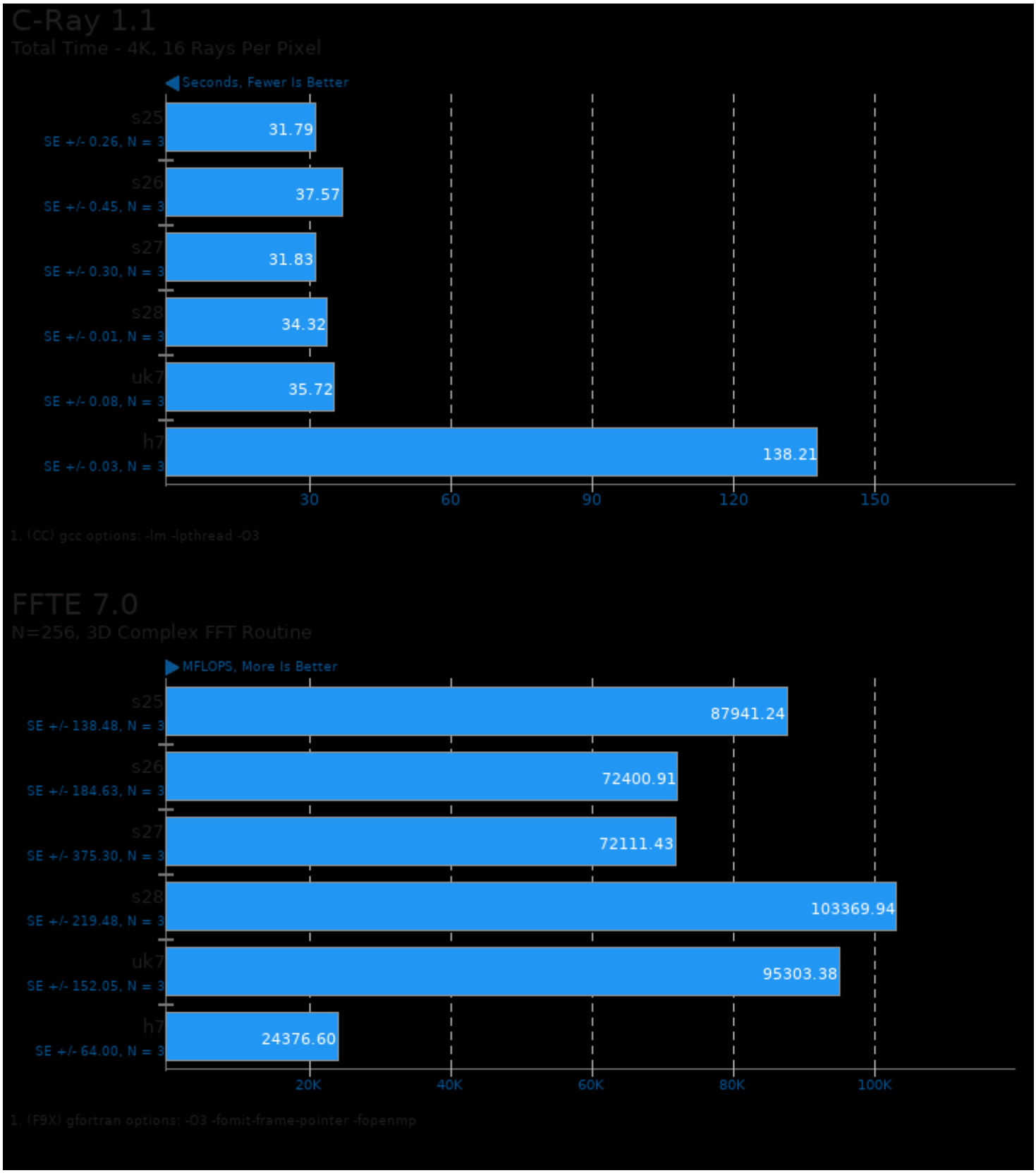

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
735
s26
SE +/- 0.88, N = 3
720
s27
737
s28
SE +/- 0.33, N = 3
769
uk7
773
h7
SE +/- 2.52, N = 15
142
170
340
510
680
850
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.67, N = 3
2941
s26
SE +/- 3.79, N = 3
2882
s27
SE +/- 0.33, N = 3
2952
s28
SE +/- 1.33, N = 3
3079
uk7
SE +/- 1.20, N = 3
3094
h7
SE +/- 10.17, N = 15
570
700
1400
2100
2800
3500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

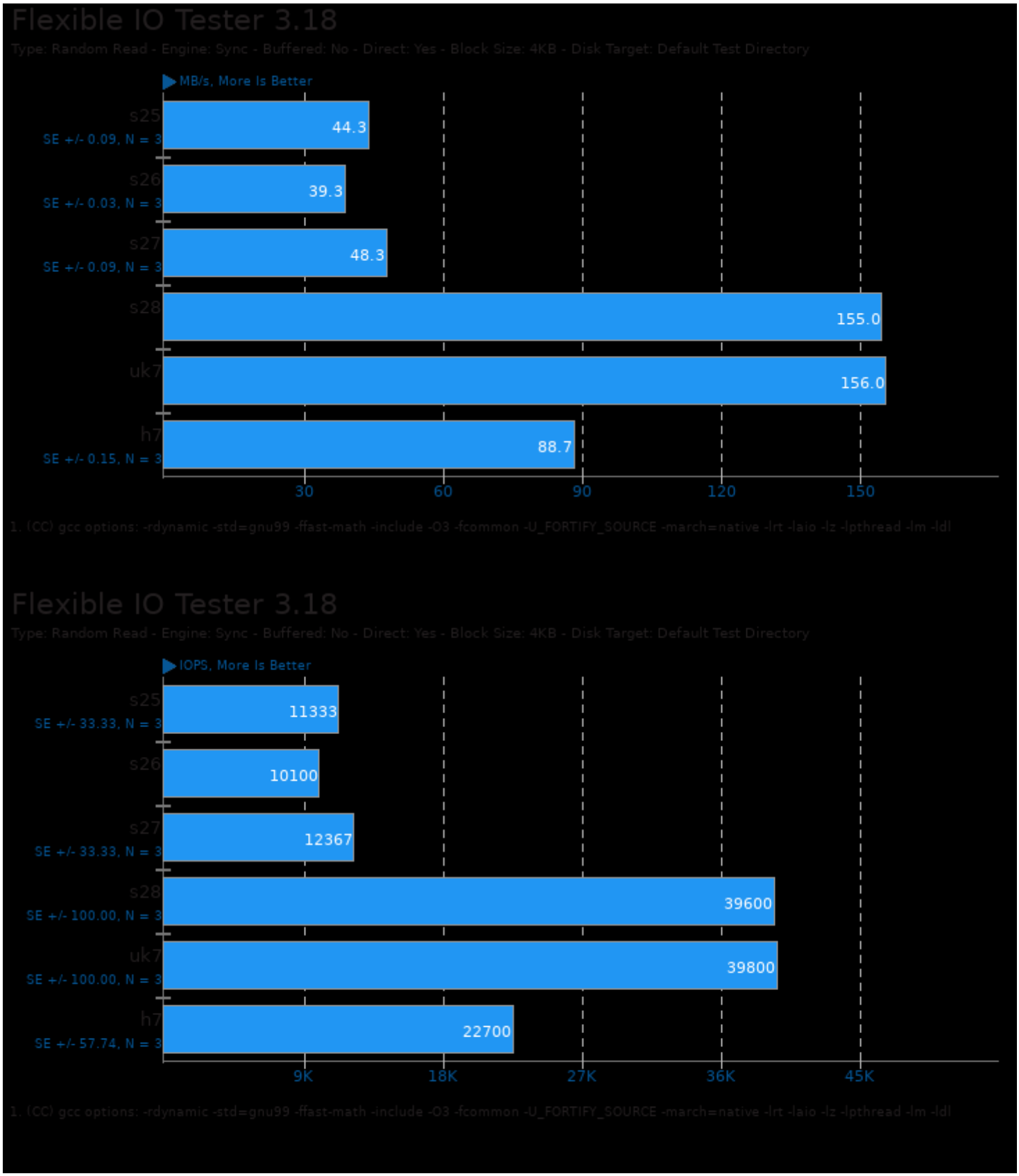

perf-bench
Benchmark: Syscall Basic
ops/sec, More Is Better
s25
SE +/- 1496.05, N = 3
4883425
s26
SE +/- 32764.03, N = 3
13164105
s27
SE +/- 48857.40, N = 3
12777794
s28
SE +/- 52488.88, N = 3
14112184
uk7
SE +/- 60147.44, N = 3
14178878
h7
SE +/- 564.77, N = 3
2723282
3M
6M
9M
12M
15M
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma

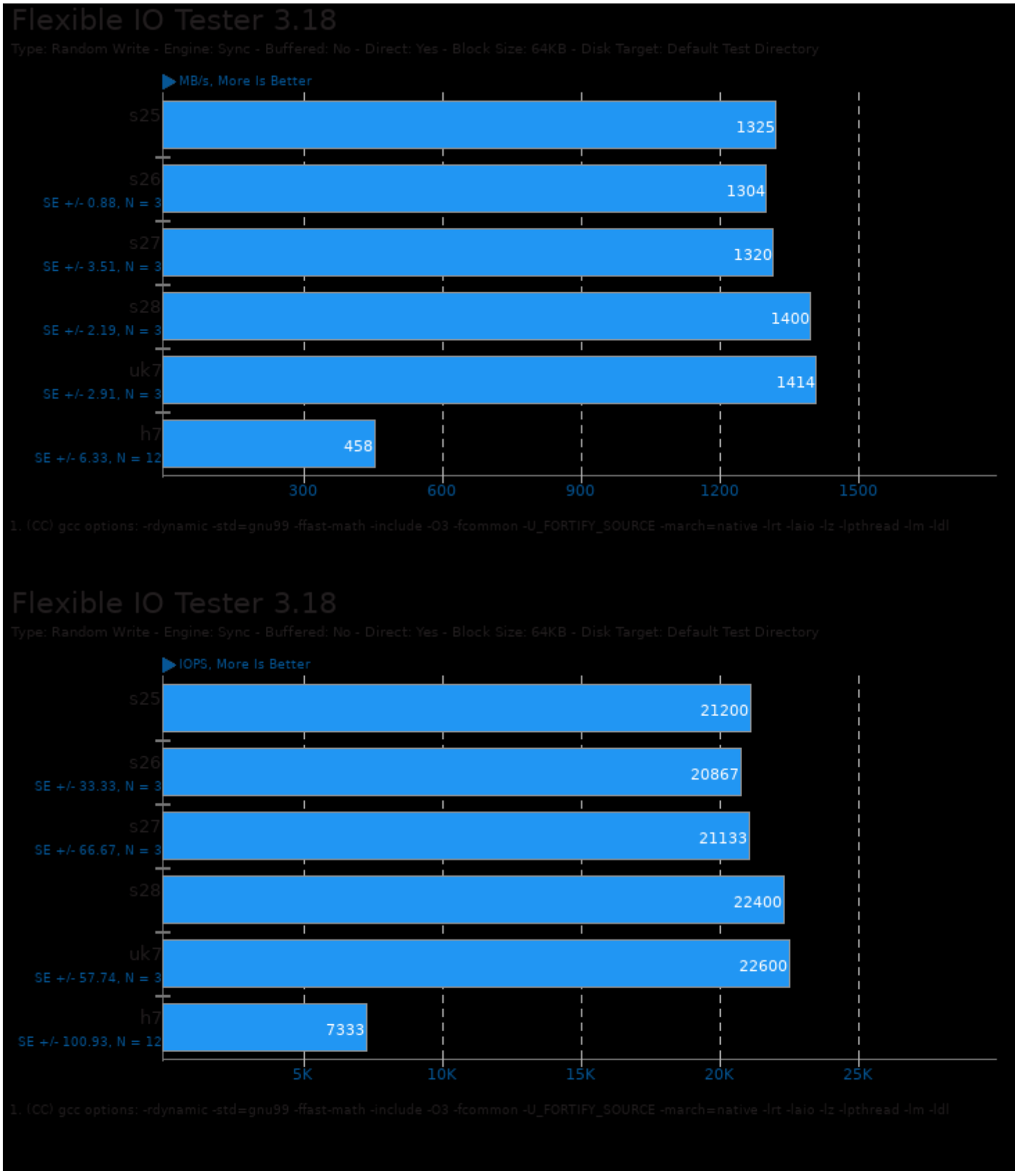
GROMACS 2020.3
Water Benchmark
Ns Per Day, More Is Better
s25
SE +/- 0.006, N = 3
2.586
s26
SE +/- 0.016, N = 3
2.307
s27
SE +/- 0.013, N = 3
2.320
s28
SE +/- 0.002, N = 3
3.198
uk7
SE +/- 0.010, N = 3
2.861
h7
SE +/- 0.000, N = 3
0.661
0.7196
1.4392
2.1588
2.8784
3.598
1. (CXX) g++ options: -O2 -pthread -lrt -lpthread -lm


Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 33.33, N = 3
10167
s26
SE +/- 7.02, N = 3
8401
s27
10900
s28
SE +/- 33.33, N = 3
39433
uk7
SE +/- 88.19, N = 3
39467
h7
21300
8K
16K
24K
32K
40K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.03, N = 3
79.3
s26
SE +/- 0.07, N = 3
65.6
s27
SE +/- 0.06, N = 3
85.3
s28
308.0
uk7
SE +/- 0.67, N = 3
308.0
h7
166.0
70
140
210
280
350
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

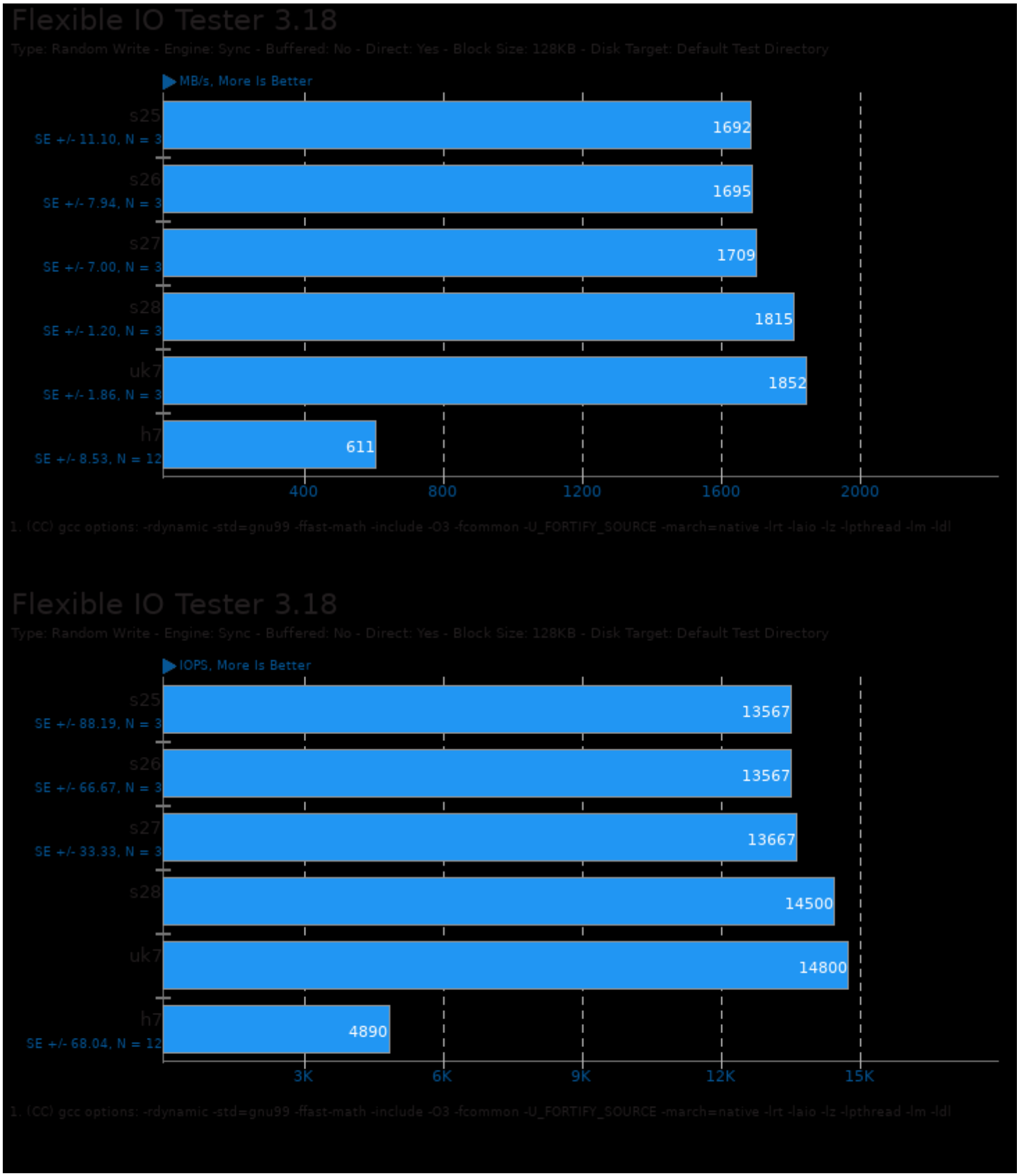

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.58, N = 3
2948
s26
SE +/- 4.70, N = 3
2888
s27
2949
s28
3076
uk7
SE +/- 0.33, N = 3
3093
h7
SE +/- 7.55, N = 3
680
700
1400
2100
2800
3500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
368
s26
SE +/- 0.67, N = 3
361
s27
368
s28
384
uk7
386
h7
85
80
160
240
320
400
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

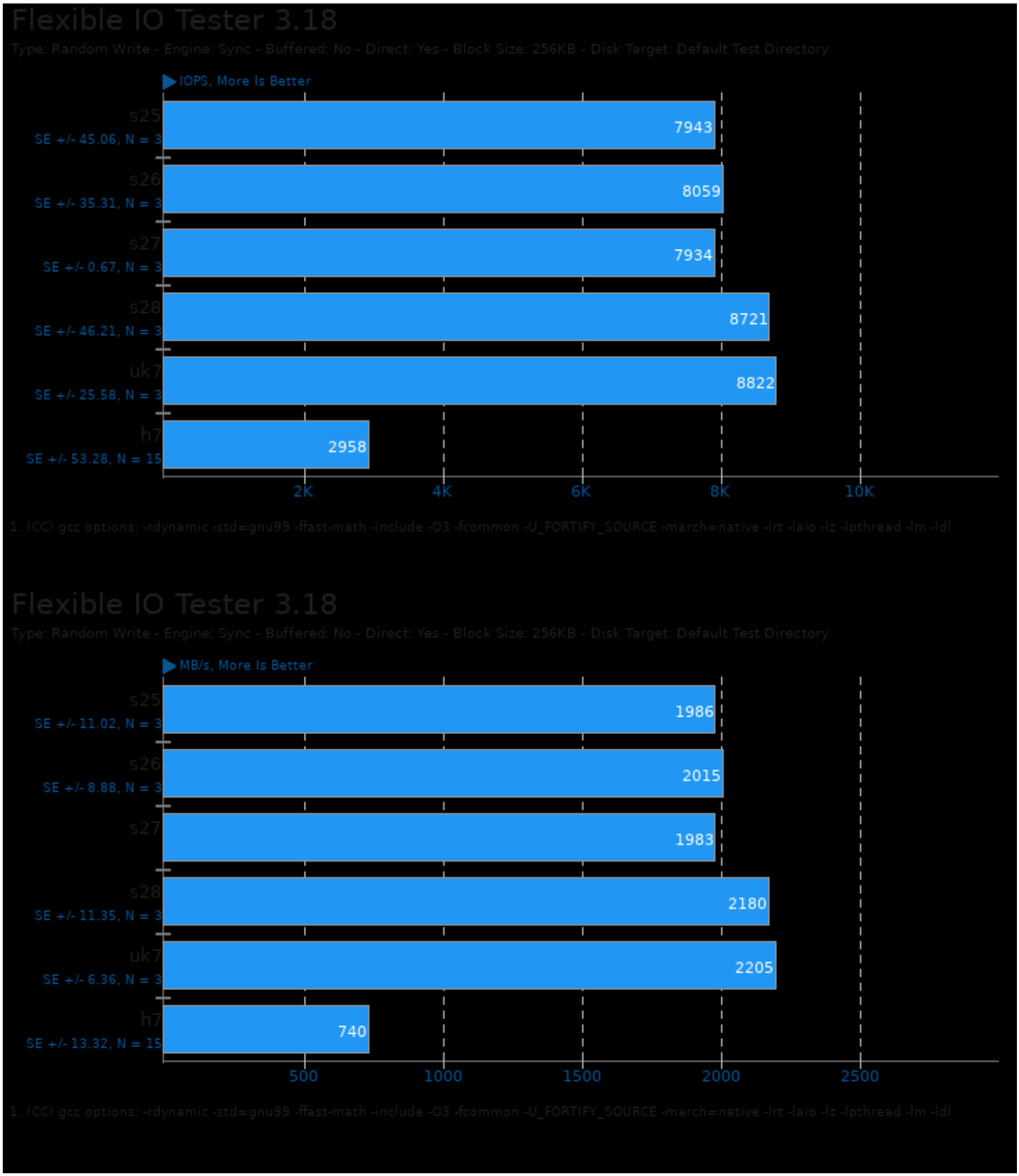

C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
s25
SE +/- 0.26, N = 3
31.79
s26
SE +/- 0.45, N = 3
37.57
s27
SE +/- 0.30, N = 3
31.83
s28
SE +/- 0.01, N = 3
34.32
uk7
SE +/- 0.08, N = 3
35.72
h7
SE +/- 0.03, N = 3
138.21
30
60
90
120
150
1. (CC) gcc options: -lm -lpthread -O3
FFTE 7.0
N=256, 3D Complex FFT Routine
MFLOPS, More Is Better
s25
SE +/- 138.48, N = 3
87941.24
s26
SE +/- 184.63, N = 3
72400.91
s27
SE +/- 375.30, N = 3
72111.43
s28
SE +/- 219.48, N = 3
103369.94
uk7
SE +/- 152.05, N = 3
95303.38
h7
SE +/- 64.00, N = 3
24376.60
20K
40K
60K
80K
100K
1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp


Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.09, N = 3
44.3
s26
SE +/- 0.03, N = 3
39.3
s27
SE +/- 0.09, N = 3
48.3
s28
155.0
uk7
156.0
h7
SE +/- 0.15, N = 3
88.7
30
60
90
120
150
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 33.33, N = 3
11333
s26
10100
s27
SE +/- 33.33, N = 3
12367
s28
SE +/- 100.00, N = 3
39600
uk7
SE +/- 100.00, N = 3
39800
h7
SE +/- 57.74, N = 3
22700
9K
18K
27K
36K
45K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

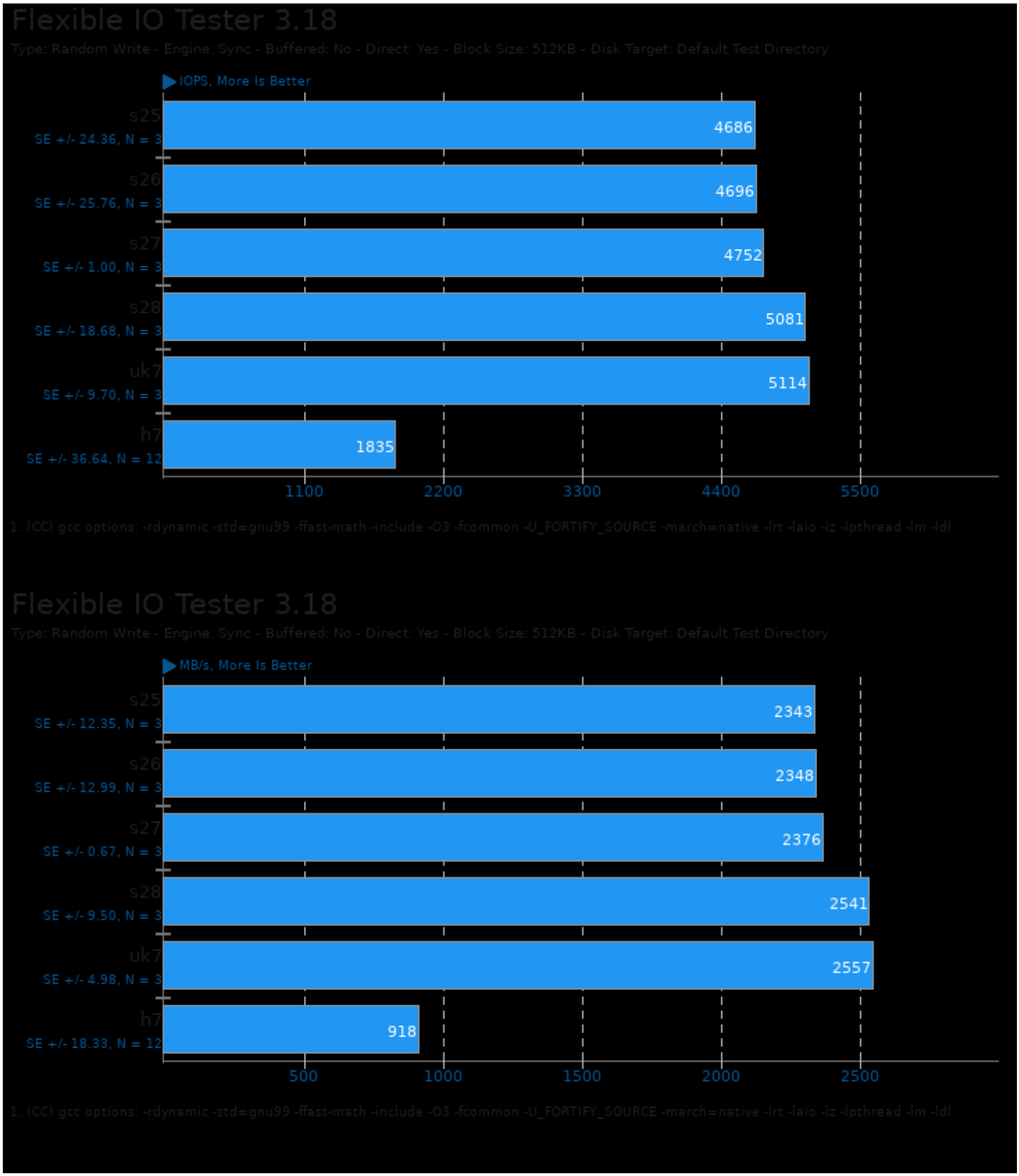

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
1325
s26
SE +/- 0.88, N = 3
1304
s27
SE +/- 3.51, N = 3
1320
s28
SE +/- 2.19, N = 3
1400
uk7
SE +/- 2.91, N = 3
1414
h7
SE +/- 6.33, N = 12
458
300
600
900
1200
1500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 64KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
21200
s26
SE +/- 33.33, N = 3
20867
s27
SE +/- 66.67, N = 3
21133
s28
22400
uk7
SE +/- 57.74, N = 3
22600
h7
SE +/- 100.93, N = 12
7333
5K
10K
15K
20K
25K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

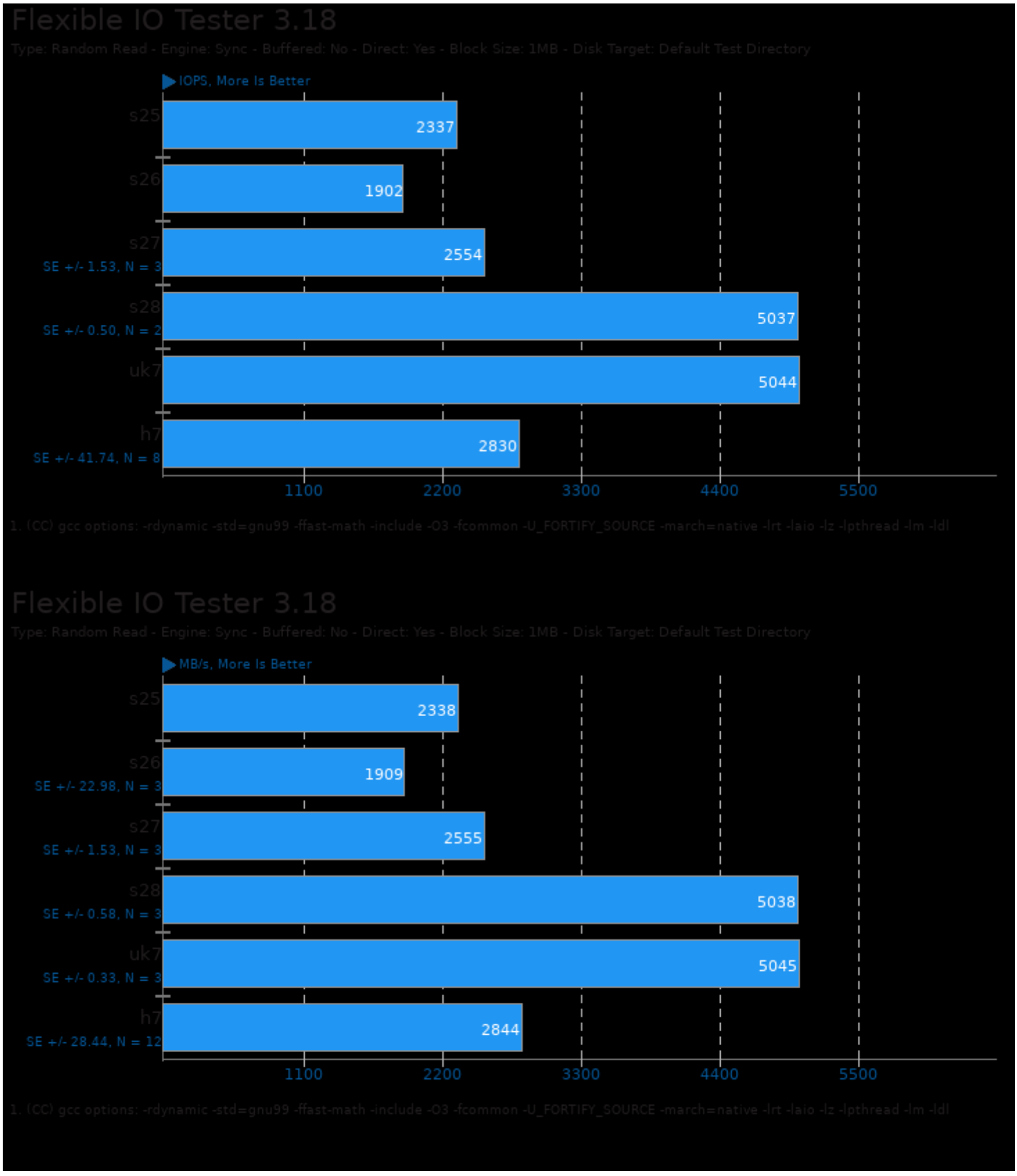

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 128KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 11.10, N = 3
1692
s26
SE +/- 7.94, N = 3
1695
s27
SE +/- 7.00, N = 3
1709
s28
SE +/- 1.20, N = 3
1815
uk7
SE +/- 1.86, N = 3
1852
h7
SE +/- 8.53, N = 12
611
400
800
1200
1600
2000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 128KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 88.19, N = 3
13567
s26
SE +/- 66.67, N = 3
13567
s27
SE +/- 33.33, N = 3
13667
s28
14500
uk7
14800
h7
SE +/- 68.04, N = 12
4890
3K
6K
9K
12K
15K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

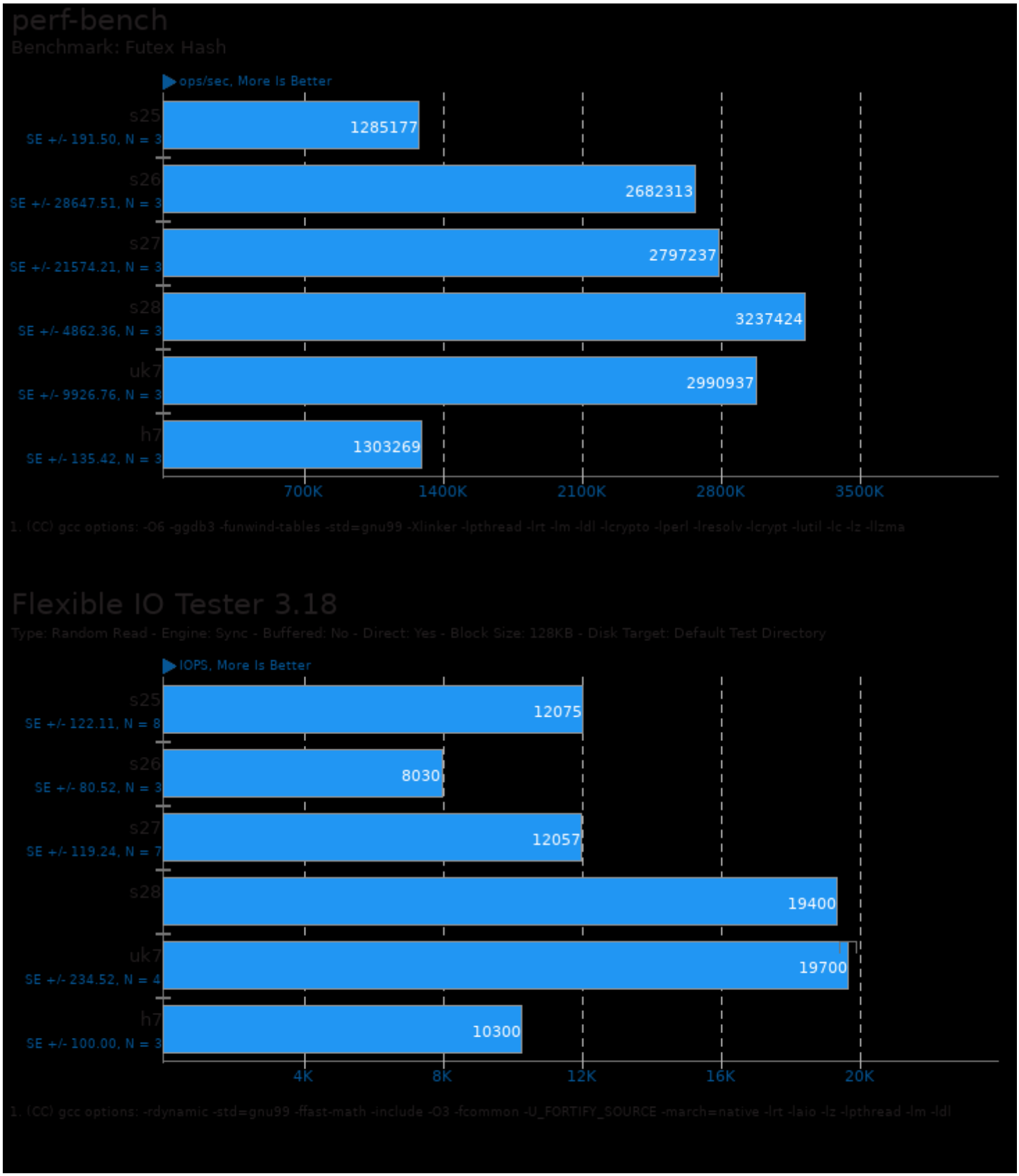

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 256KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 45.06, N = 3
7943
s26
SE +/- 35.31, N = 3
8059
s27
SE +/- 0.67, N = 3
7934
s28
SE +/- 46.21, N = 3
8721
uk7
SE +/- 25.58, N = 3
8822
h7
SE +/- 53.28, N = 15
2958
2K
4K
6K
8K
10K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

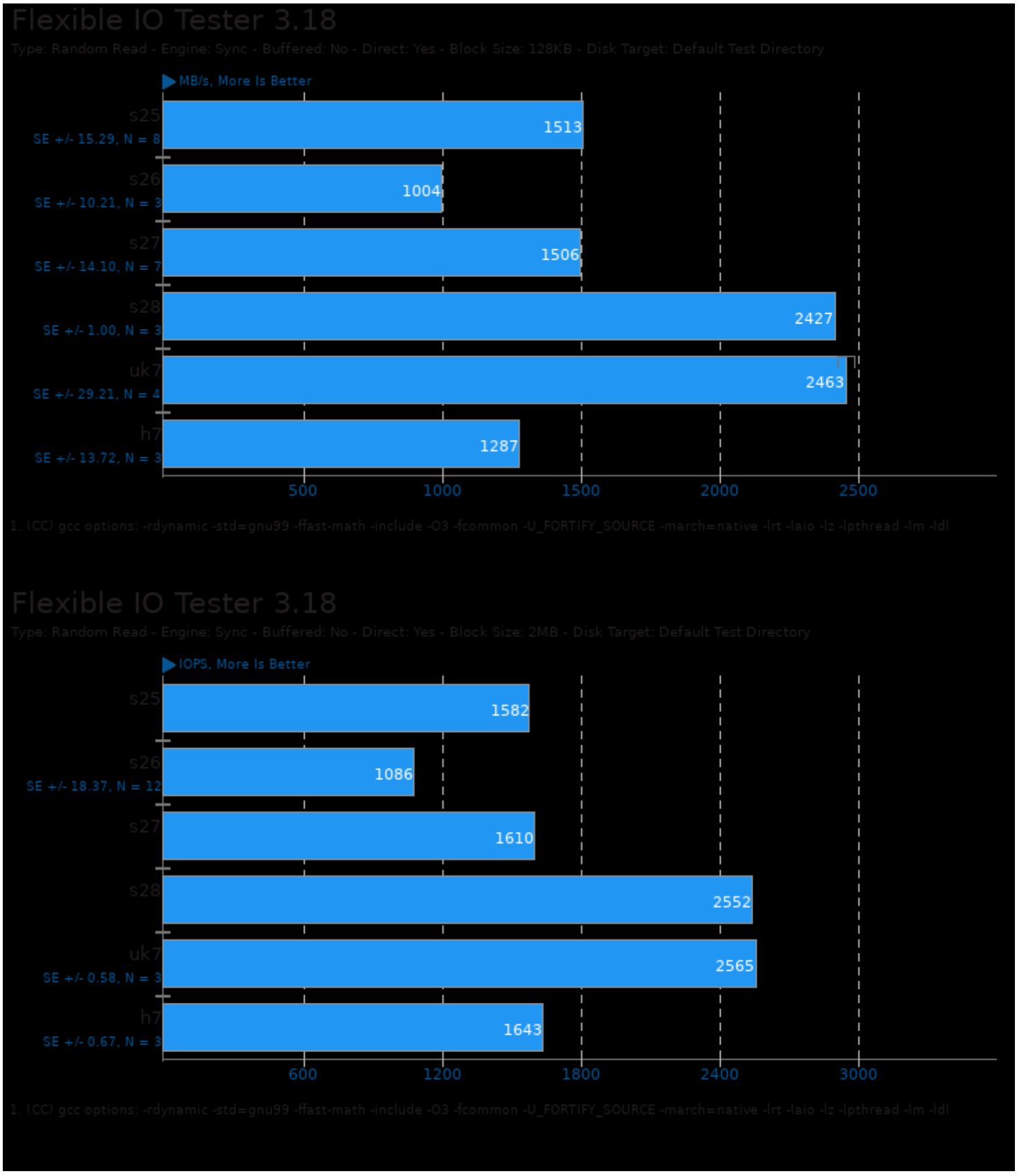
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 256KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 11.02, N = 3
1986
s26
SE +/- 8.88, N = 3
2015
s27
1983
s28
SE +/- 11.35, N = 3
2180
uk7
SE +/- 6.36, N = 3
2205
h7
SE +/- 13.32, N = 15
740
500
1000
1500
2000
2500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl


Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 512KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 24.36, N = 3
4686
s26
SE +/- 25.76, N = 3
4696
s27
SE +/- 1.00, N = 3
4752
s28
SE +/- 18.68, N = 3
5081
uk7
SE +/- 9.70, N = 3
5114
h7
SE +/- 36.64, N = 12
1835
1100
2200
3300
4400
5500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

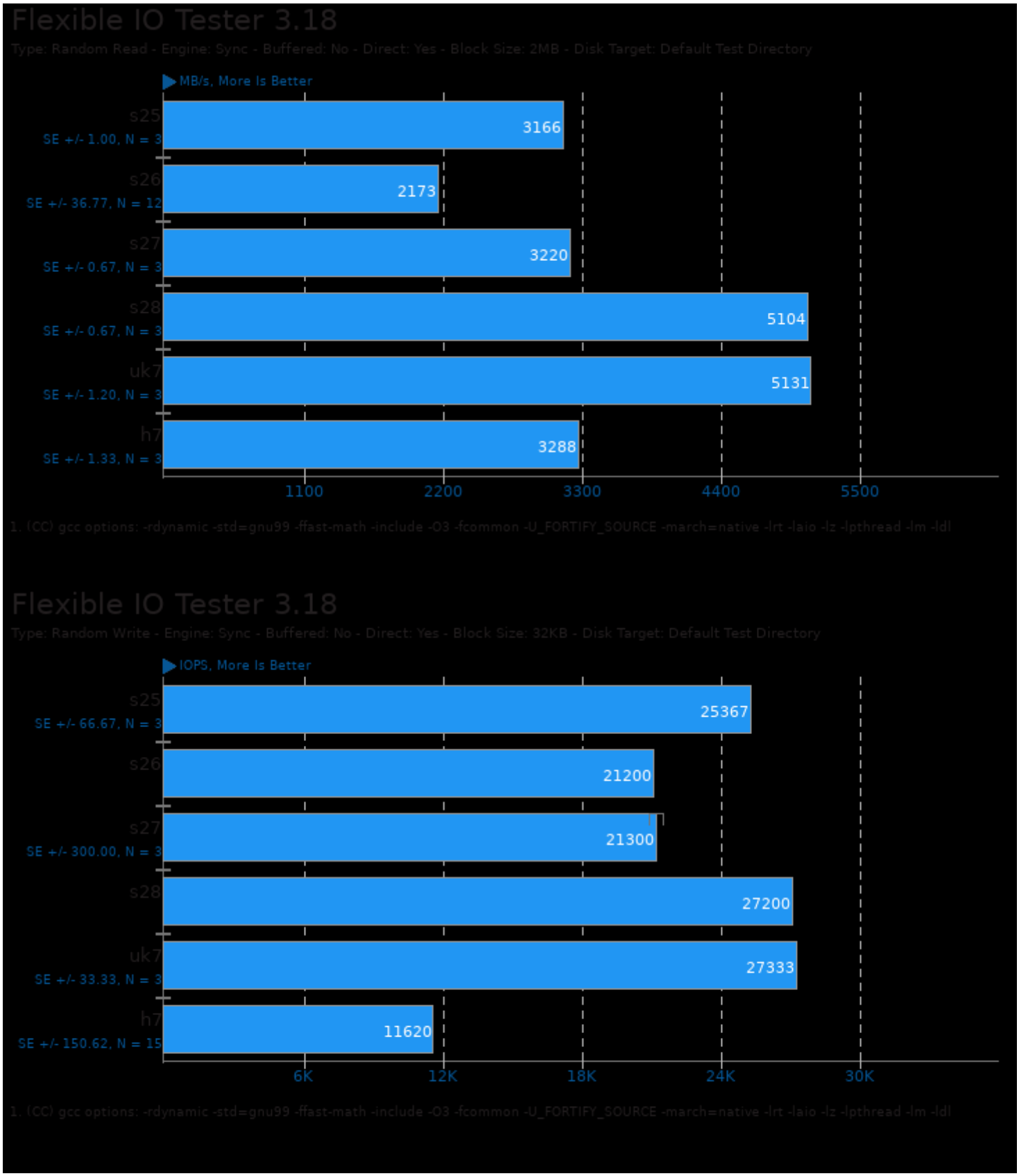
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 512KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 12.35, N = 3
2343
s26
SE +/- 12.99, N = 3
2348
s27
SE +/- 0.67, N = 3
2376
s28
SE +/- 9.50, N = 3
2541
uk7
SE +/- 4.98, N = 3
2557
h7
SE +/- 18.33, N = 12
918
500
1000
1500
2000
2500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

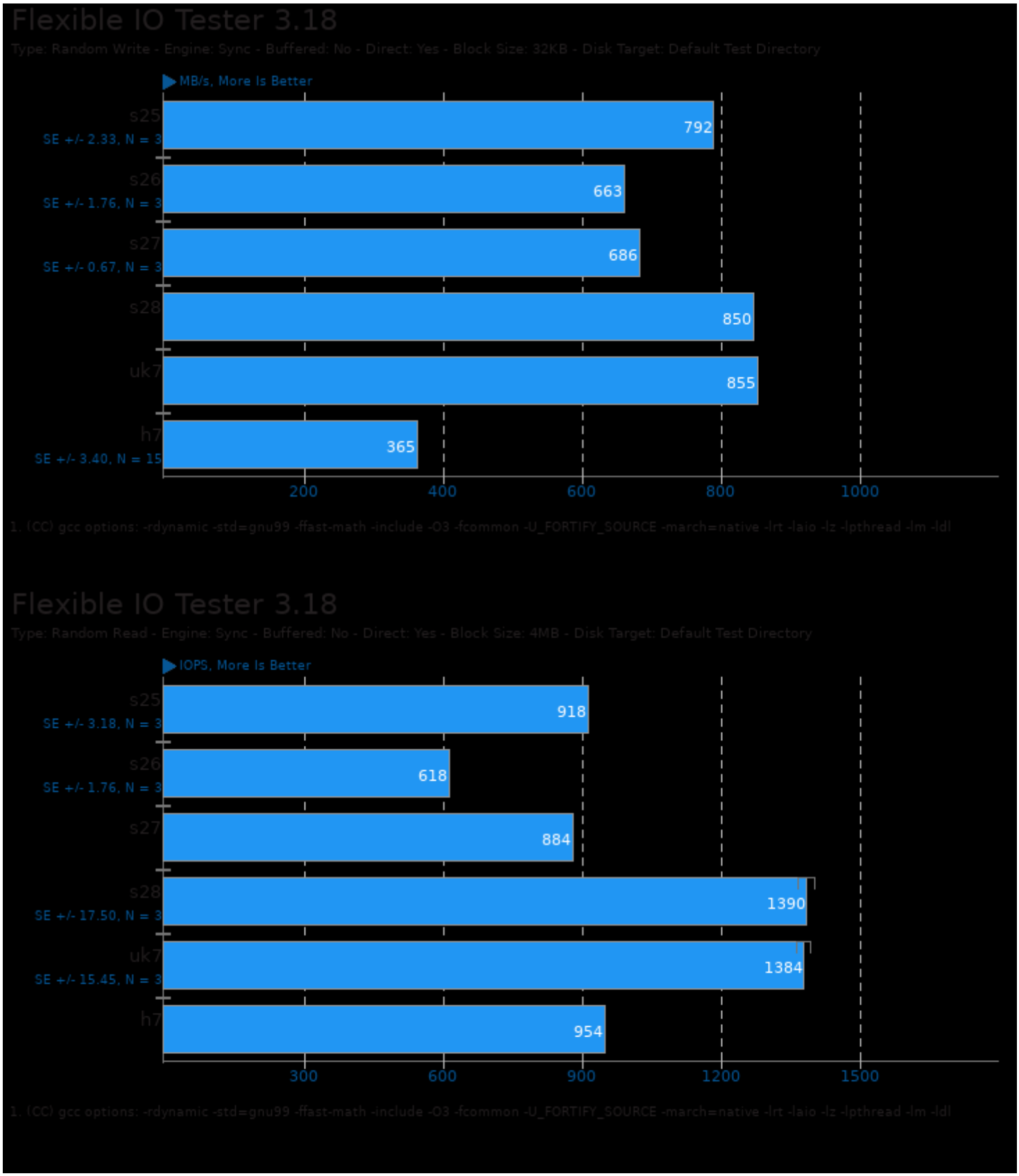

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
2337
s26
1902
s27
SE +/- 1.53, N = 3
2554
s28
SE +/- 0.50, N = 2
5037
uk7
5044
h7
SE +/- 41.74, N = 8
2830
1100
2200
3300
4400
5500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
2338
s26
SE +/- 22.98, N = 3
1909
s27
SE +/- 1.53, N = 3
2555
s28
SE +/- 0.58, N = 3
5038
uk7
SE +/- 0.33, N = 3
5045
h7
SE +/- 28.44, N = 12
2844
1100
2200
3300
4400
5500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

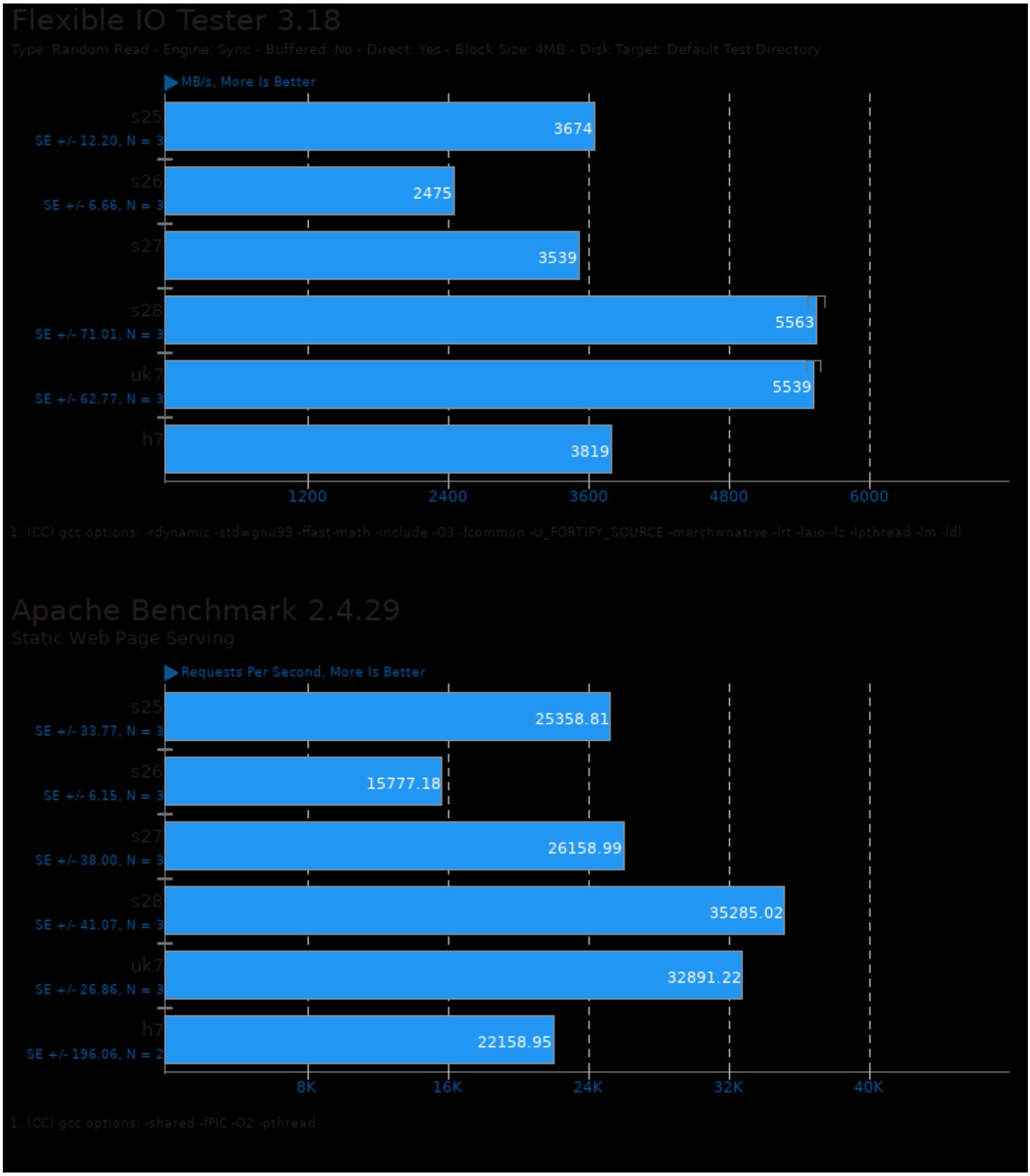

perf-bench
Benchmark: Futex Hash
ops/sec, More Is Better
s25
SE +/- 191.50, N = 3
1285177
s26
SE +/- 28647.51, N = 3
2682313
s27
SE +/- 21574.21, N = 3
2797237
s28
SE +/- 4862.36, N = 3
3237424
uk7
SE +/- 9926.76, N = 3
2990937
h7
SE +/- 135.42, N = 3
1303269
700K
1400K
2100K
2800K
3500K
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 128KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 122.11, N = 8
12075
s26
SE +/- 80.52, N = 3
8030
s27
SE +/- 119.24, N = 7
12057
s28
19400
uk7
SE +/- 234.52, N = 4
19700
h7
SE +/- 100.00, N = 3
10300
4K
8K
12K
16K
20K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

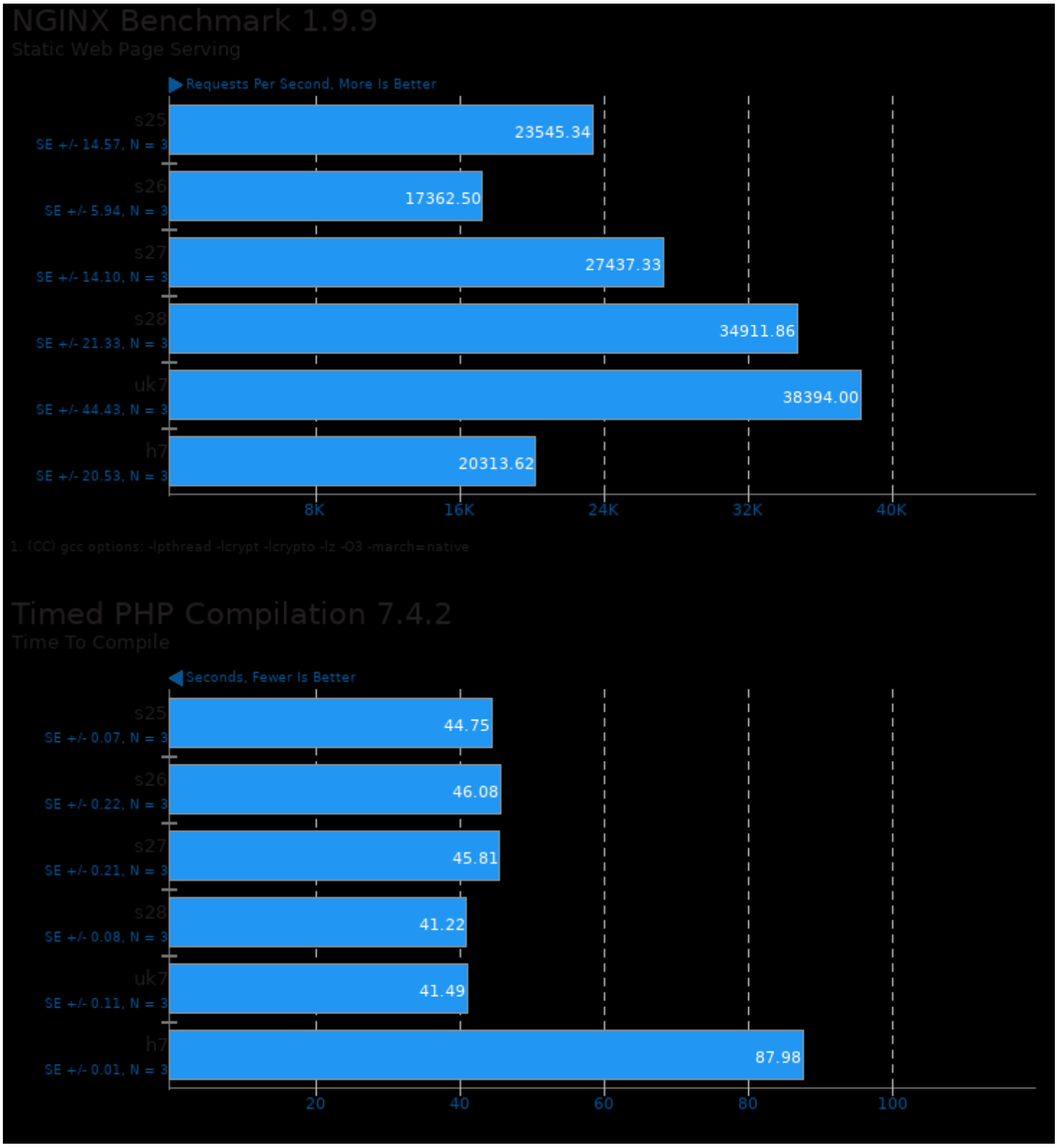

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 128KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 15.29, N = 8
1513
s26
SE +/- 10.21, N = 3
1004
s27
SE +/- 14.10, N = 7
1506
s28
SE +/- 1.00, N = 3
2427
uk7
SE +/- 29.21, N = 4
2463
h7
SE +/- 13.72, N = 3
1287
500
1000
1500
2000
2500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

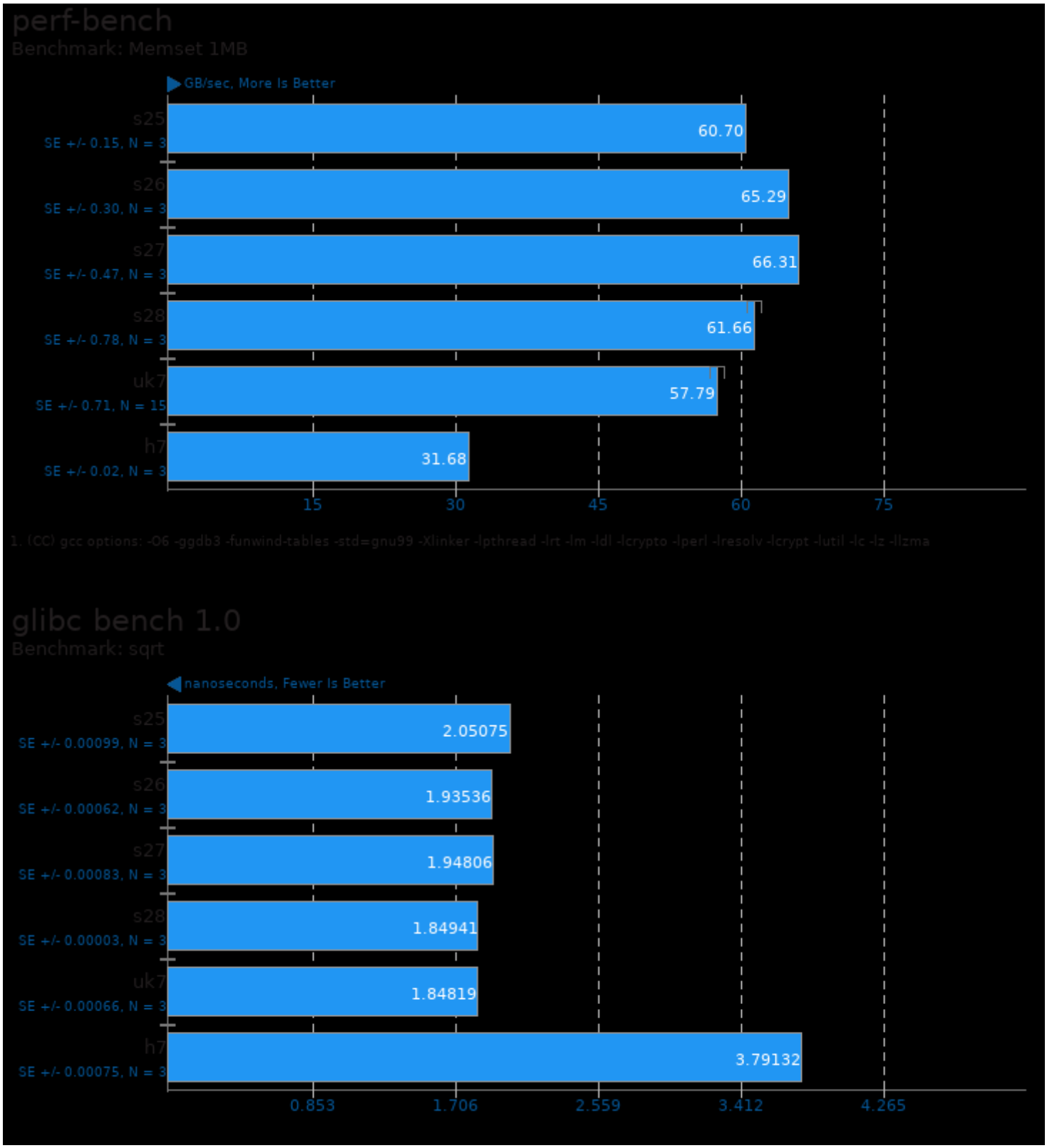
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
1582
s26
SE +/- 18.37, N = 12
1086
s27
1610
s28
2552
uk7
SE +/- 0.58, N = 3
2565
h7
SE +/- 0.67, N = 3
1643
600
1200
1800
2400
3000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

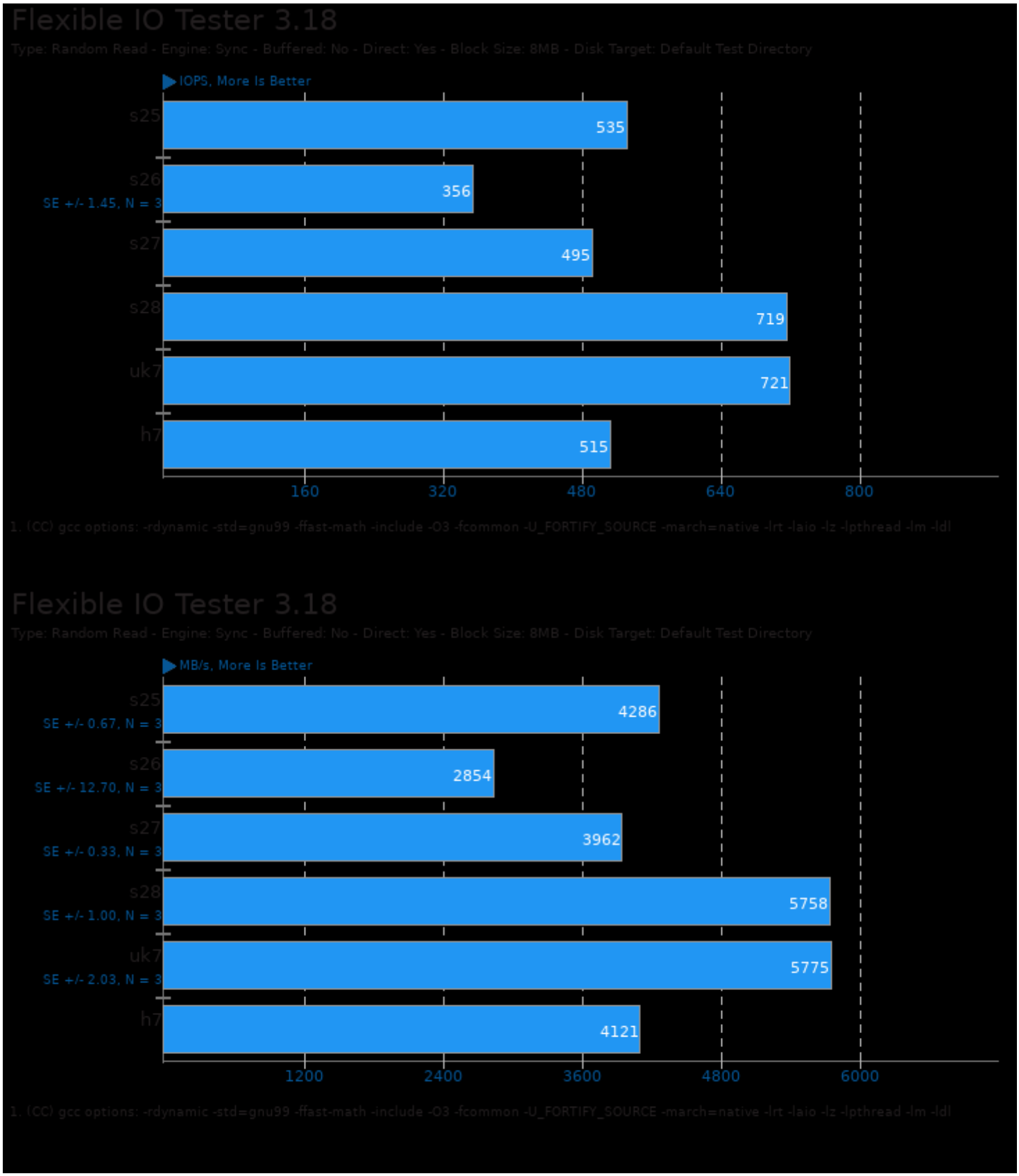

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 1.00, N = 3
3166
s26
SE +/- 36.77, N = 12
2173
s27
SE +/- 0.67, N = 3
3220
s28
SE +/- 0.67, N = 3
5104
uk7
SE +/- 1.20, N = 3
5131
h7
SE +/- 1.33, N = 3
3288
1100
2200
3300
4400
5500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 66.67, N = 3
25367
s26
21200
s27
SE +/- 300.00, N = 3
21300
s28
27200
uk7
SE +/- 33.33, N = 3
27333
h7
SE +/- 150.62, N = 15
11620
6K
12K
18K
24K
30K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl


Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 32KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 2.33, N = 3
792
s26
SE +/- 1.76, N = 3
663
s27
SE +/- 0.67, N = 3
686
s28
850
uk7
855
h7
SE +/- 3.40, N = 15
365
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 3.18, N = 3
918
s26
SE +/- 1.76, N = 3
618
s27
884
s28
SE +/- 17.50, N = 3
1390
uk7
SE +/- 15.45, N = 3
1384
h7
954
300
600
900
1200
1500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

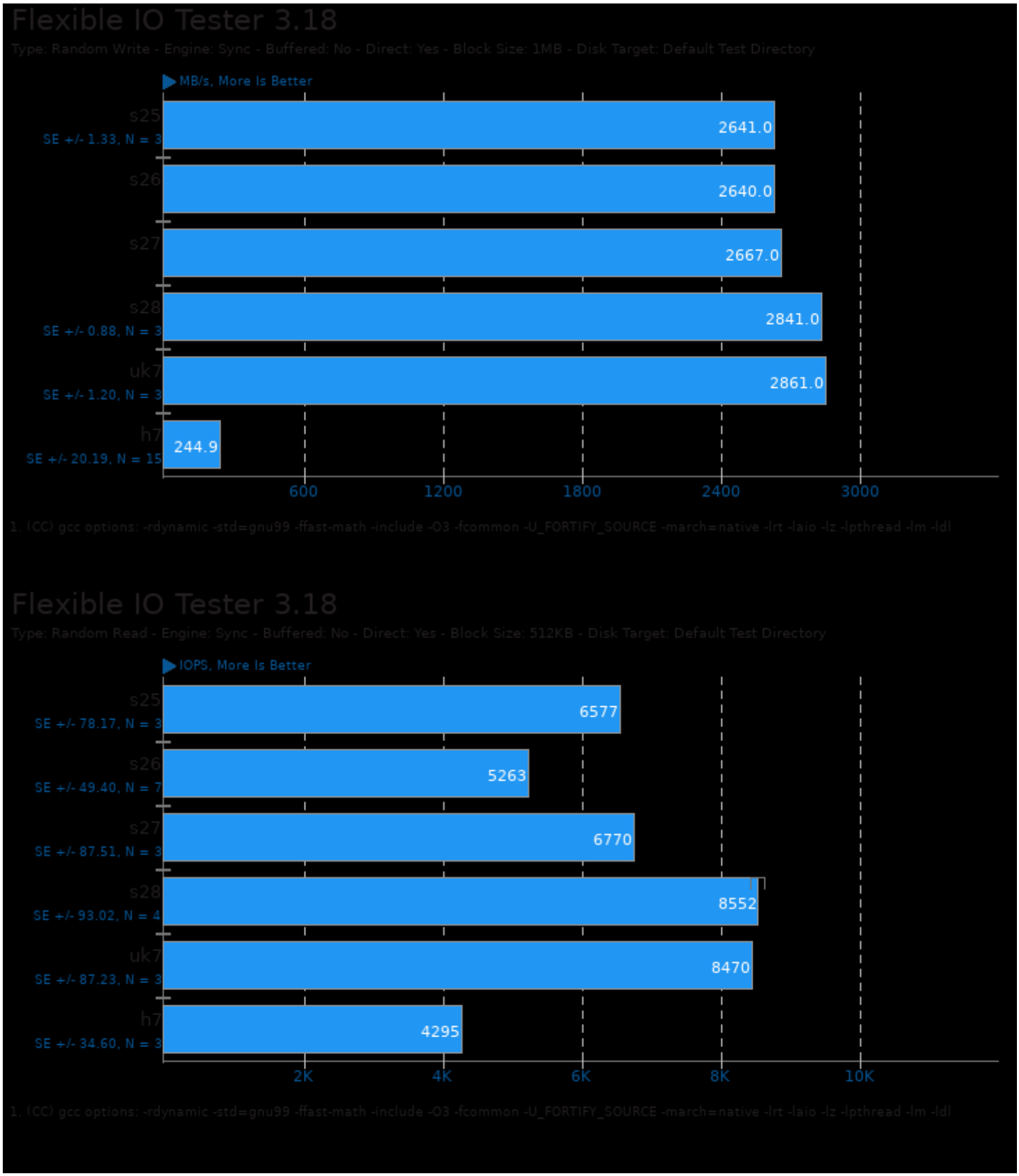

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 12.20, N = 3
3674
s26
SE +/- 6.66, N = 3
2475
s27
3539
s28
SE +/- 71.01, N = 3
5563
uk7
SE +/- 62.77, N = 3
5539
h7
3819
1200
2400
3600
4800
6000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Apache Benchmark 2.4.29
Static Web Page Serving
Requests Per Second, More Is Better
s25
SE +/- 33.77, N = 3
25358.81
s26
SE +/- 6.15, N = 3
15777.18
s27
SE +/- 38.00, N = 3
26158.99
s28
SE +/- 41.07, N = 3
35285.02
uk7
SE +/- 26.86, N = 3
32891.22
h7
SE +/- 196.06, N = 2
22158.95
8K
16K
24K
32K
40K
1. (CC) gcc options: -shared -fPIC -O2 -pthread


NGINX Benchmark 1.9.9
Static Web Page Serving
Requests Per Second, More Is Better
s25
SE +/- 14.57, N = 3
23545.34
s26
SE +/- 5.94, N = 3
17362.50
s27
SE +/- 14.10, N = 3
27437.33
s28
SE +/- 21.33, N = 3
34911.86
uk7
SE +/- 44.43, N = 3
38394.00
h7
SE +/- 20.53, N = 3
20313.62
8K
16K
24K
32K
40K
1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native
Timed PHP Compilation 7.4.2
Time To Compile
Seconds, Fewer Is Better
s25
SE +/- 0.07, N = 3
44.75
s26
SE +/- 0.22, N = 3
46.08
s27
SE +/- 0.21, N = 3
45.81
s28
SE +/- 0.08, N = 3
41.22
uk7
SE +/- 0.11, N = 3
41.49
h7
SE +/- 0.01, N = 3
87.98
20
40
60
80
100

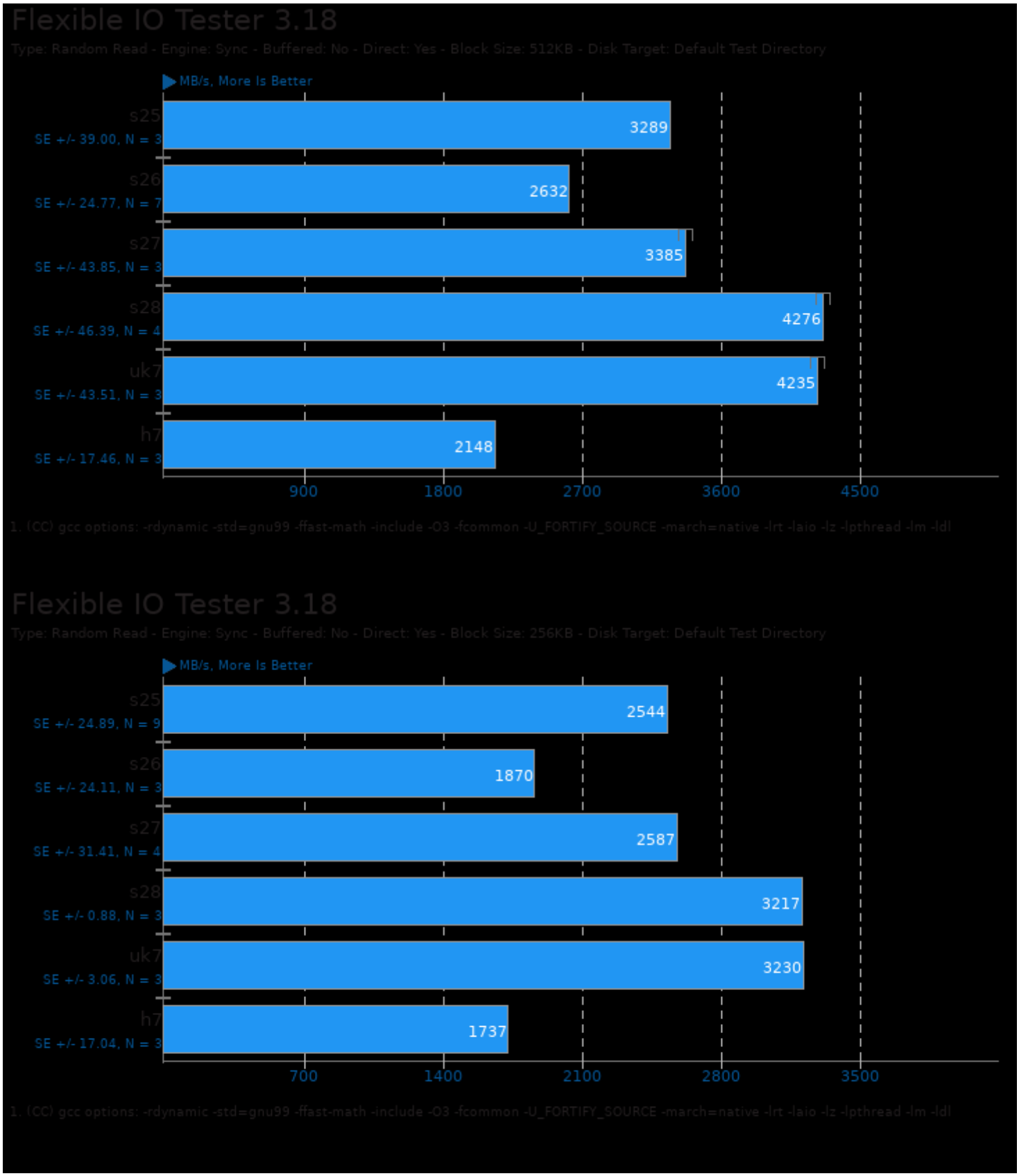

perf-bench
Benchmark: Memset 1MB
GB/sec, More Is Better
s25
SE +/- 0.15, N = 3
60.70
s26
SE +/- 0.30, N = 3
65.29
s27
SE +/- 0.47, N = 3
66.31
s28
SE +/- 0.78, N = 3
61.66
uk7
SE +/- 0.71, N = 15
57.79
h7
SE +/- 0.02, N = 3
31.68
15
30
45
60
75
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma
glibc bench 1.0
Benchmark: sqrt
nanoseconds, Fewer Is Better
s25
SE +/- 0.00099, N = 3
2.05075
s26
SE +/- 0.00062, N = 3
1.93536
s27
SE +/- 0.00083, N = 3
1.94806
s28
SE +/- 0.00003, N = 3
1.84941
uk7
SE +/- 0.00066, N = 3
1.84819
h7
SE +/- 0.00075, N = 3
3.79132
0.853
1.706
2.559
3.412
4.265


Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
535
s26
SE +/- 1.45, N = 3
356
s27
495
s28
719
uk7
721
h7
515
160
320
480
640
800
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

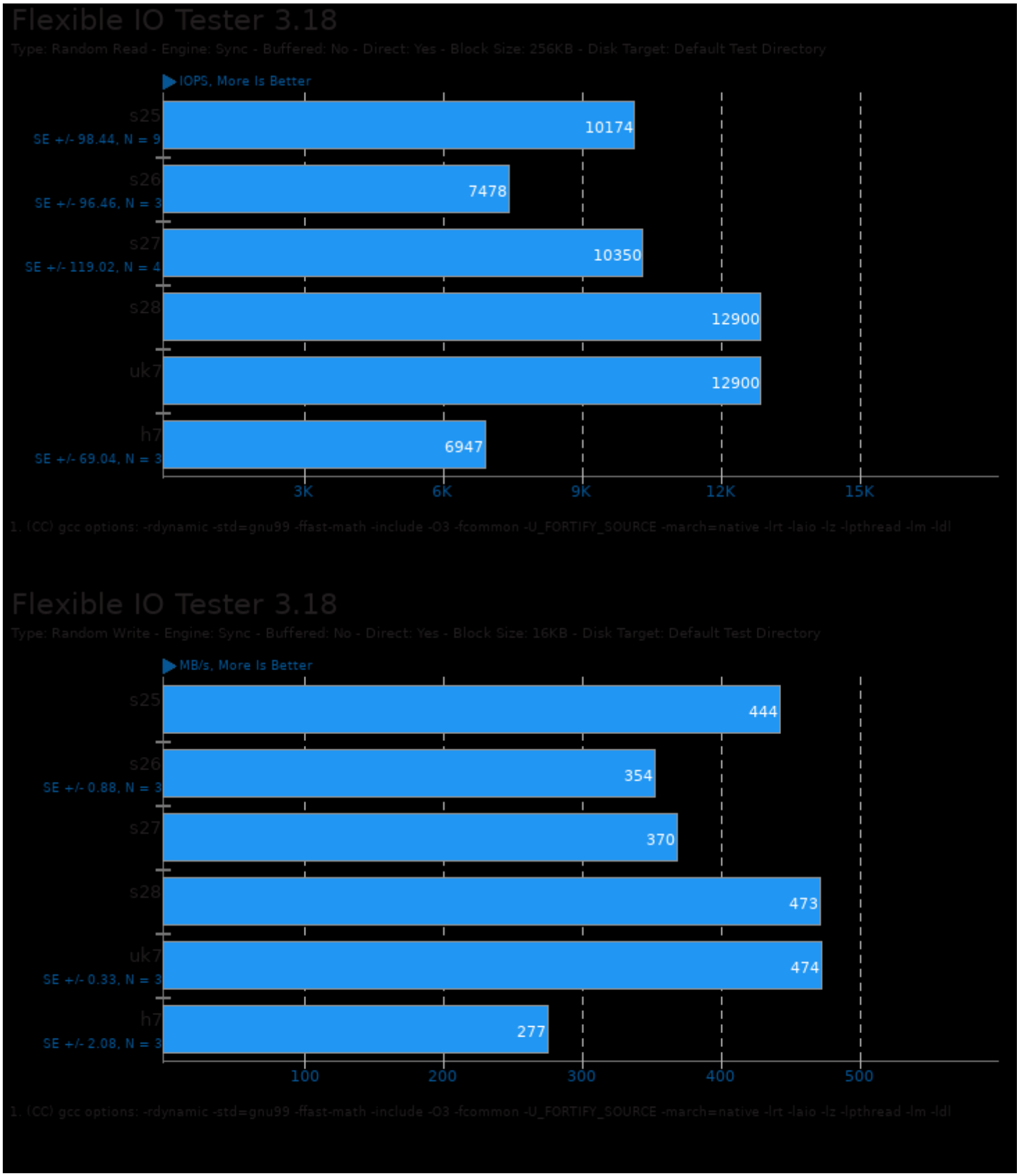
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 0.67, N = 3
4286
s26
SE +/- 12.70, N = 3
2854
s27
SE +/- 0.33, N = 3
3962
s28
SE +/- 1.00, N = 3
5758
uk7
SE +/- 2.03, N = 3
5775
h7
4121
1200
2400
3600
4800
6000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl


Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 1.33, N = 3
2641.0
s26
2640.0
s27
2667.0
s28
SE +/- 0.88, N = 3
2841.0
uk7
SE +/- 1.20, N = 3
2861.0
h7
SE +/- 20.19, N = 15
244.9
600
1200
1800
2400
3000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

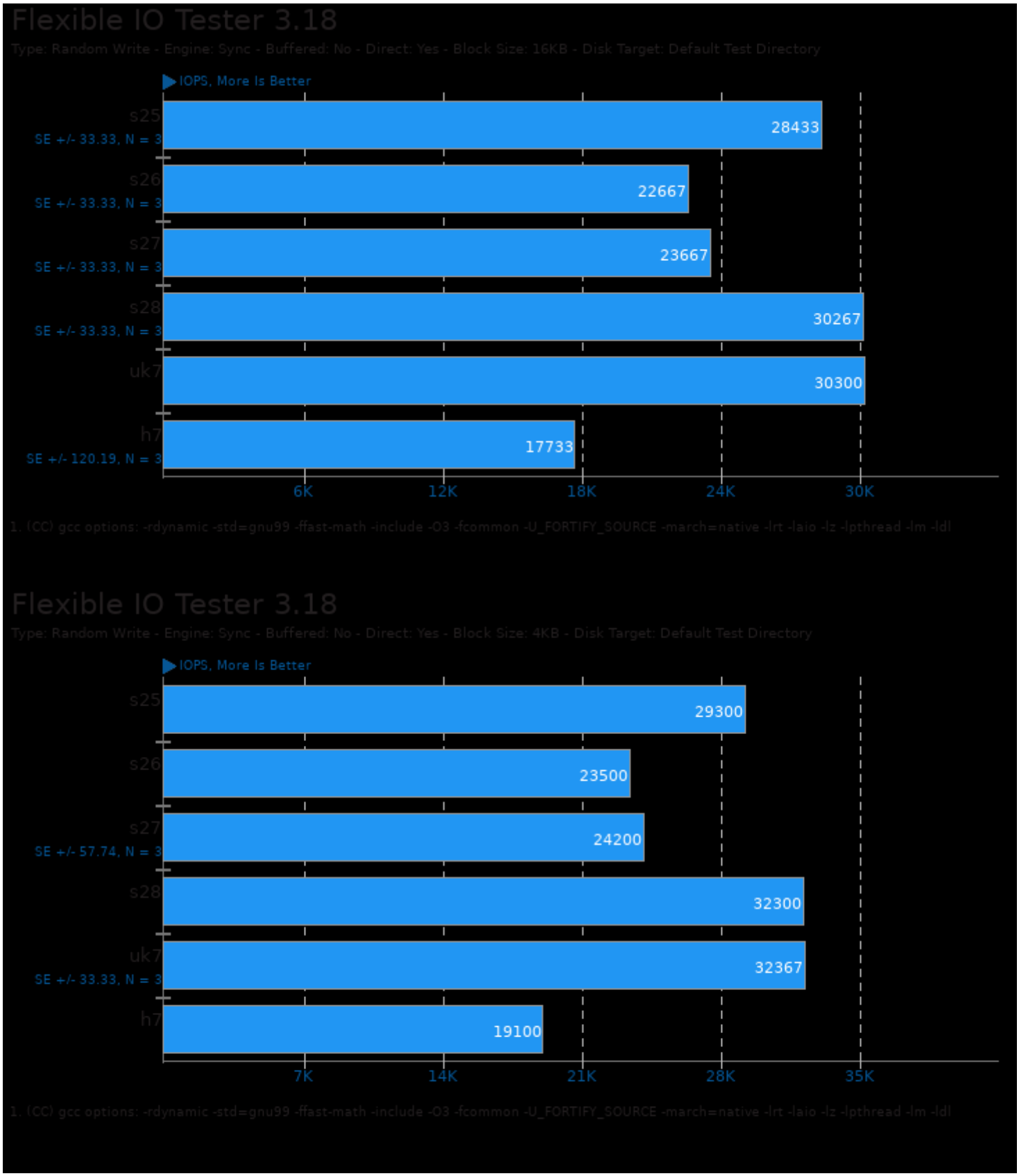
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 512KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 78.17, N = 3
6577
s26
SE +/- 49.40, N = 7
5263
s27
SE +/- 87.51, N = 3
6770
s28
SE +/- 93.02, N = 4
8552
uk7
SE +/- 87.23, N = 3
8470
h7
SE +/- 34.60, N = 3
4295
2K
4K
6K
8K
10K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

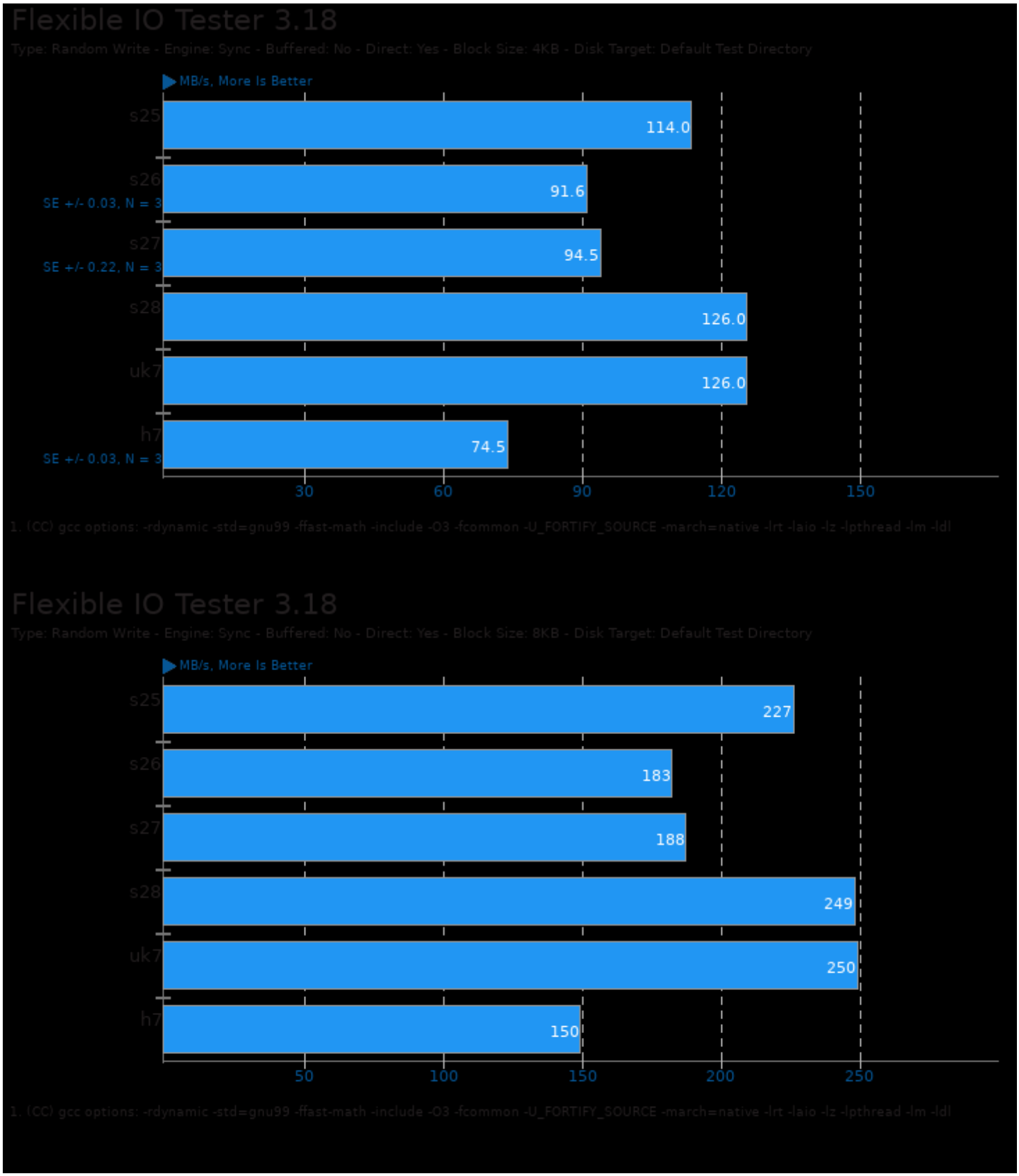

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 512KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 39.00, N = 3
3289
s26
SE +/- 24.77, N = 7
2632
s27
SE +/- 43.85, N = 3
3385
s28
SE +/- 46.39, N = 4
4276
uk7
SE +/- 43.51, N = 3
4235
h7
SE +/- 17.46, N = 3
2148
900
1800
2700
3600
4500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

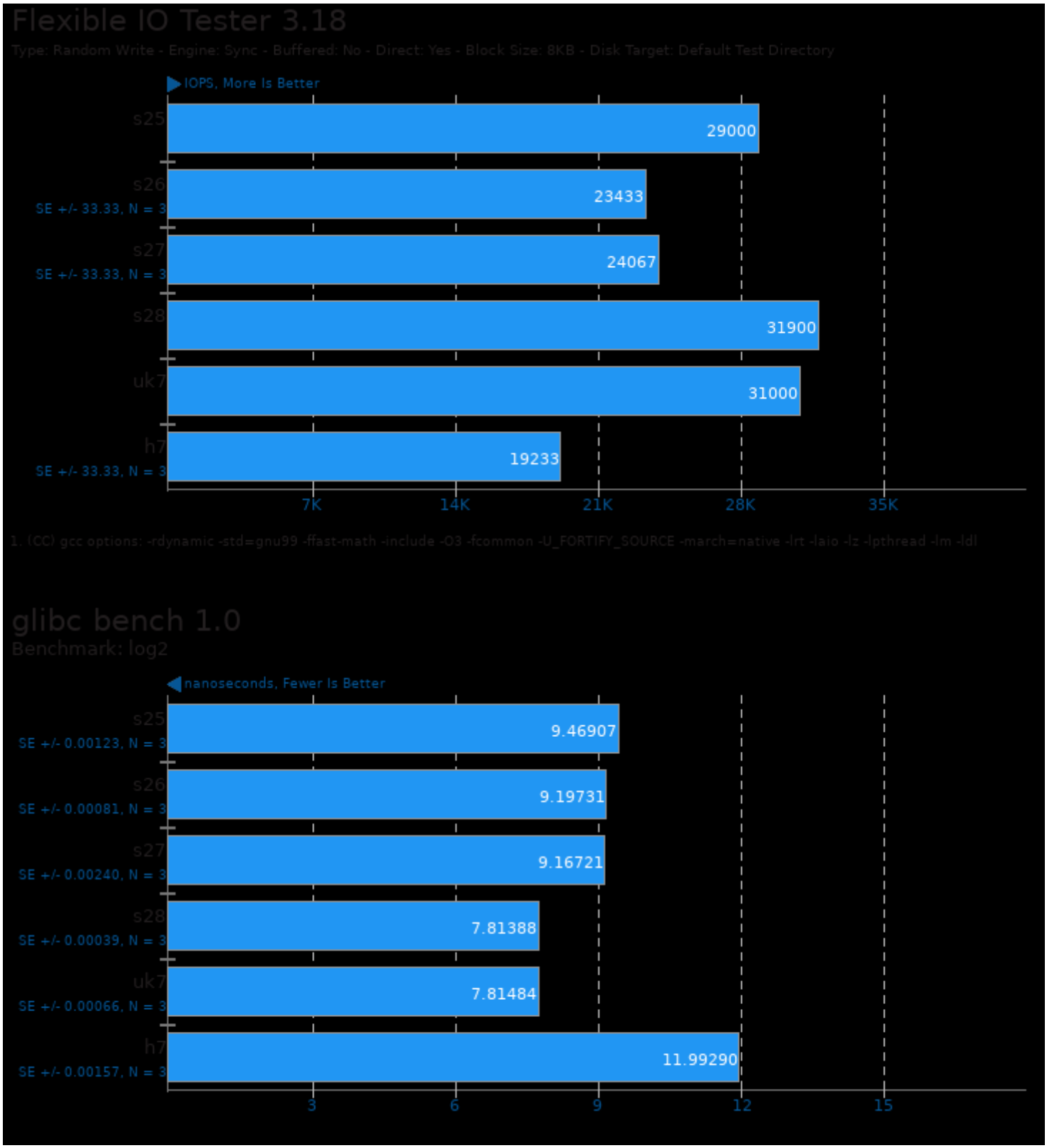
Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 256KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
SE +/- 24.89, N = 9
2544
s26
SE +/- 24.11, N = 3
1870
s27
SE +/- 31.41, N = 4
2587
s28
SE +/- 0.88, N = 3
3217
uk7
SE +/- 3.06, N = 3
3230
h7
SE +/- 17.04, N = 3
1737
700
1400
2100
2800
3500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

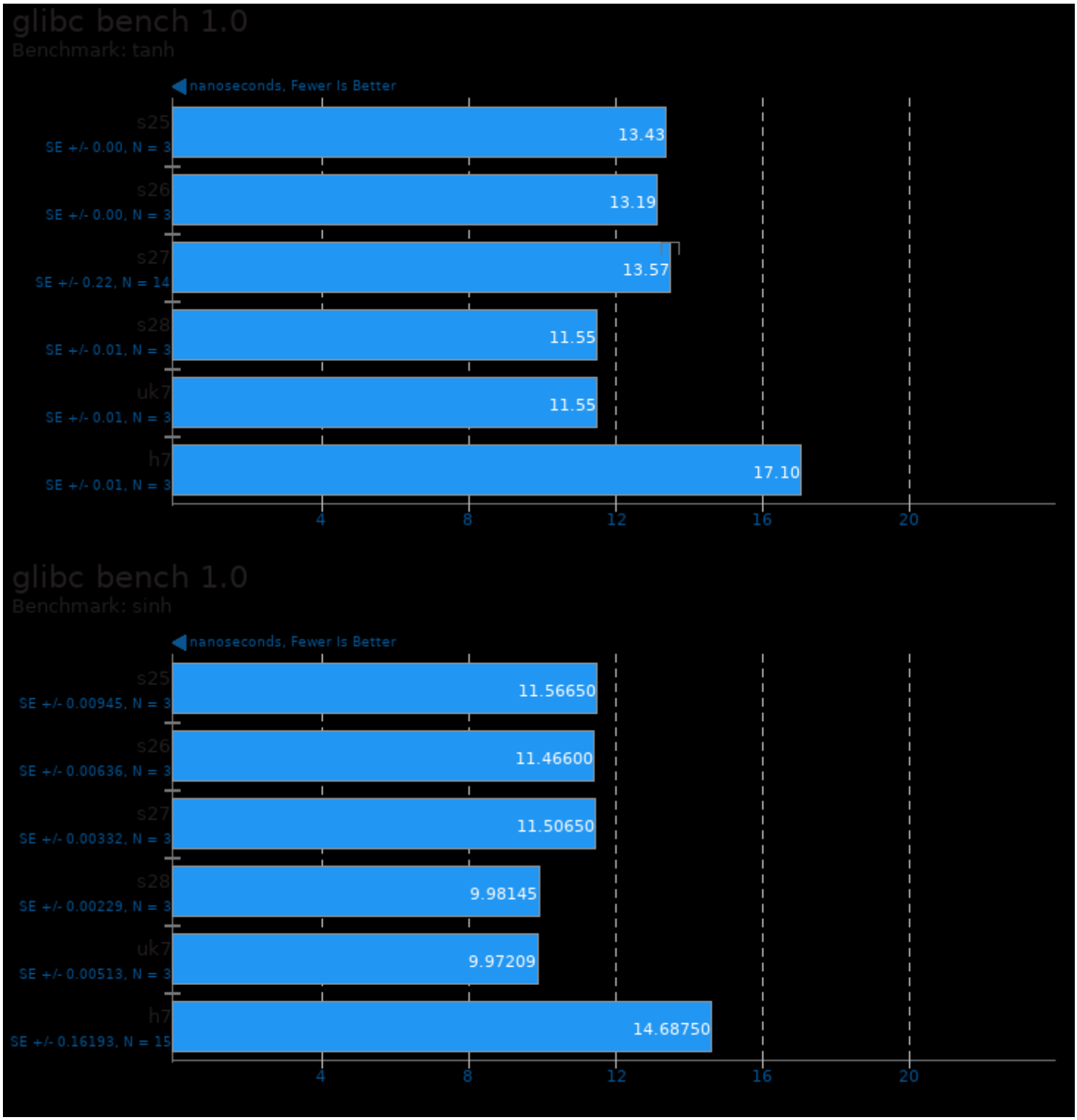

Flexible IO Tester 3.18
Type: Random Read - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 256KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 98.44, N = 9
10174
s26
SE +/- 96.46, N = 3
7478
s27
SE +/- 119.02, N = 4
10350
s28
12900
uk7
12900
h7
SE +/- 69.04, N = 3
6947
3K
6K
9K
12K
15K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

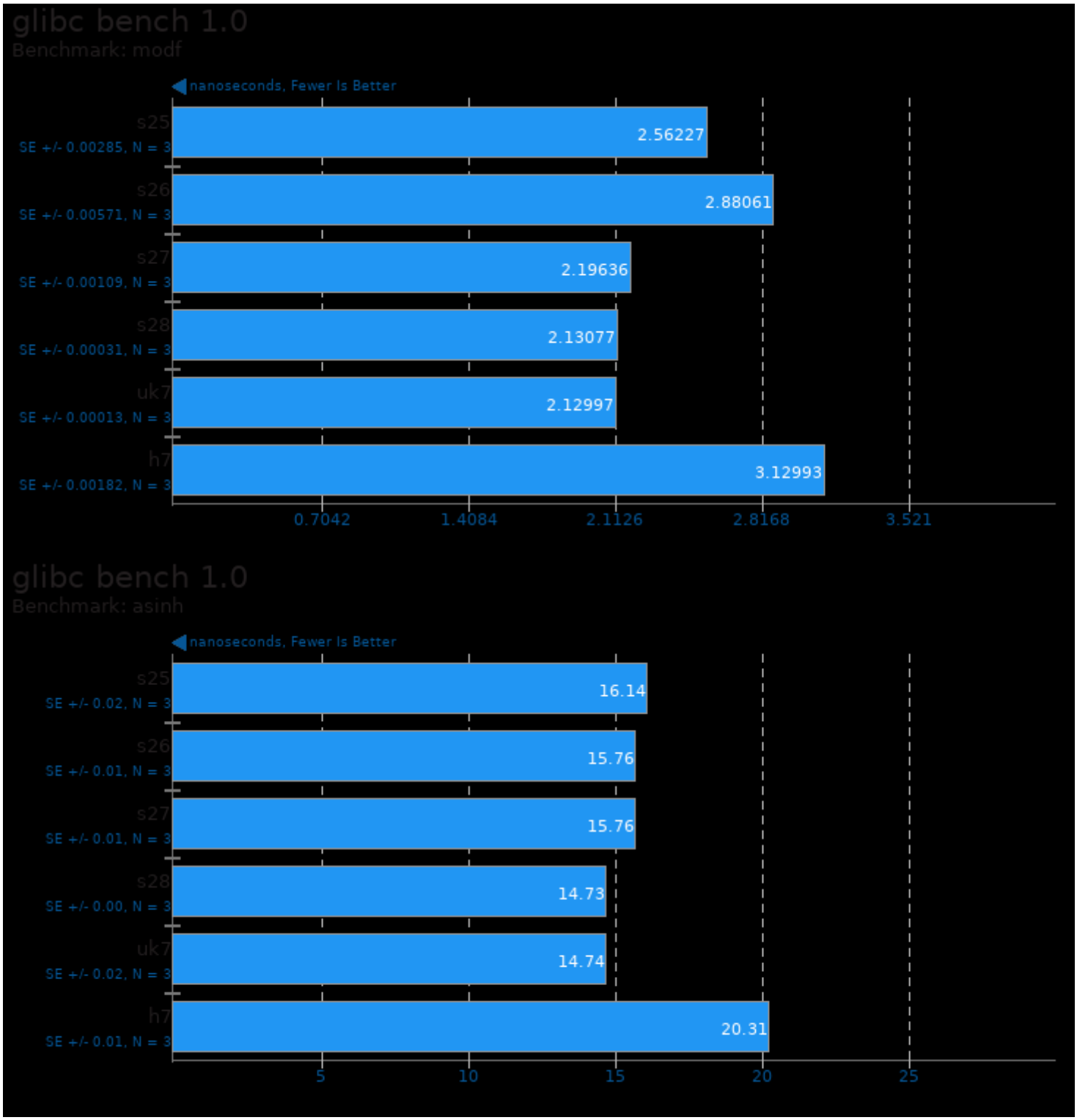
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 16KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
444
s26
SE +/- 0.88, N = 3
354
s27
370
s28
473
uk7
SE +/- 0.33, N = 3
474
h7
SE +/- 2.08, N = 3
277
100
200
300
400
500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

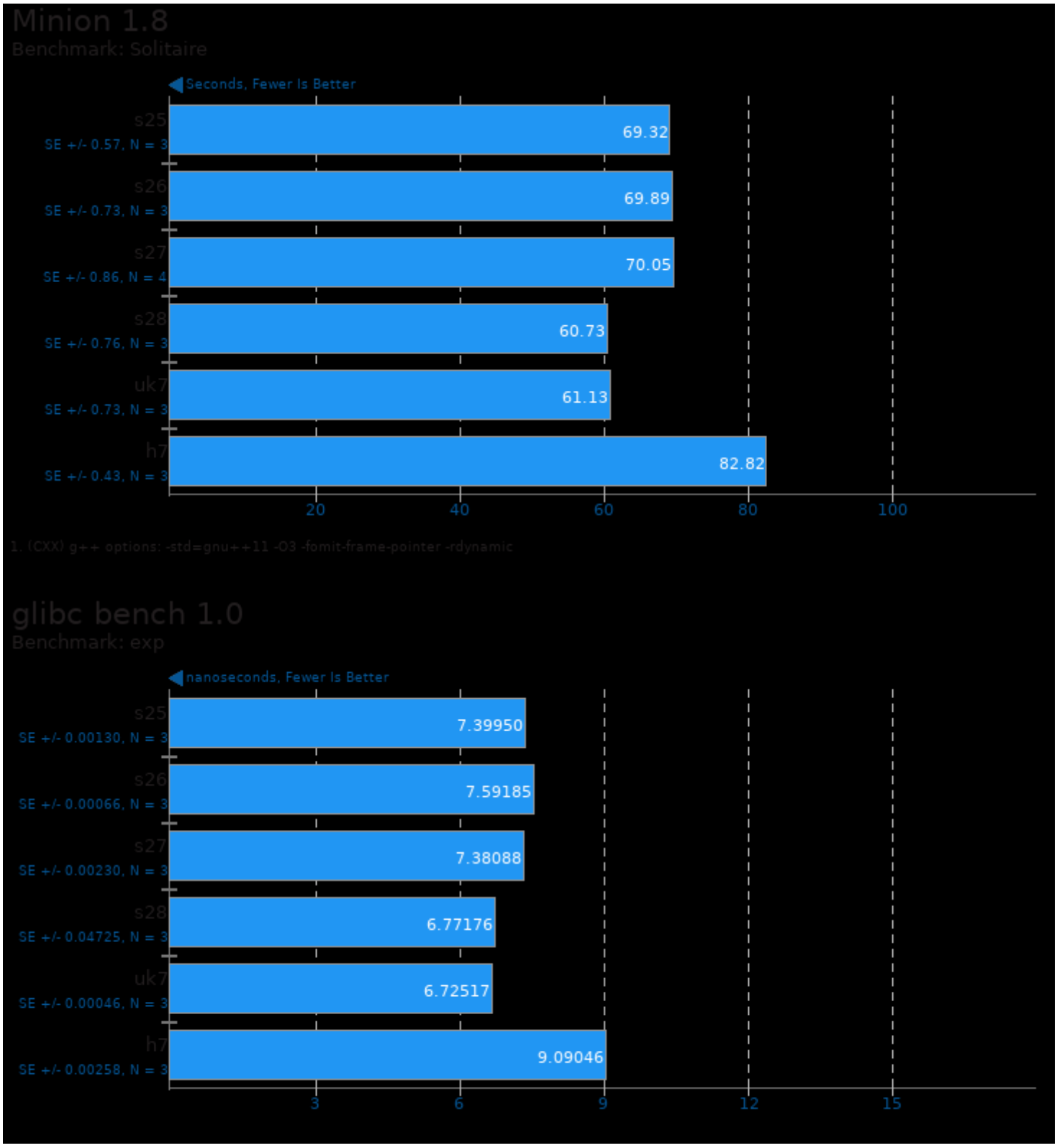

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 16KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
28433
SE +/- 33.33, N = 3
s26
22667
SE +/- 33.33, N = 3
s27
23667
SE +/- 33.33, N = 3
s28
30267
SE +/- 33.33, N = 3
uk7
30300
h7
17733
SE +/- 120.19, N = 3
6K
12K
18K
24K
30K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
29300
s26
23500
s27
24200
SE +/- 57.74, N = 3
s28
32300
uk7
32367
SE +/- 33.33, N = 3
h7
19100
7K
14K
21K
28K
35K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

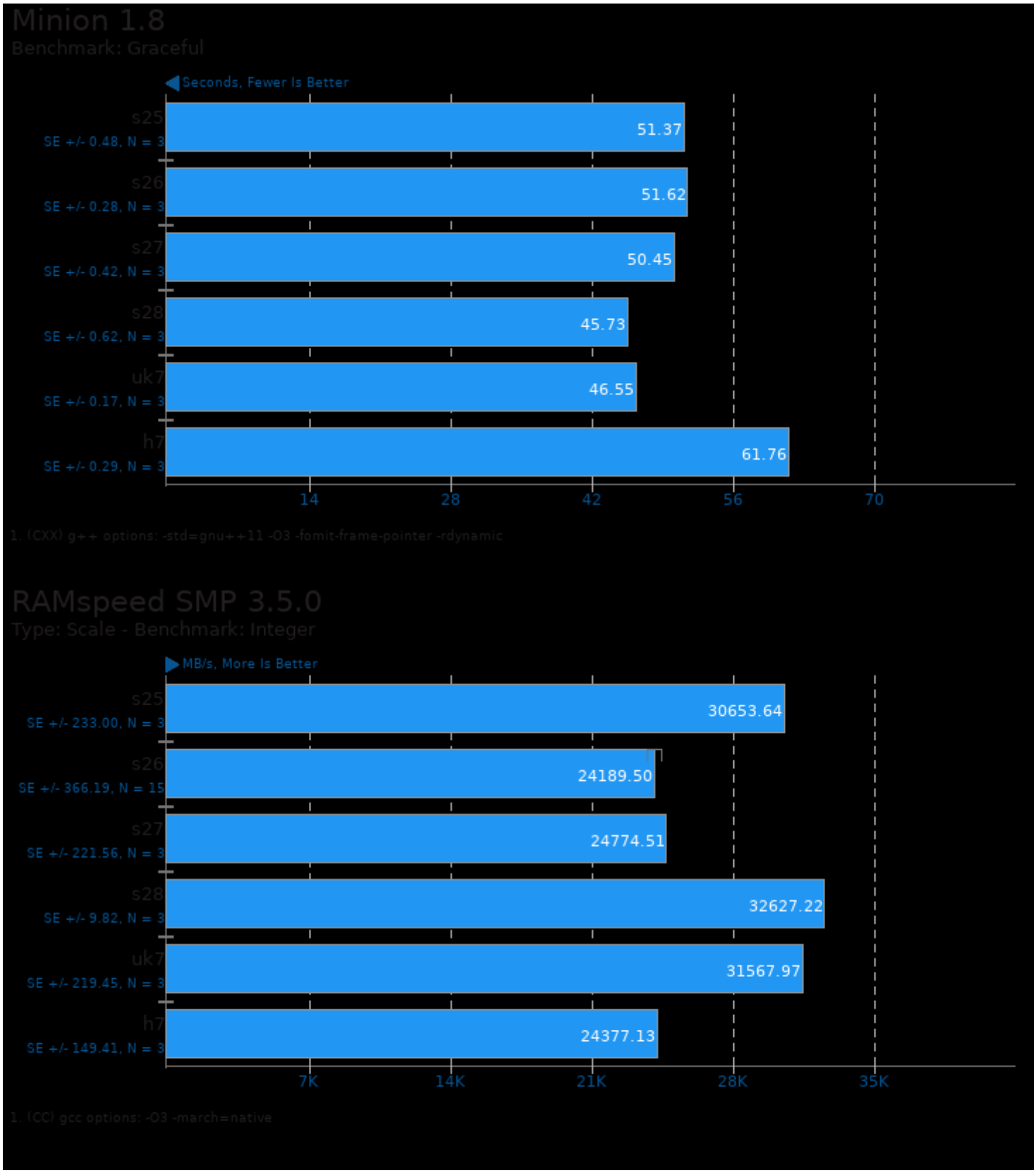

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
114.0
s26
91.6
SE +/- 0.03, N = 3
s27
94.5
SE +/- 0.22, N = 3
s28
126.0
uk7
126.0
h7
74.5
SE +/- 0.03, N = 3
30
60
90
120
150
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8KB - Disk Target: Default Test Directory
MB/s, More Is Better
s25
227
s26
183
s27
188
s28
249
uk7
250
h7
150
50
100
150
200
250
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

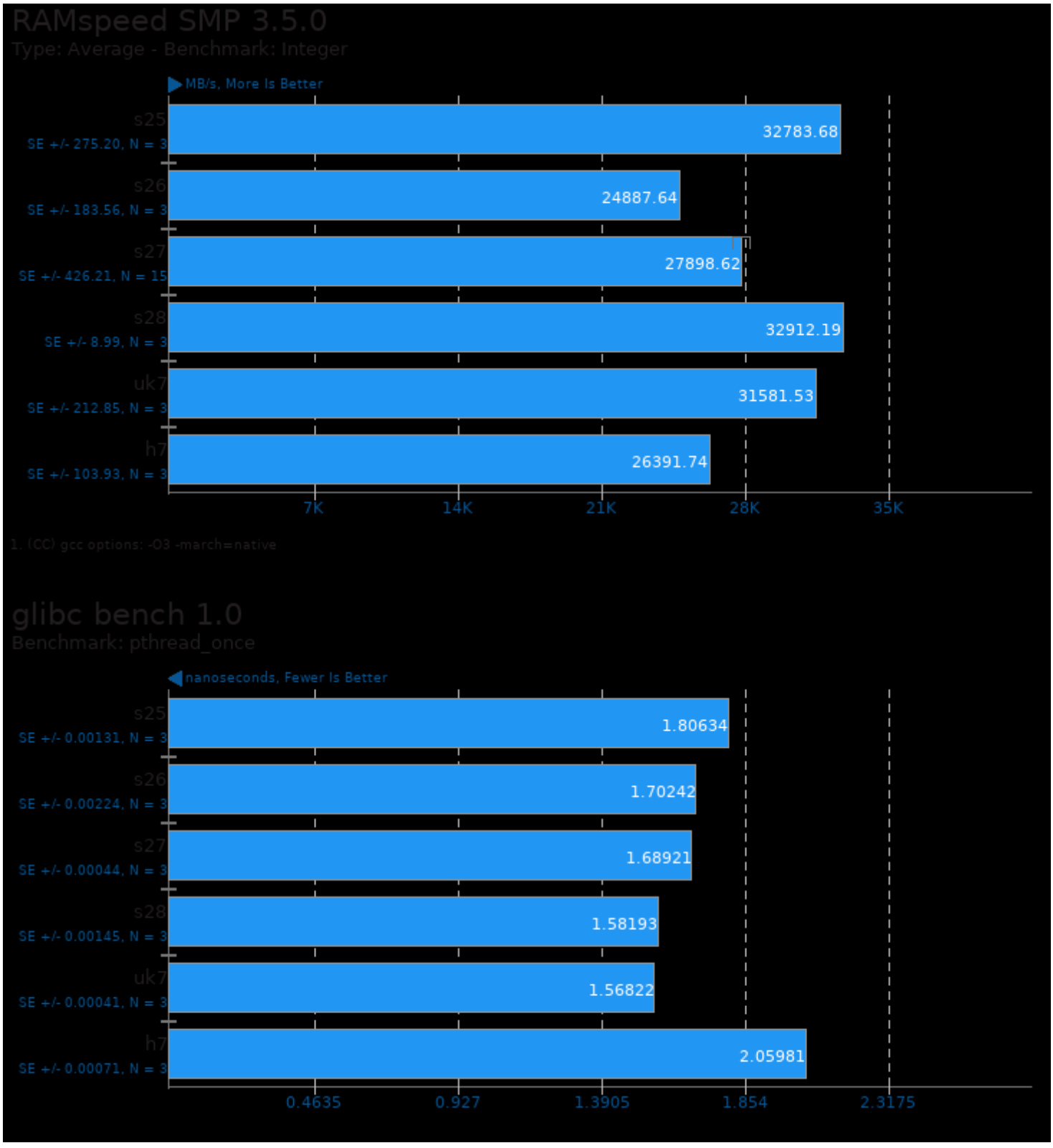

Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 8KB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
29000
s26
SE +/- 33.33, N = 3
23433
s27
SE +/- 33.33, N = 3
24067
s28
31900
uk7
31000
h7
SE +/- 33.33, N = 3
19233
7K
14K
21K
28K
35K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl
glibc bench 1.0
Benchmark: log2
nanoseconds, Fewer Is Better
s25
SE +/- 0.00123, N = 3
9.46907
s26
SE +/- 0.00081, N = 3
9.19731
s27
SE +/- 0.00240, N = 3
9.16721
s28
SE +/- 0.00039, N = 3
7.81388
uk7
SE +/- 0.00066, N = 3
7.81484
h7
SE +/- 0.00157, N = 3
11.99290
3
6
9
12
15

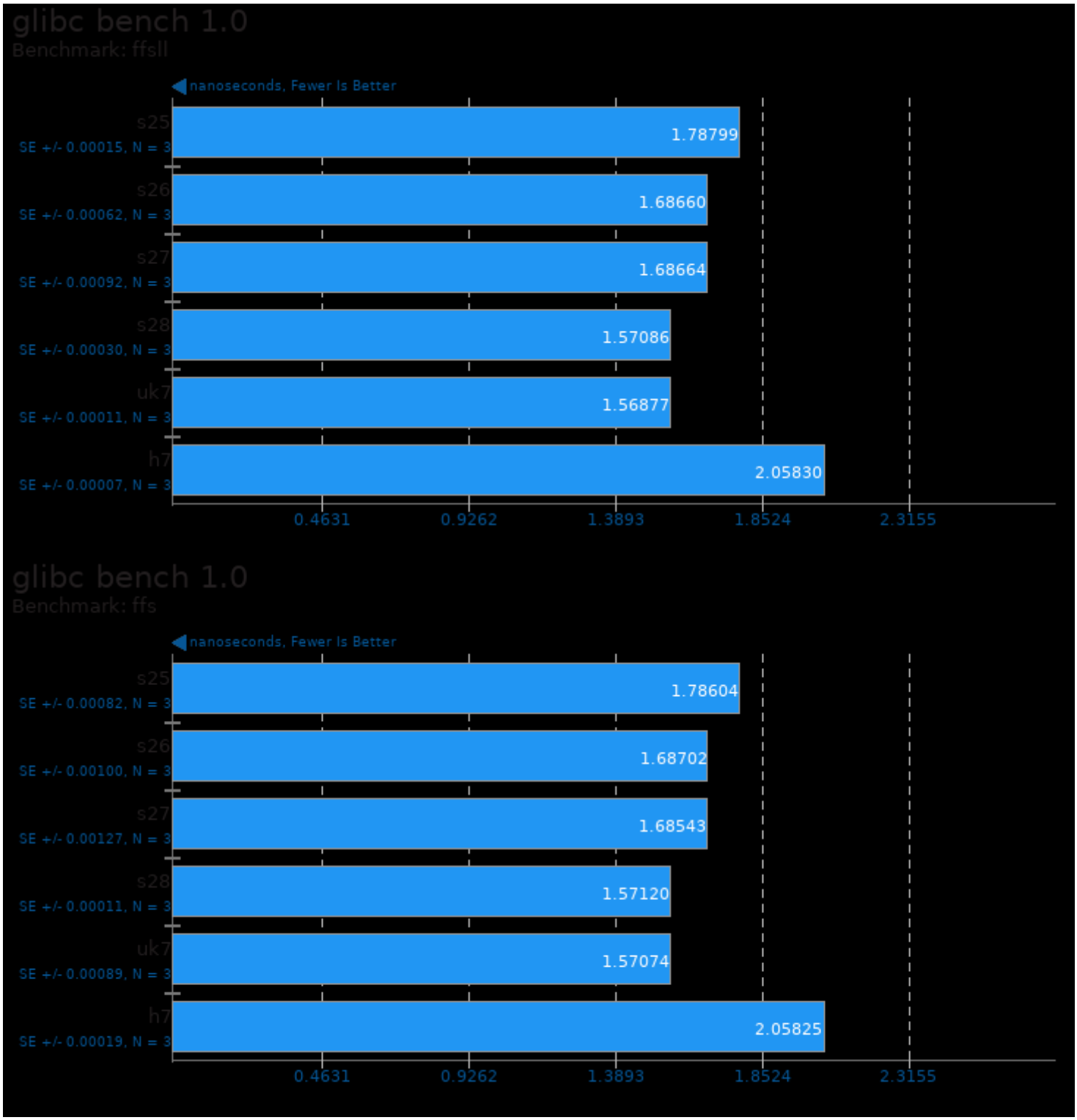

glibc bench 1.0
Benchmark: tanh
nanoseconds, Fewer Is Better
s25
SE +/- 0.00, N = 3
13.43
s26
SE +/- 0.00, N = 3
13.19
s27
SE +/- 0.22, N = 14
13.57
s28
SE +/- 0.01, N = 3
11.55
uk7
SE +/- 0.01, N = 3
11.55
h7
SE +/- 0.01, N = 3
17.10
4
8
12
16
20
glibc bench 1.0
Benchmark: sinh
nanoseconds, Fewer Is Better
s25
SE +/- 0.00945, N = 3
11.56650
s26
SE +/- 0.00636, N = 3
11.46600
s27
SE +/- 0.00332, N = 3
11.50650
s28
SE +/- 0.00229, N = 3
9.98145
uk7
SE +/- 0.00513, N = 3
9.97209
h7
SE +/- 0.16193, N = 15
14.68750
4
8
12
16
20

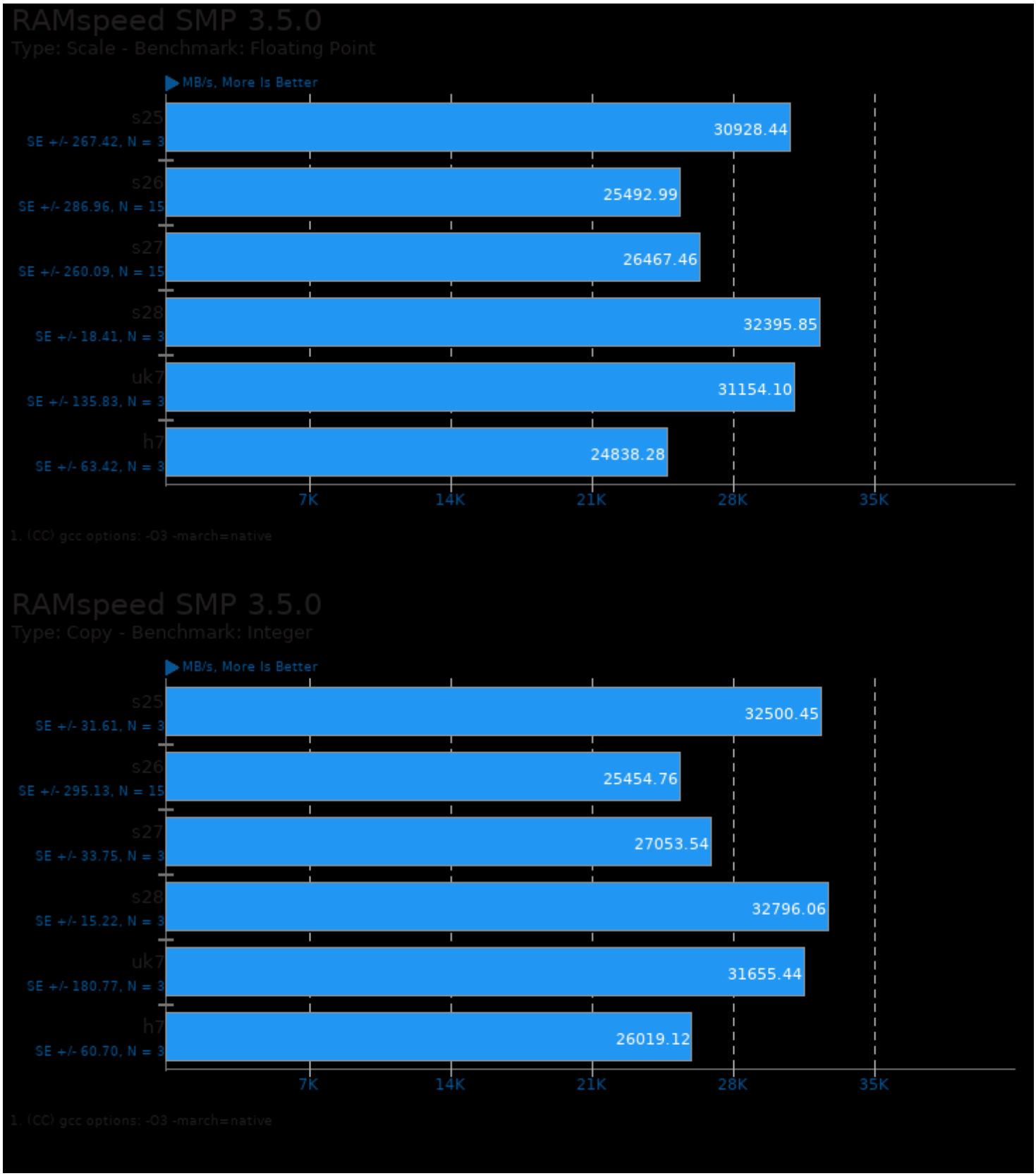

glibc bench 1.0
Benchmark: modf
nanoseconds, Fewer Is Better
s25
SE +/- 0.00285, N = 3
2.56227
s26
SE +/- 0.00571, N = 3
2.88061
s27
SE +/- 0.00109, N = 3
2.19636
s28
SE +/- 0.00031, N = 3
2.13077
uk7
SE +/- 0.00013, N = 3
2.12997
h7
SE +/- 0.00182, N = 3
3.12993
0.7042
1.4084
2.1126
2.8168
3.521
glibc bench 1.0
Benchmark: asinh
nanoseconds, Fewer Is Better
s25
SE +/- 0.02, N = 3
16.14
s26
SE +/- 0.01, N = 3
15.76
s27
SE +/- 0.01, N = 3
15.76
s28
SE +/- 0.00, N = 3
14.73
uk7
SE +/- 0.02, N = 3
14.74
h7
SE +/- 0.01, N = 3
20.31
5
10
15
20
25

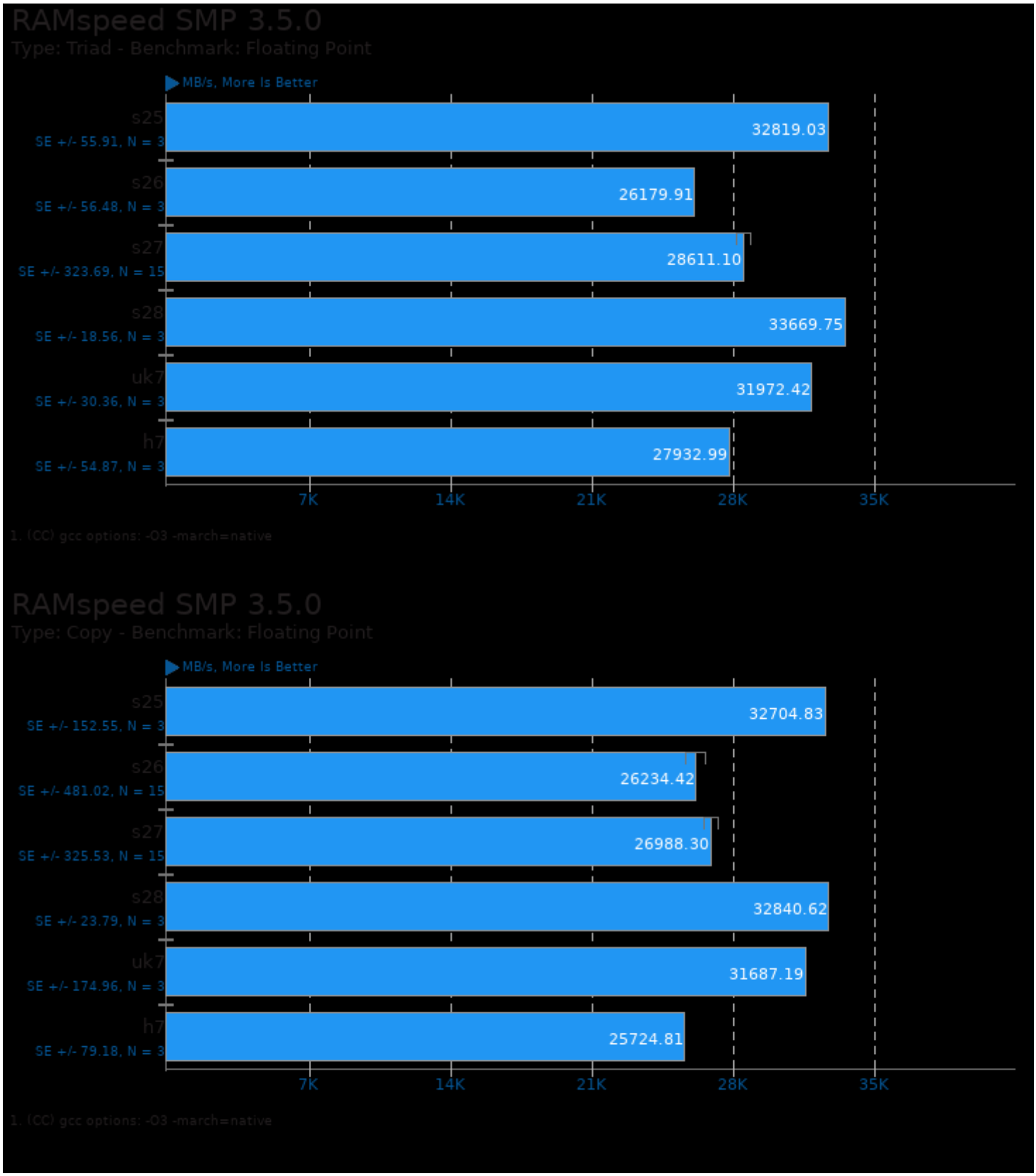

Minion 1.8
Benchmark: Solitaire
Seconds, Fewer Is Better
s25
SE +/- 0.57, N = 3
69.32
s26
SE +/- 0.73, N = 3
69.89
s27
SE +/- 0.86, N = 4
70.05
s28
SE +/- 0.76, N = 3
60.73
uk7
SE +/- 0.73, N = 3
61.13
h7
SE +/- 0.43, N = 3
82.82
20
40
60
80
100
1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic
glibc bench 1.0
Benchmark: exp
nanoseconds, Fewer Is Better
s25
SE +/- 0.00130, N = 3
7.39950
s26
SE +/- 0.00066, N = 3
7.59185
s27
SE +/- 0.00230, N = 3
7.38088
s28
SE +/- 0.04725, N = 3
6.77176
uk7
SE +/- 0.00046, N = 3
6.72517
h7
SE +/- 0.00258, N = 3
9.09046
3
6
9
12
15

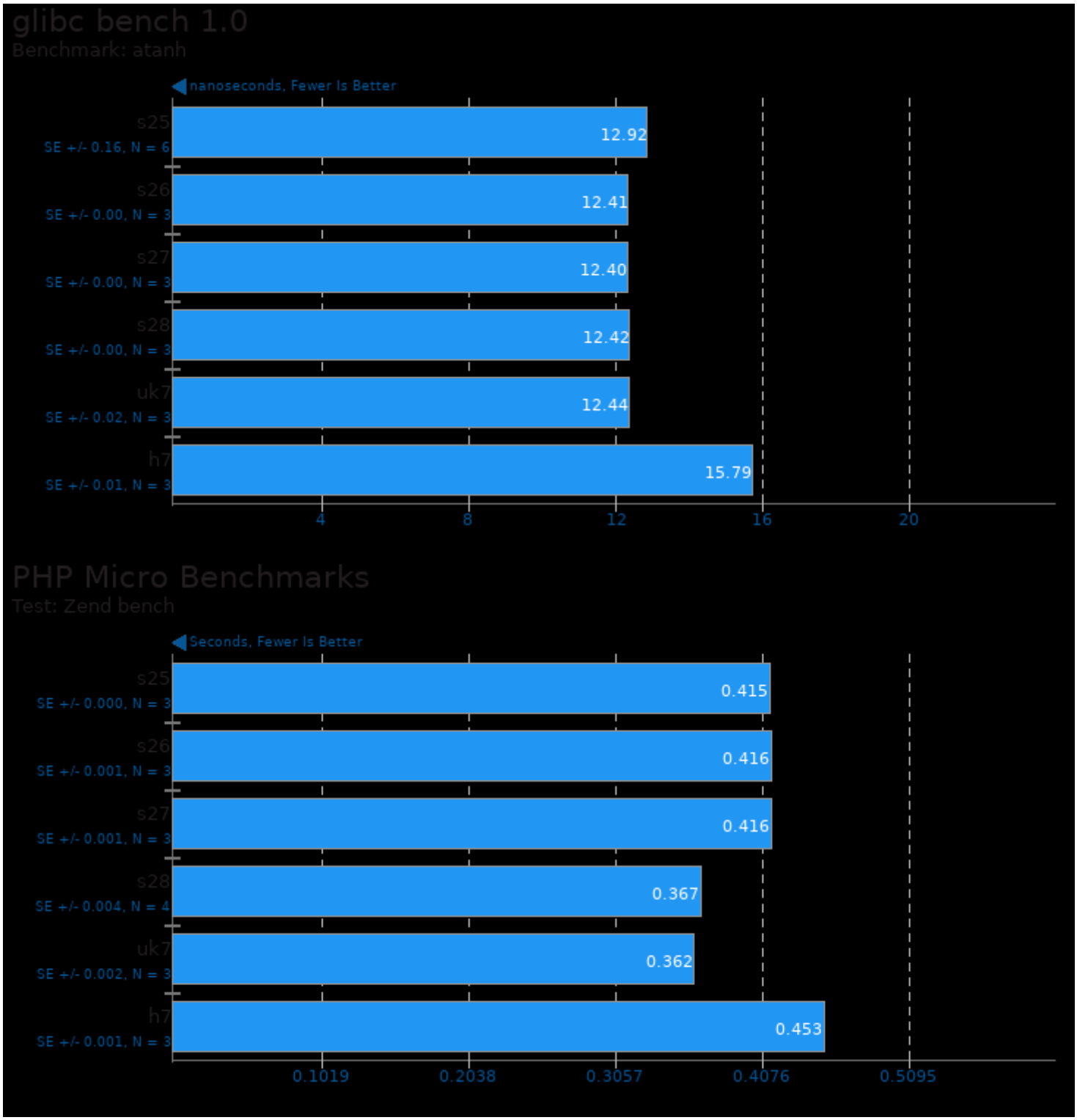

Minion 1.8
Benchmark: Graceful
Seconds, Fewer Is Better
s25
SE +/- 0.48, N = 3
51.37
s26
SE +/- 0.28, N = 3
51.62
s27
SE +/- 0.42, N = 3
50.45
s28
SE +/- 0.62, N = 3
45.73
uk7
SE +/- 0.17, N = 3
46.55
h7
SE +/- 0.29, N = 3
61.76
14
28
42
56
70
1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
s25
SE +/- 233.00, N = 3
30653.64
s26
SE +/- 366.19, N = 15
24189.50
s27
SE +/- 221.56, N = 3
24774.51
s28
SE +/- 9.82, N = 3
32627.22
uk7
SE +/- 219.45, N = 3
31567.97
h7
SE +/- 149.41, N = 3
24377.13
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

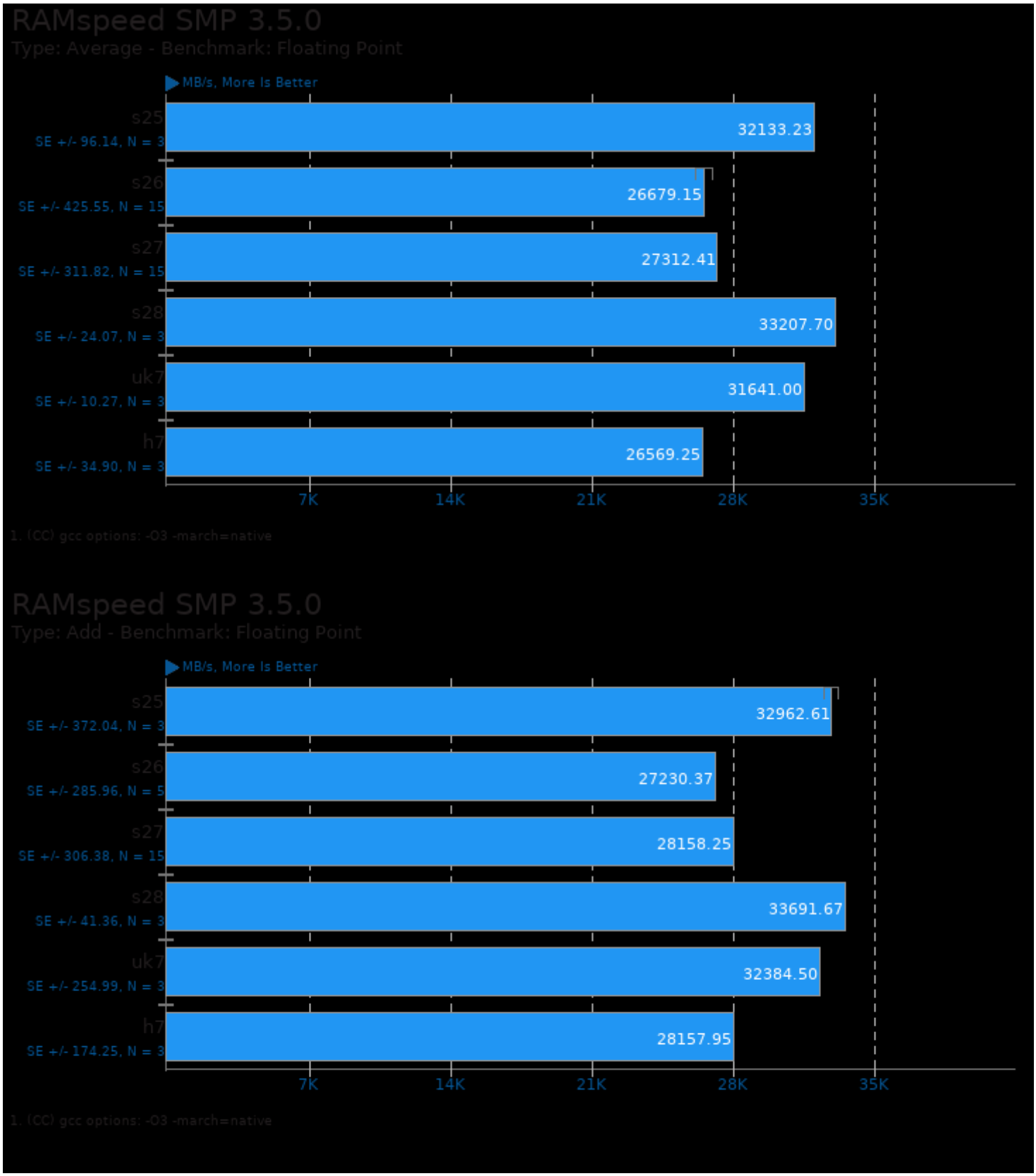

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
s25
SE +/- 275.20, N = 3
32783.68
s26
SE +/- 183.56, N = 3
24887.64
s27
SE +/- 426.21, N = 15
27898.62
s28
SE +/- 8.99, N = 3
32912.19
uk7
SE +/- 212.85, N = 3
31581.53
h7
SE +/- 103.93, N = 3
26391.74
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
glibc bench 1.0
Benchmark: pthread_once
nanoseconds, Fewer Is Better
s25
SE +/- 0.00131, N = 3
1.80634
s26
SE +/- 0.00224, N = 3
1.70242
s27
SE +/- 0.00044, N = 3
1.68921
s28
SE +/- 0.00145, N = 3
1.58193
uk7
SE +/- 0.00041, N = 3
1.56822
h7
SE +/- 0.00071, N = 3
2.05981
0.4635
0.927
1.3905
1.854
2.3175

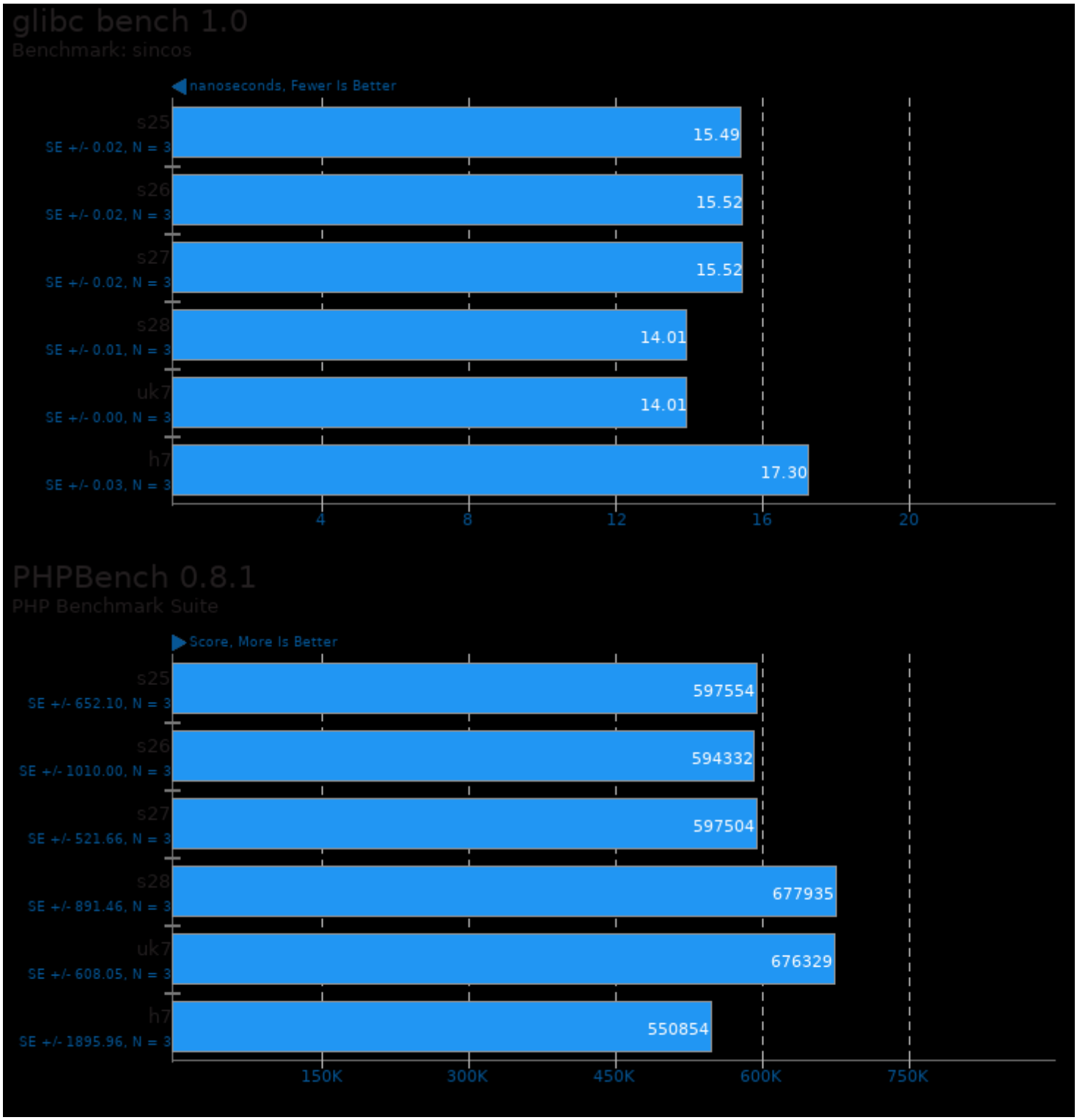

glibc bench 1.0
Benchmark: ffsll
nanoseconds, Fewer Is Better
s25
SE +/- 0.00015, N = 3
1.78799
s26
SE +/- 0.00062, N = 3
1.68660
s27
SE +/- 0.00092, N = 3
1.68664
s28
SE +/- 0.00030, N = 3
1.57086
uk7
SE +/- 0.00011, N = 3
1.56877
h7
SE +/- 0.00007, N = 3
2.05830
0.4631
0.9262
1.3893
1.8524
2.3155
glibc bench 1.0
Benchmark: ffs
nanoseconds, Fewer Is Better
s25
SE +/- 0.00082, N = 3
1.78604
s26
SE +/- 0.00100, N = 3
1.68702
s27
SE +/- 0.00127, N = 3
1.68543
s28
SE +/- 0.00011, N = 3
1.57120
uk7
SE +/- 0.00089, N = 3
1.57074
h7
SE +/- 0.00019, N = 3
2.05825
0.4631
0.9262
1.3893
1.8524
2.3155

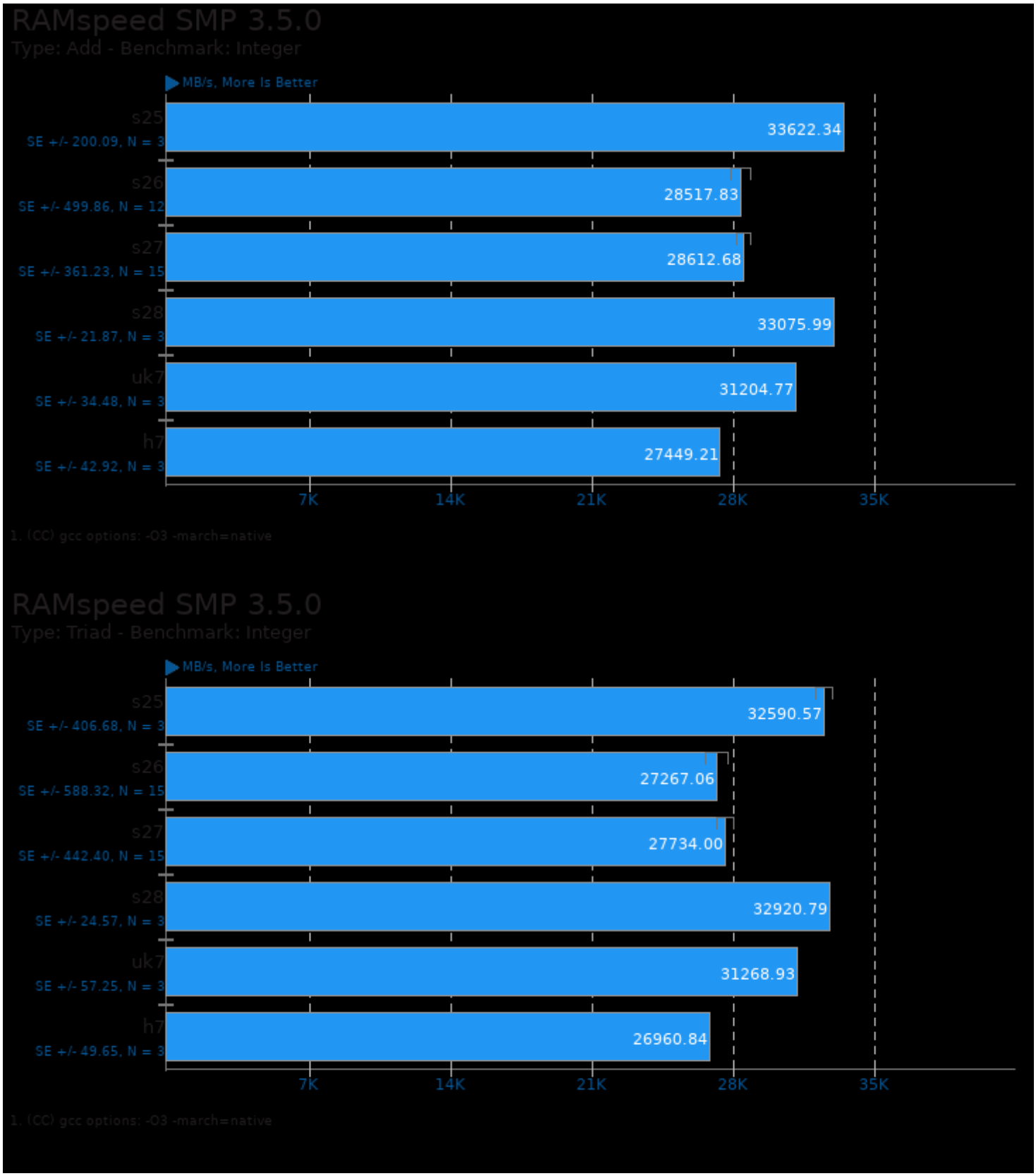

RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
s25
SE +/- 267.42, N = 3
30928.44
s26
SE +/- 286.96, N = 15
25492.99
s27
SE +/- 260.09, N = 15
26467.46
s28
SE +/- 18.41, N = 3
32395.85
uk7
SE +/- 135.83, N = 3
31154.10
h7
SE +/- 63.42, N = 3
24838.28
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
s25
SE +/- 31.61, N = 3
32500.45
s26
SE +/- 295.13, N = 15
25454.76
s27
SE +/- 33.75, N = 3
27053.54
s28
SE +/- 15.22, N = 3
32796.06
uk7
SE +/- 180.77, N = 3
31655.44
h7
SE +/- 60.70, N = 3
26019.12
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

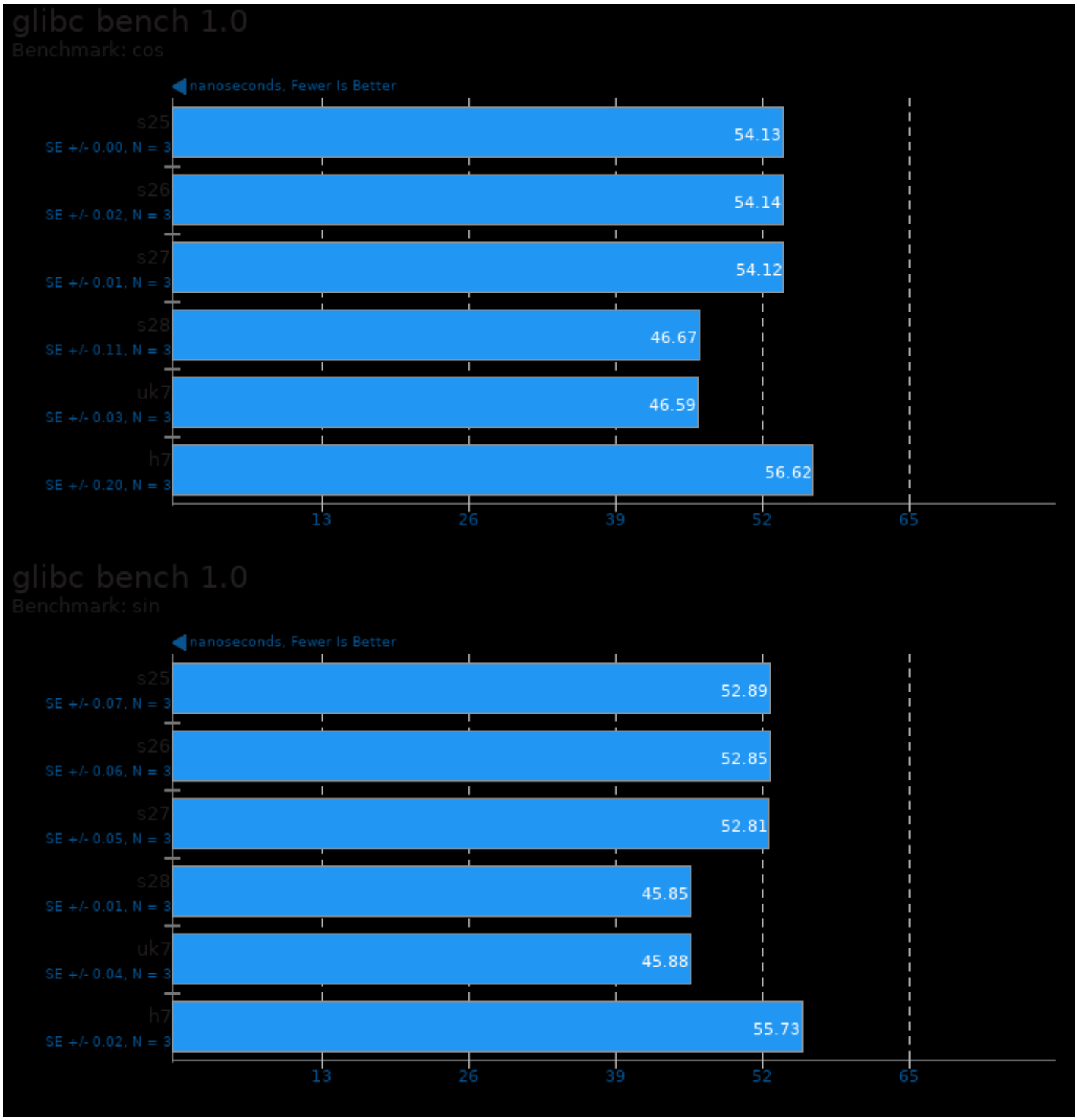

RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Floating Point
MB/s, More Is Better
s25
SE +/- 55.91, N = 3
32819.03
s26
SE +/- 56.48, N = 3
26179.91
s27
SE +/- 323.69, N = 15
28611.10
s28
SE +/- 18.56, N = 3
33669.75
uk7
SE +/- 30.36, N = 3
31972.42
h7
SE +/- 54.87, N = 3
27932.99
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Floating Point
MB/s, More Is Better
s25
SE +/- 152.55, N = 3
32704.83
s26
SE +/- 481.02, N = 15
26234.42
s27
SE +/- 325.53, N = 15
26988.30
s28
SE +/- 23.79, N = 3
32840.62
uk7
SE +/- 174.96, N = 3
31687.19
h7
SE +/- 79.18, N = 3
25724.81
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

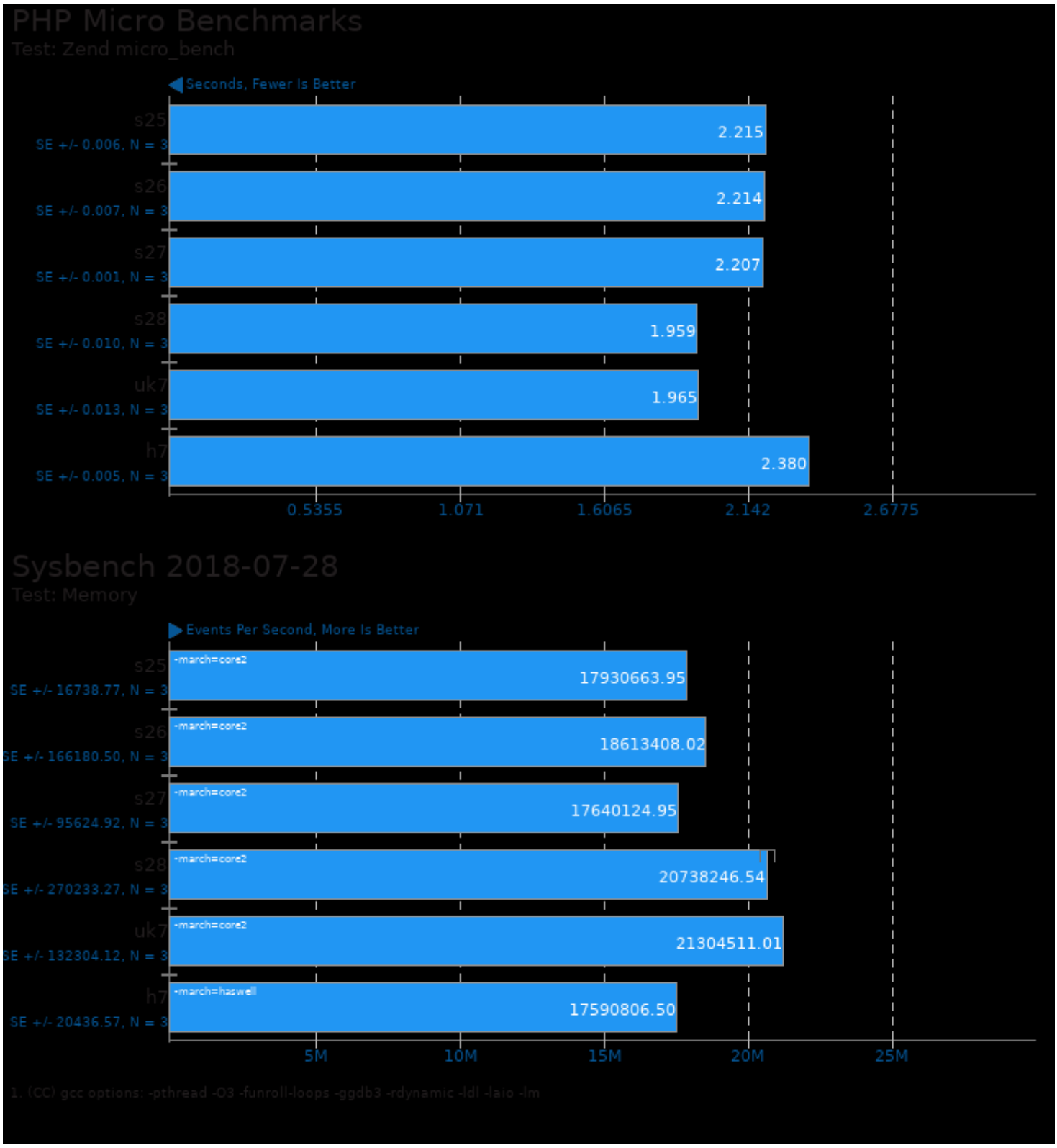

glibc bench 1.0
Benchmark: atanh
nanoseconds, Fewer Is Better
s25
SE +/- 0.16, N = 6
12.92
s26
SE +/- 0.00, N = 3
12.41
s27
SE +/- 0.00, N = 3
12.40
s28
SE +/- 0.00, N = 3
12.42
uk7
SE +/- 0.02, N = 3
12.44
h7
SE +/- 0.01, N = 3
15.79
4
8
12
16
20
PHP Micro Benchmarks
Test: Zend bench
Seconds, Fewer Is Better
s25
SE +/- 0.000, N = 3
0.415
s26
SE +/- 0.001, N = 3
0.416
s27
SE +/- 0.001, N = 3
0.416
s28
SE +/- 0.004, N = 4
0.367
uk7
SE +/- 0.002, N = 3
0.362
h7
SE +/- 0.001, N = 3
0.453
0.1019
0.2038
0.3057
0.4076
0.5095

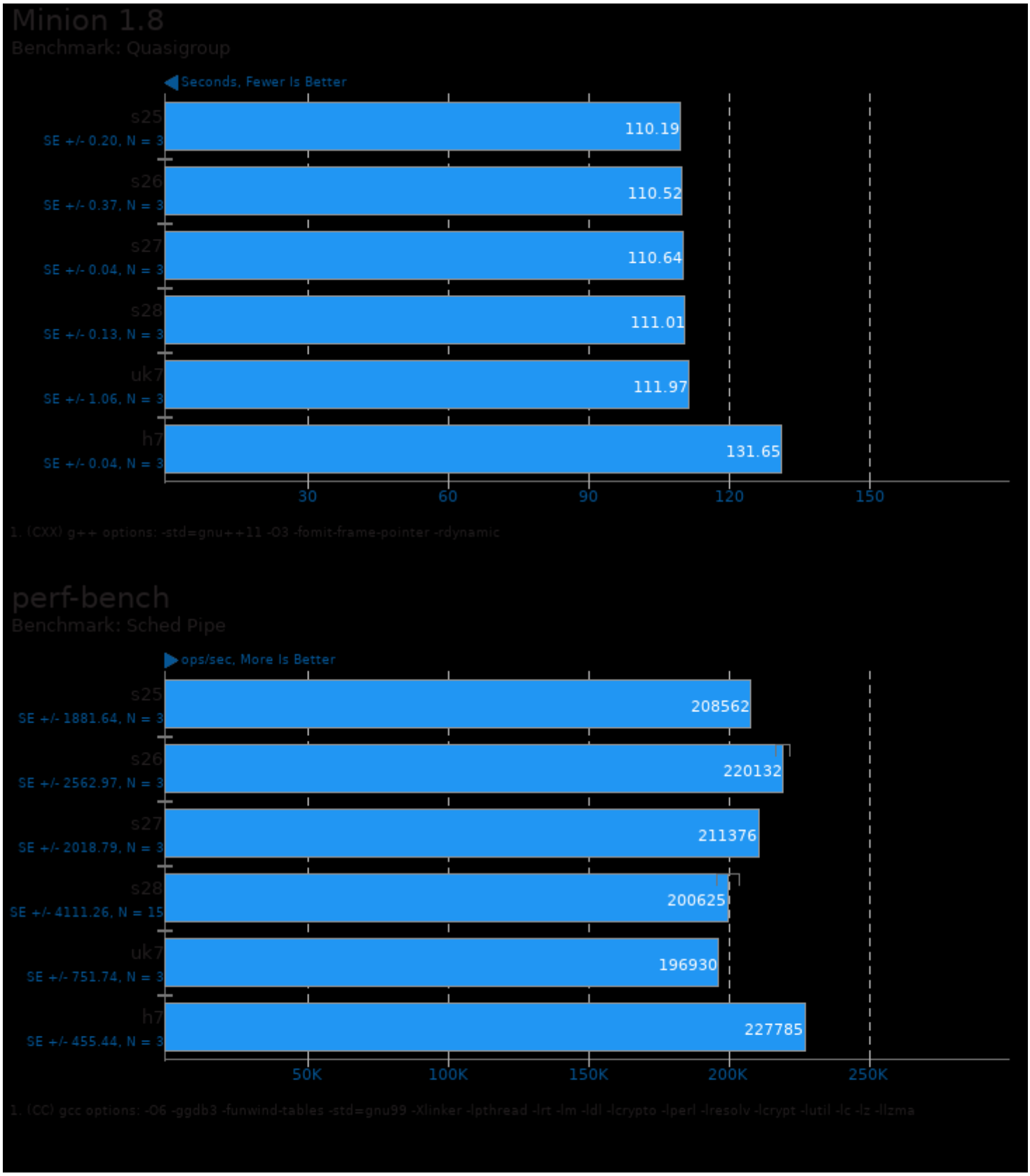

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Floating Point
MB/s, More Is Better
s25
SE +/- 96.14, N = 3
32133.23
s26
SE +/- 425.55, N = 15
26679.15
s27
SE +/- 311.82, N = 15
27312.41
s28
SE +/- 24.07, N = 3
33207.70
uk7
SE +/- 10.27, N = 3
31641.00
h7
SE +/- 34.90, N = 3
26569.25
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
s25
SE +/- 372.04, N = 3
32962.61
s26
SE +/- 285.96, N = 5
27230.37
s27
SE +/- 306.38, N = 15
28158.25
s28
SE +/- 41.36, N = 3
33691.67
uk7
SE +/- 254.99, N = 3
32384.50
h7
SE +/- 174.25, N = 3
28157.95
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

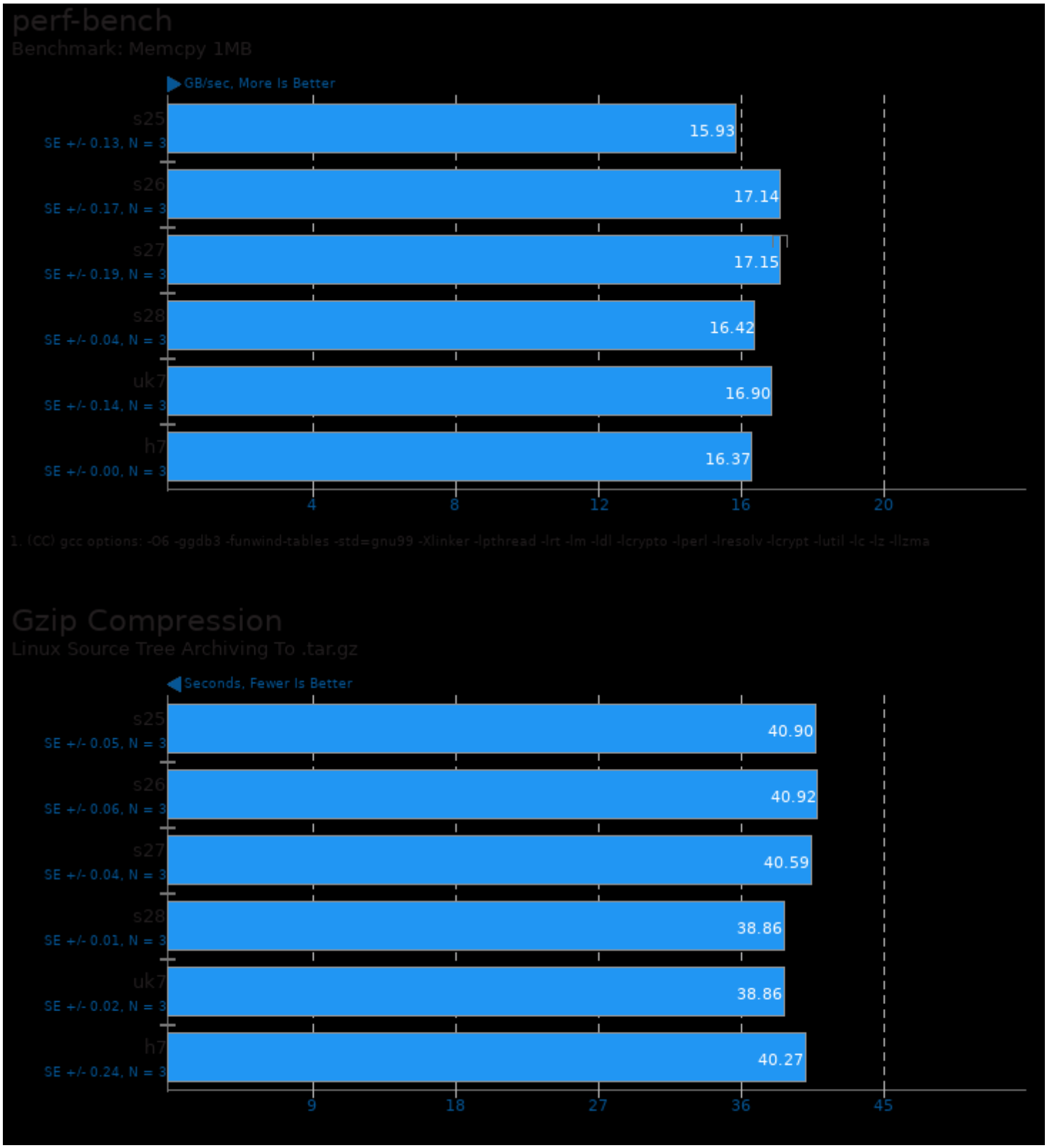

glibc bench 1.0
Benchmark: sincos
nanoseconds, Fewer Is Better
s25
SE +/- 0.02, N = 3
15.49
s26
SE +/- 0.02, N = 3
15.52
s27
SE +/- 0.02, N = 3
15.52
s28
SE +/- 0.01, N = 3
14.01
uk7
SE +/- 0.00, N = 3
14.01
h7
SE +/- 0.03, N = 3
17.30
4
8
12
16
20
PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
s25
SE +/- 652.10, N = 3
597554
s26
SE +/- 1010.00, N = 3
594332
s27
SE +/- 521.66, N = 3
597504
s28
SE +/- 891.46, N = 3
677935
uk7
SE +/- 608.05, N = 3
676329
h7
SE +/- 1895.96, N = 3
550854
150K
300K
450K
600K
750K

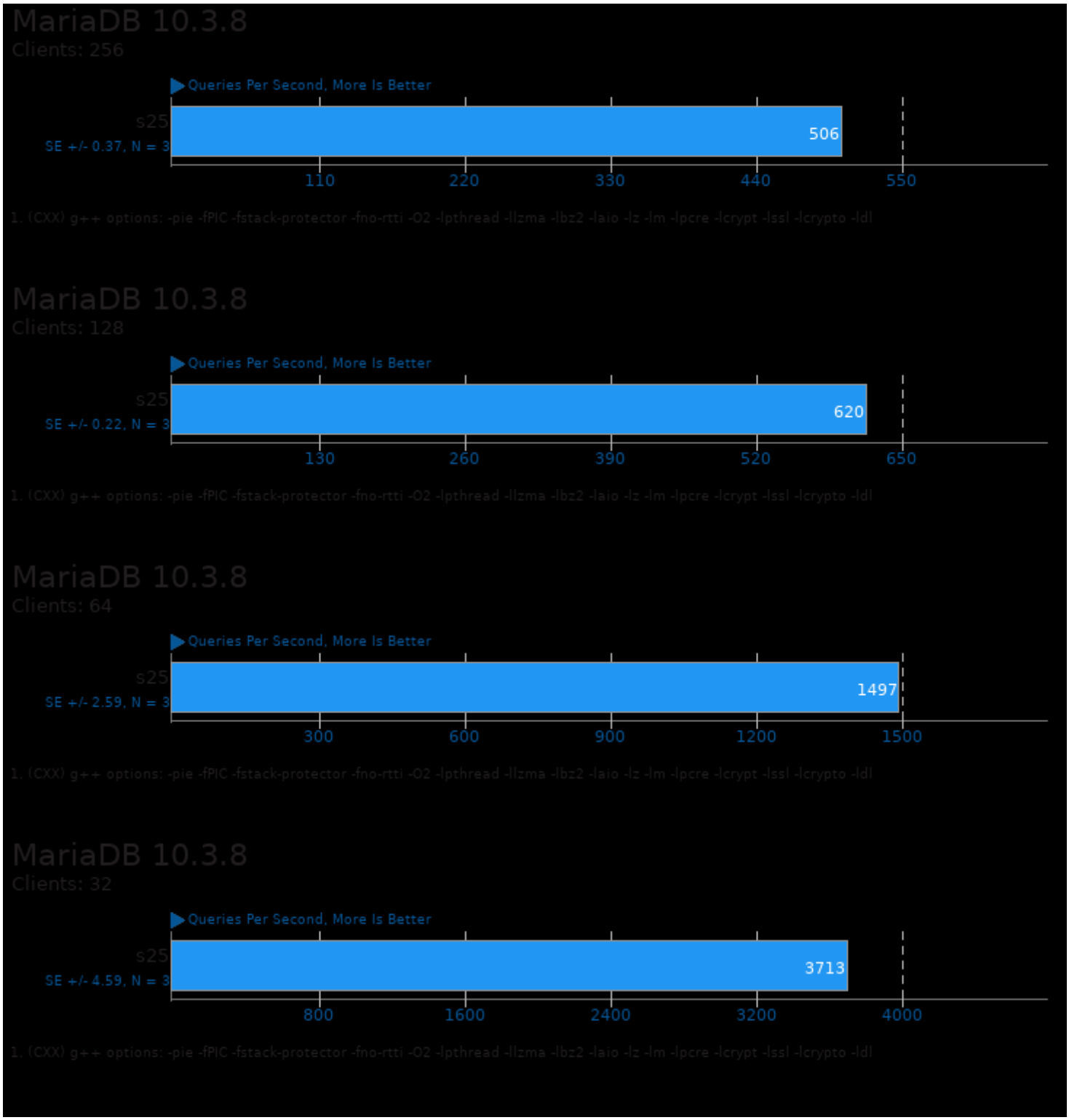

RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
s25
SE +/- 200.09, N = 3
33622.34
s26
SE +/- 499.86, N = 12
28517.83
s27
SE +/- 361.23, N = 15
28612.68
s28
SE +/- 21.87, N = 3
33075.99
uk7
SE +/- 34.48, N = 3
31204.77
h7
SE +/- 42.92, N = 3
27449.21
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
s25
SE +/- 406.68, N = 3
32590.57
s26
SE +/- 588.32, N = 15
27267.06
s27
SE +/- 442.40, N = 15
27734.00
s28
SE +/- 24.57, N = 3
32920.79
uk7
SE +/- 57.25, N = 3
31268.93
h7
SE +/- 49.65, N = 3
26960.84
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

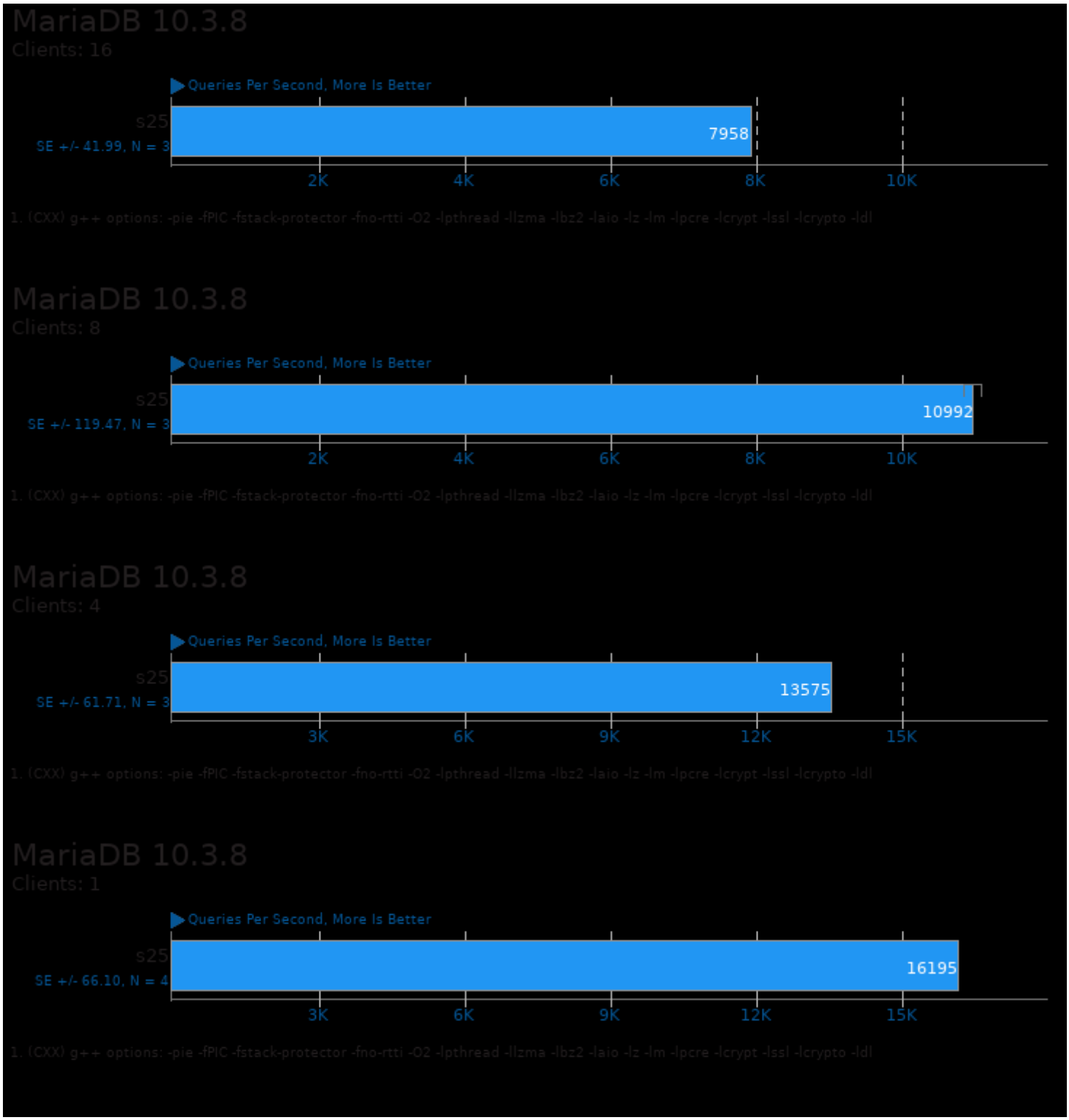

glibc bench 1.0
Benchmark: cos
nanoseconds, Fewer Is Better
s25
SE +/- 0.00, N = 3
54.13
s26
SE +/- 0.02, N = 3
54.14
s27
SE +/- 0.01, N = 3
54.12
s28
SE +/- 0.11, N = 3
46.67
uk7
SE +/- 0.03, N = 3
46.59
h7
SE +/- 0.20, N = 3
56.62
13
26
39
52
65
glibc bench 1.0
Benchmark: sin
nanoseconds, Fewer Is Better
s25
SE +/- 0.07, N = 3
52.89
s26
SE +/- 0.06, N = 3
52.85
s27
SE +/- 0.05, N = 3
52.81
s28
SE +/- 0.01, N = 3
45.85
uk7
SE +/- 0.04, N = 3
45.88
h7
SE +/- 0.02, N = 3
55.73
13
26
39
52
65

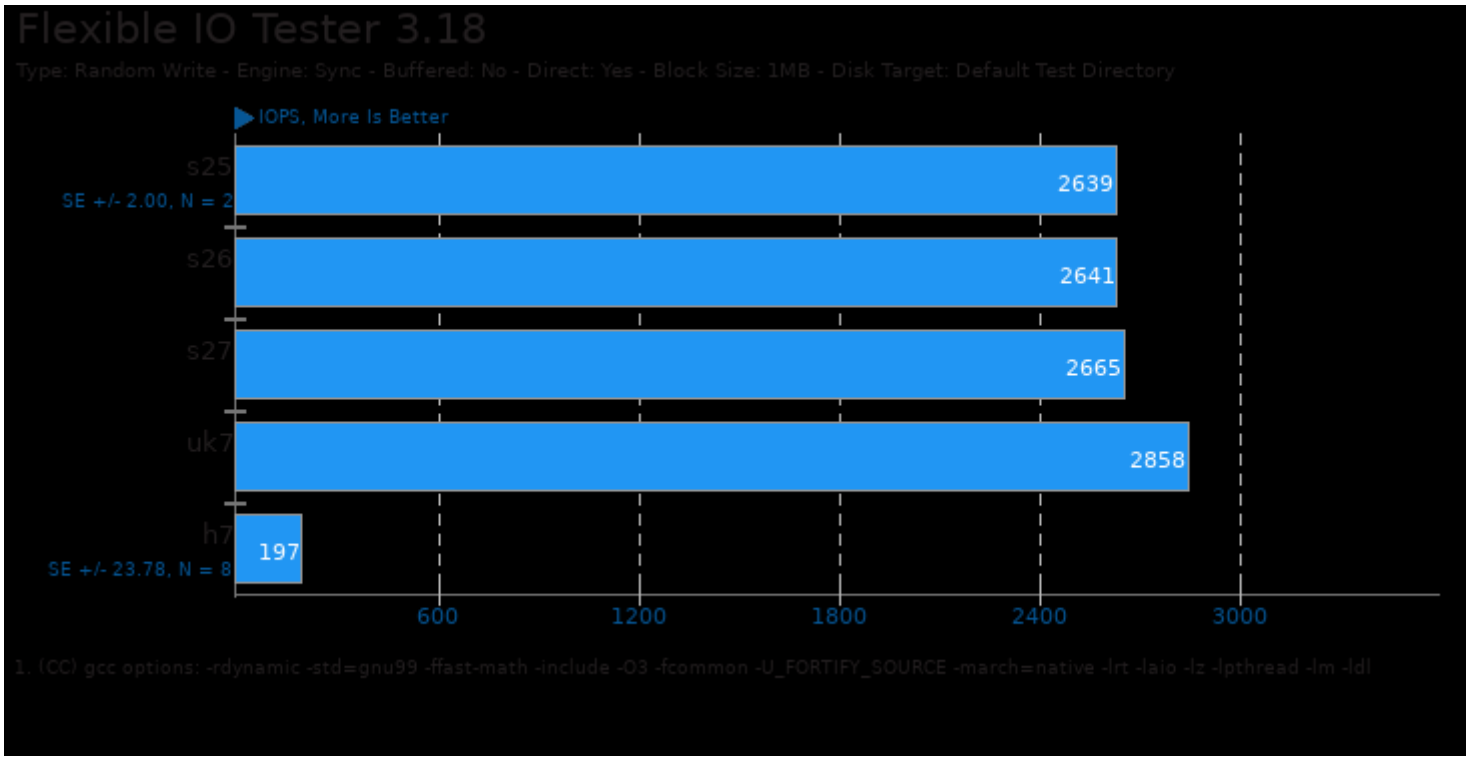

PHP Micro Benchmarks
Test: Zend micro_bench
Seconds, Fewer Is Better
s25
SE +/- 0.006, N = 3
2.215
s26
SE +/- 0.007, N = 3
2.214
s27
SE +/- 0.001, N = 3
2.207
s28
SE +/- 0.010, N = 3
1.959
uk7
SE +/- 0.013, N = 3
1.965
h7
SE +/- 0.005, N = 3
2.380
0.5355
1.071
1.6065
2.142
2.6775
Sysbench 2018-07-28
Test: Memory
Events Per Second, More Is Better
s25
SE +/- 16738.77, N = 3
-march=core2
17930663.95
s26
SE +/- 166180.50, N = 3
-march=core2
18613408.02
s27
SE +/- 95624.92, N = 3
-march=core2
17640124.95
s28
SE +/- 270233.27, N = 3
-march=core2
20738246.54
uk7
SE +/- 132304.12, N = 3
-march=core2
21304511.01
h7
SE +/- 20436.57, N = 3
-march=haswell
17590806.50
5M
10M
15M
20M
25M
1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -rdynamic -ldl -laio -lm


Minion 1.8
Benchmark: Quasigroup
Seconds, Fewer Is Better
s25
SE +/- 0.20, N = 3
110.19
s26
SE +/- 0.37, N = 3
110.52
s27
SE +/- 0.04, N = 3
110.64
s28
SE +/- 0.13, N = 3
111.01
uk7
SE +/- 1.06, N = 3
111.97
h7
SE +/- 0.04, N = 3
131.65
30
60
90
120
150
1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic
perf-bench
Benchmark: Sched Pipe
ops/sec, More Is Better
s25
SE +/- 1881.64, N = 3
208562
s26
SE +/- 2562.97, N = 3
220132
s27
SE +/- 2018.79, N = 3
211376
s28
SE +/- 4111.26, N = 15
200625
uk7
SE +/- 751.74, N = 3
196930
h7
SE +/- 455.44, N = 3
227785
50K
100K
150K
200K
250K
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma

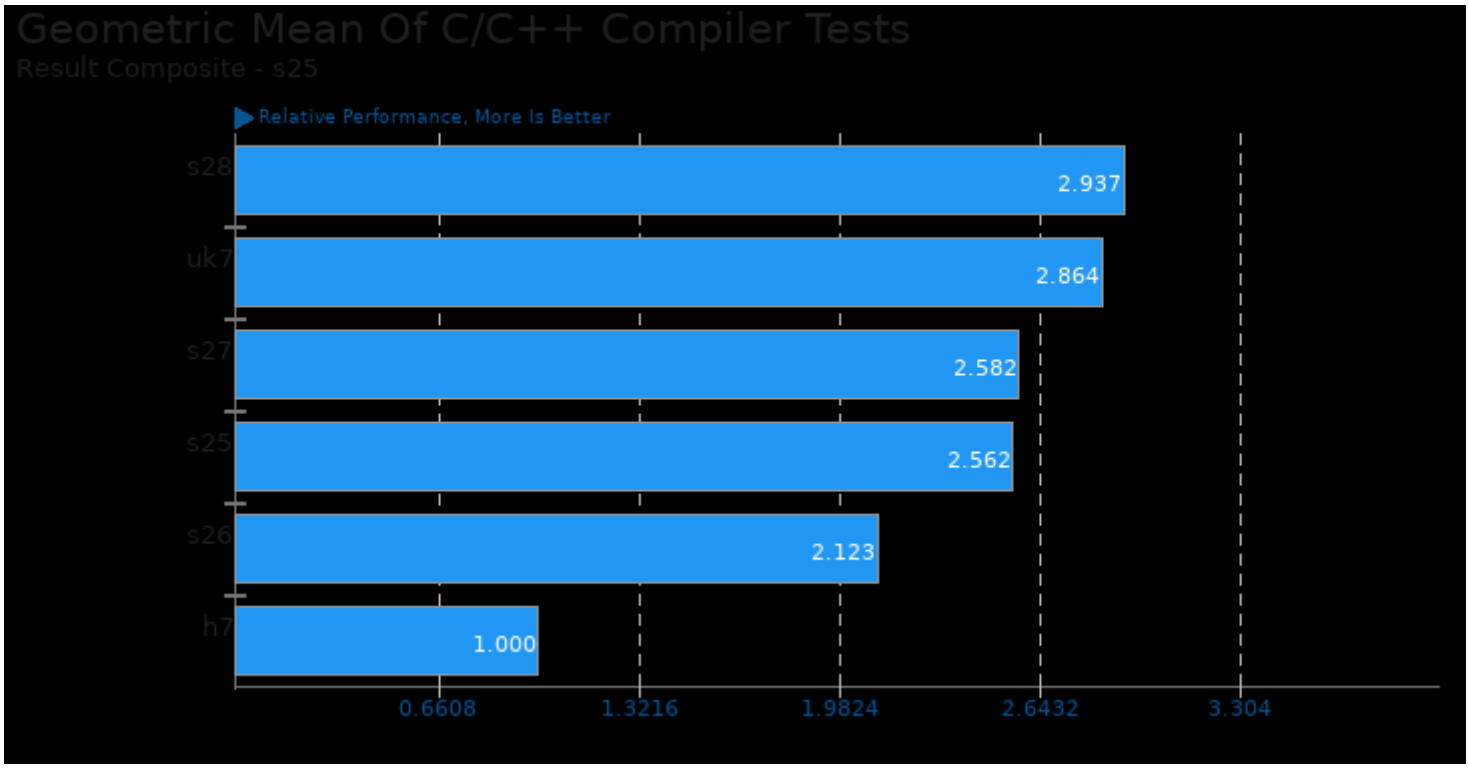

perf-bench
Benchmark: Memcpy 1MB
GB/sec, More Is Better
s25
SE +/- 0.13, N = 3
15.93
s26
SE +/- 0.17, N = 3
17.14
s27
SE +/- 0.19, N = 3
17.15
s28
SE +/- 0.04, N = 3
16.42
uk7
SE +/- 0.14, N = 3
16.90
h7
SE +/- 0.00, N = 3
16.37
4
8
12
16
20
1. (CC) gcc options: -O6 -ggdb3 -funwind-tables -std=gnu99 -Xlinker -lpthread -lrt -lm -ldl -lcrypto -lperl -lresolv -lcrypt -lutil -lc -lz -llzma
Gzip Compression
Linux Source Tree Archiving To .tar.gz
Seconds, Fewer Is Better
s25
SE +/- 0.05, N = 3
40.90
s26
SE +/- 0.06, N = 3
40.92
s27
SE +/- 0.04, N = 3
40.59
s28
SE +/- 0.01, N = 3
38.86
uk7
SE +/- 0.02, N = 3
38.86
h7
SE +/- 0.24, N = 3
40.27
9
18
27
36
45


MariaDB 10.3.8
Clients: 256
Queries Per Second, More Is Better
s25
SE +/- 0.37, N = 3
506
110
220
330
440
550
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 128
Queries Per Second, More Is Better
s25
SE +/- 0.22, N = 3
620
130
260
390
520
650
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 64
Queries Per Second, More Is Better
s25
SE +/- 2.59, N = 3
1497
300
600
900
1200
1500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 32
Queries Per Second, More Is Better
s25
SE +/- 4.59, N = 3
3713
800
1600
2400
3200
4000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl

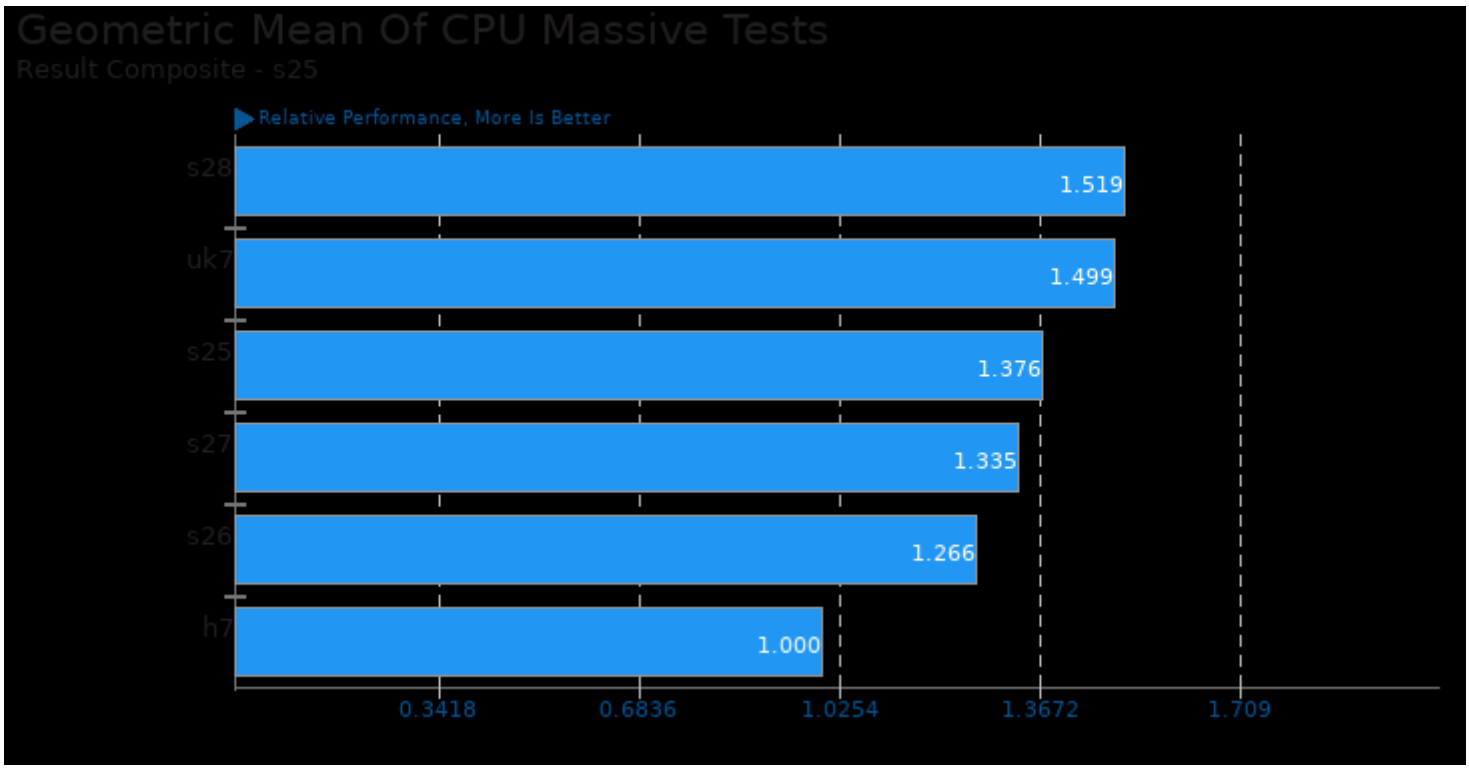

MariaDB 10.3.8
Clients: 16
Queries Per Second, More Is Better
s25
SE +/- 41.99, N = 3
7958
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 8
Queries Per Second, More Is Better
s25
SE +/- 119.47, N = 3
10992
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 4
Queries Per Second, More Is Better
s25
SE +/- 61.71, N = 3
13575
3K
6K
9K
12K
15K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl
MariaDB 10.3.8
Clients: 1
Queries Per Second, More Is Better
s25
SE +/- 66.10, N = 4
16195
3K
6K
9K
12K
15K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -laio -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl


Flexible IO Tester 3.18
Type: Random Write - Engine: Sync - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
s25
SE +/- 2.00, N = 2
2639
s26
2641
s27
2665
uk7
2858
h7
SE +/- 23.78, N = 8
197
600
1200
1800
2400
3000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native -lrt -laio -lz -lpthread -lm -ldl

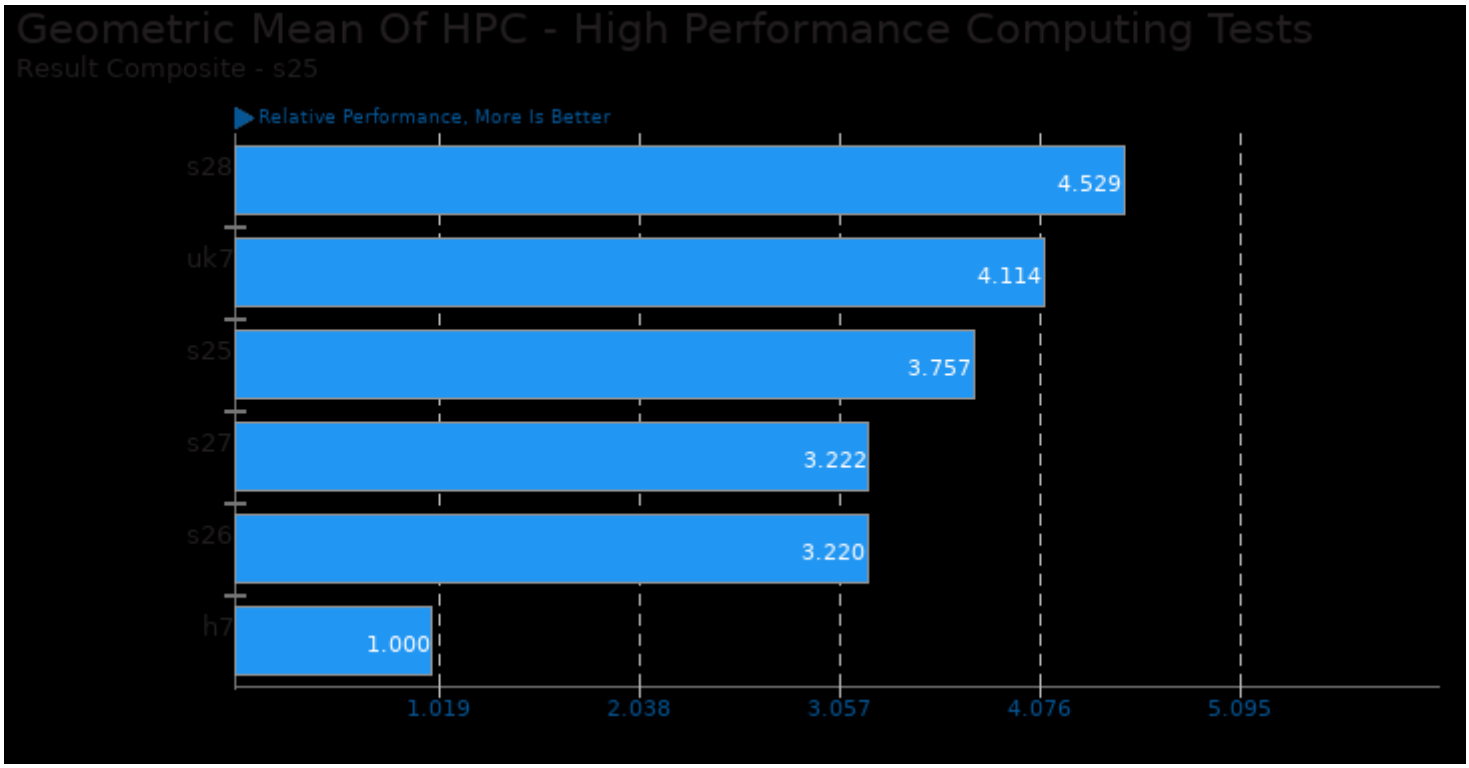
These geometric means are based upon test groupings / test suites for this result file.



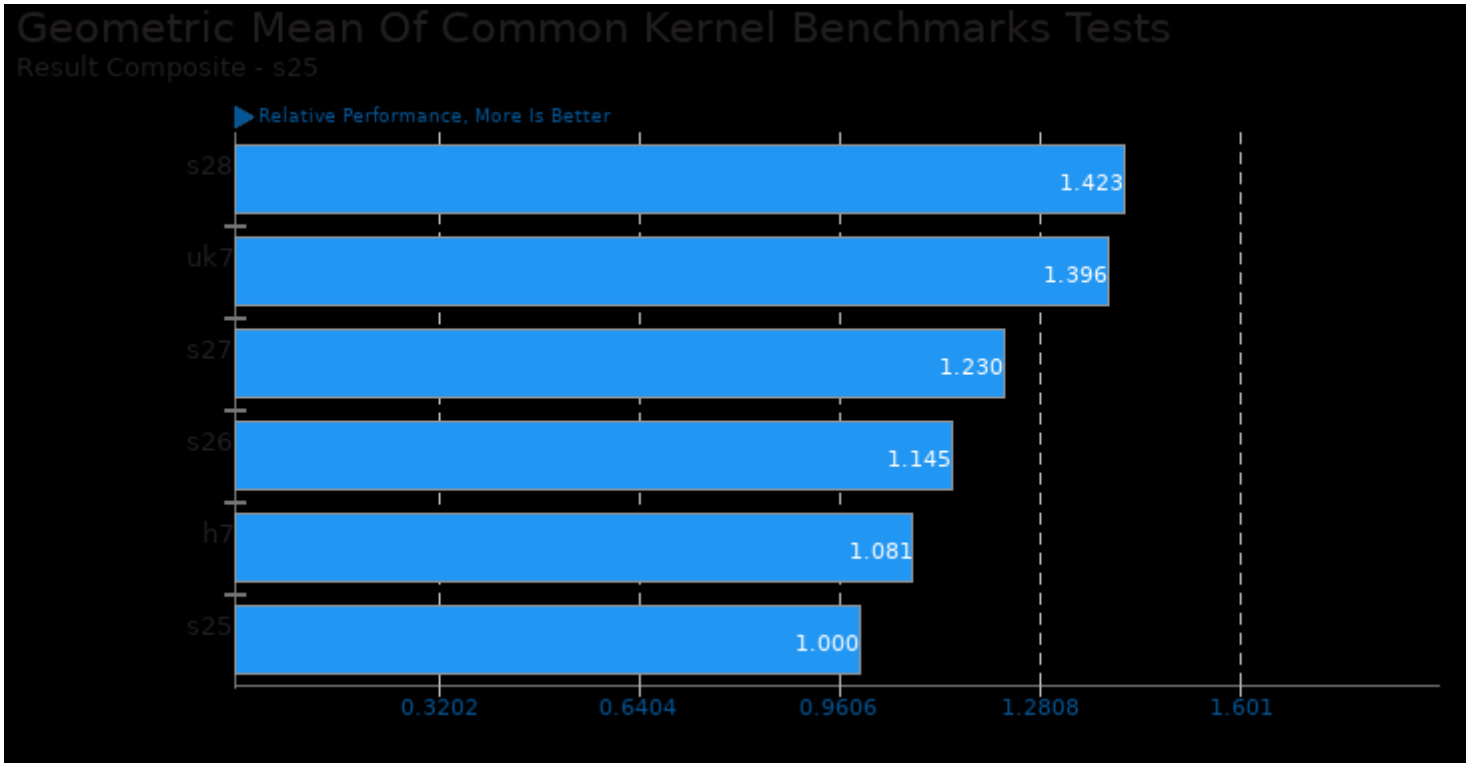
Geometric mean based upon tests: pts/build-php, pts/c-ray, pts/apache, pts/openssl, pts/nginx and pts/gromacs



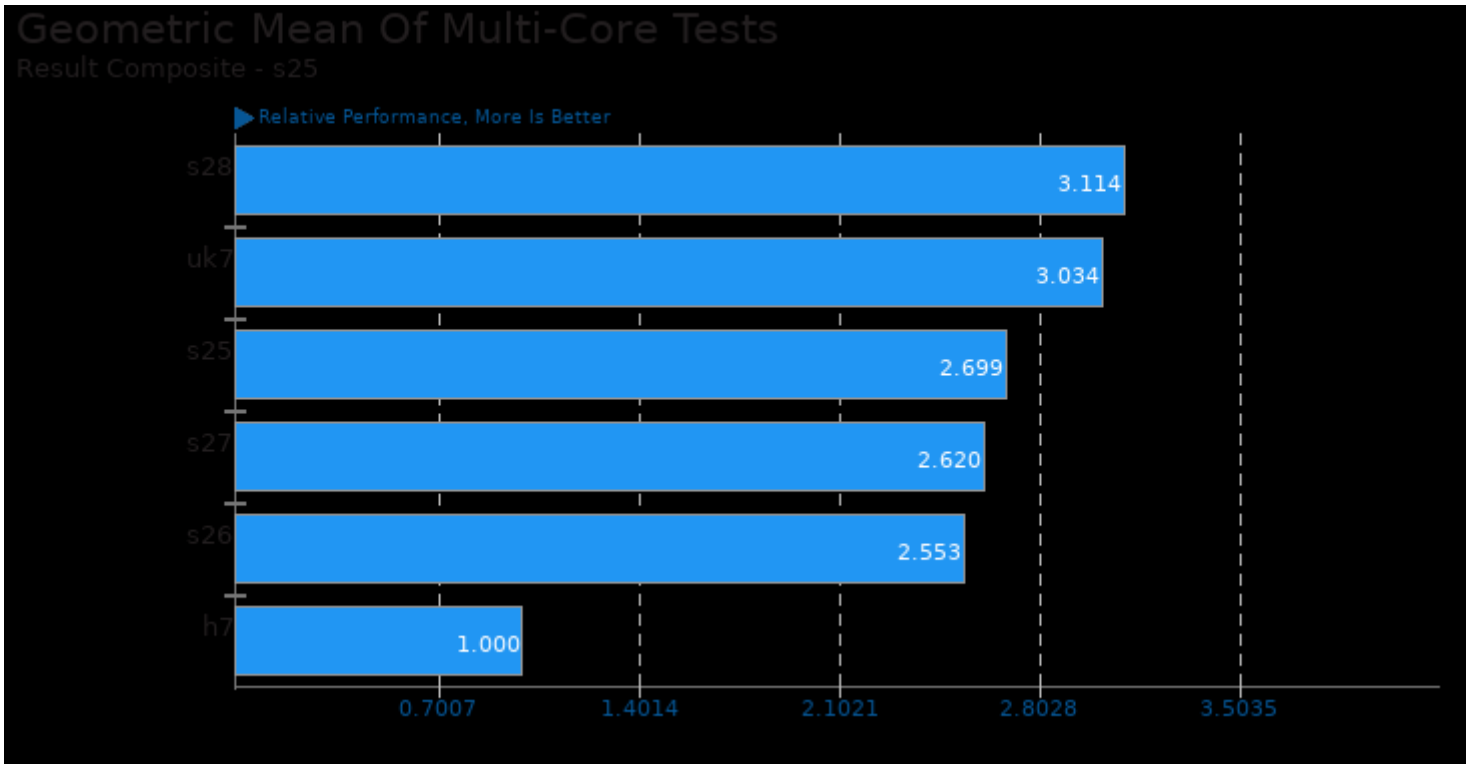
Geometric mean based upon tests: pts/apache, pts/mysqlslap, pts/build-php, pts/c-ray, pts/glibc-bench, pts/openssl, pts/minion, pts/nginx, pts/phpbench, pts/ramspeed and pts/sysbench



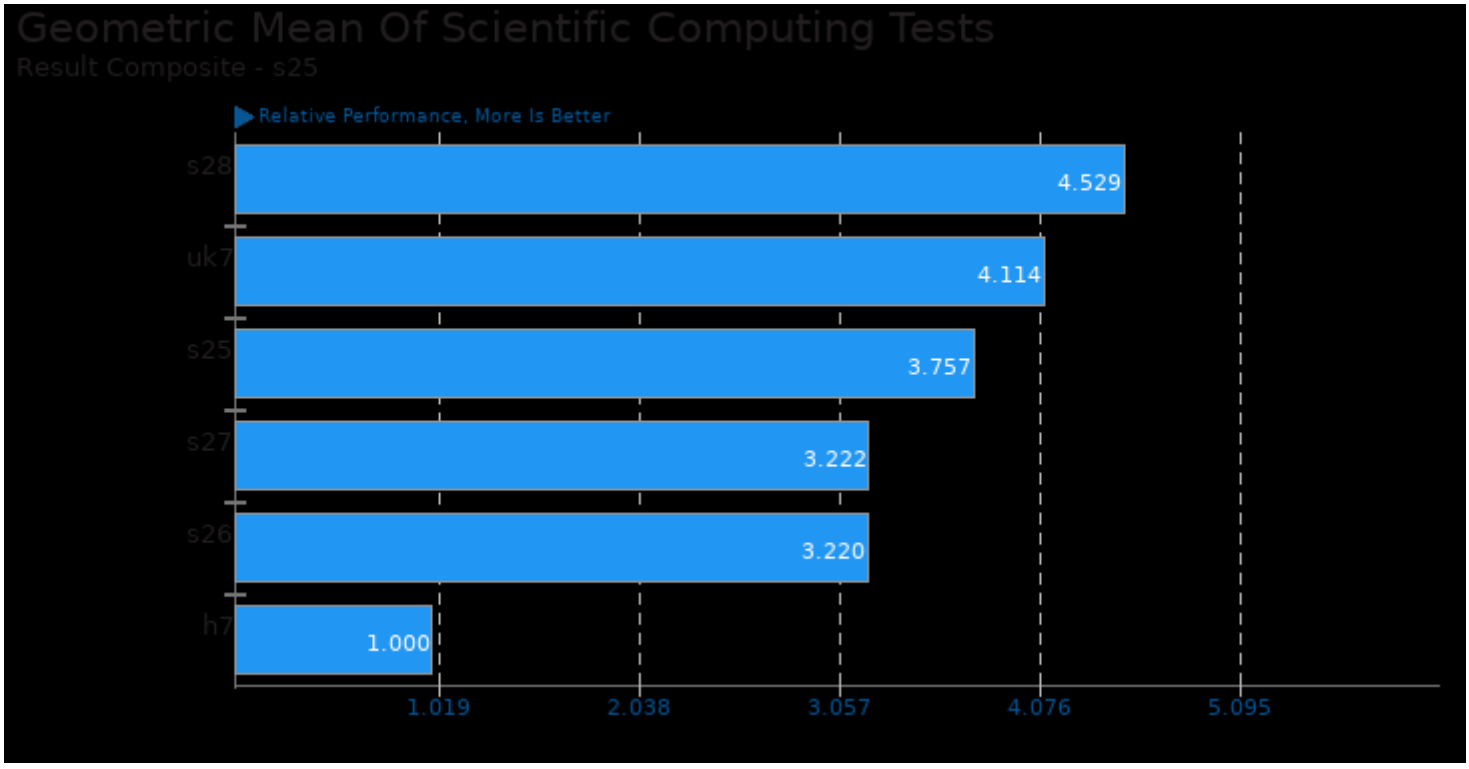
Geometric mean based upon tests: pts/ffte and pts/gromacs



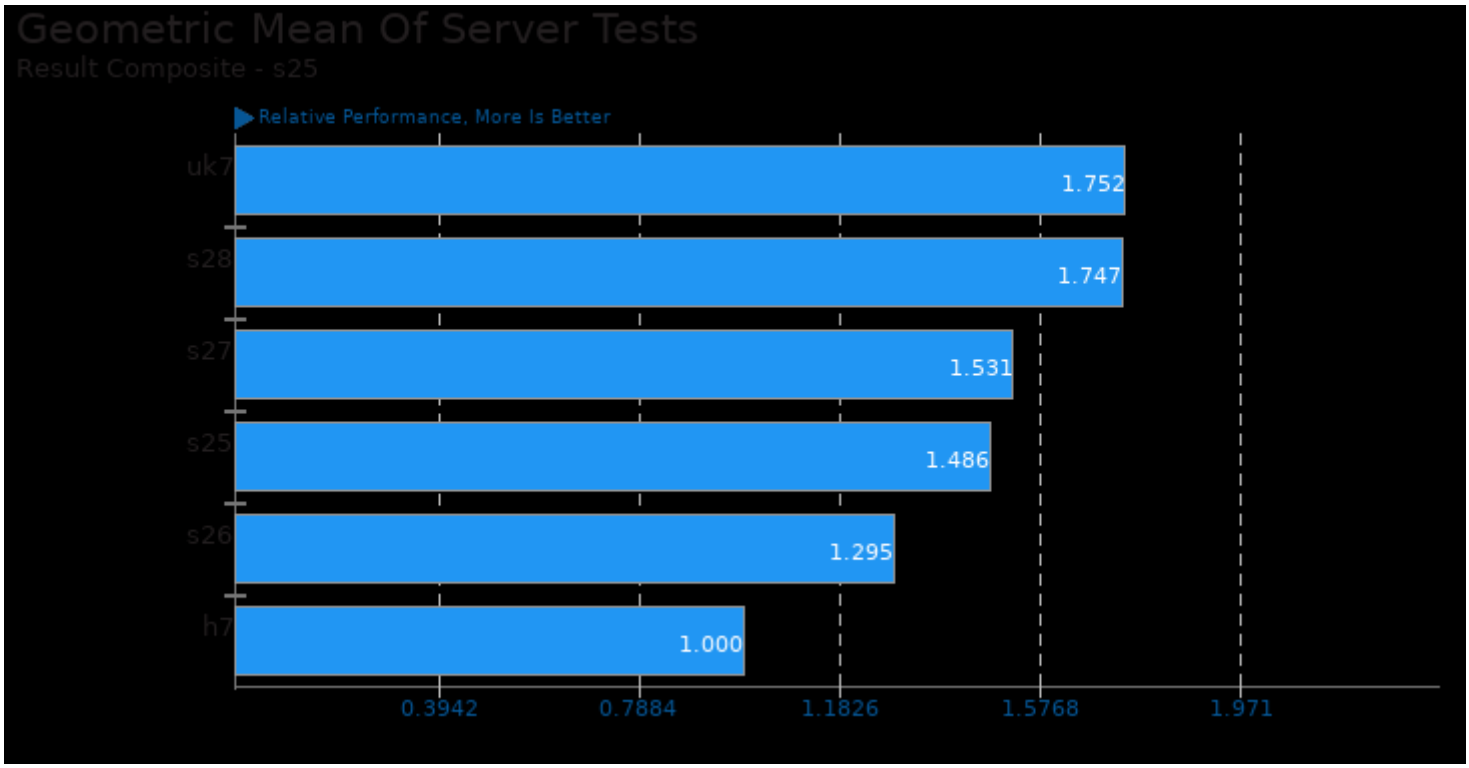
Geometric mean based upon tests: pts/apache, pts/perf-bench and pts/openssl



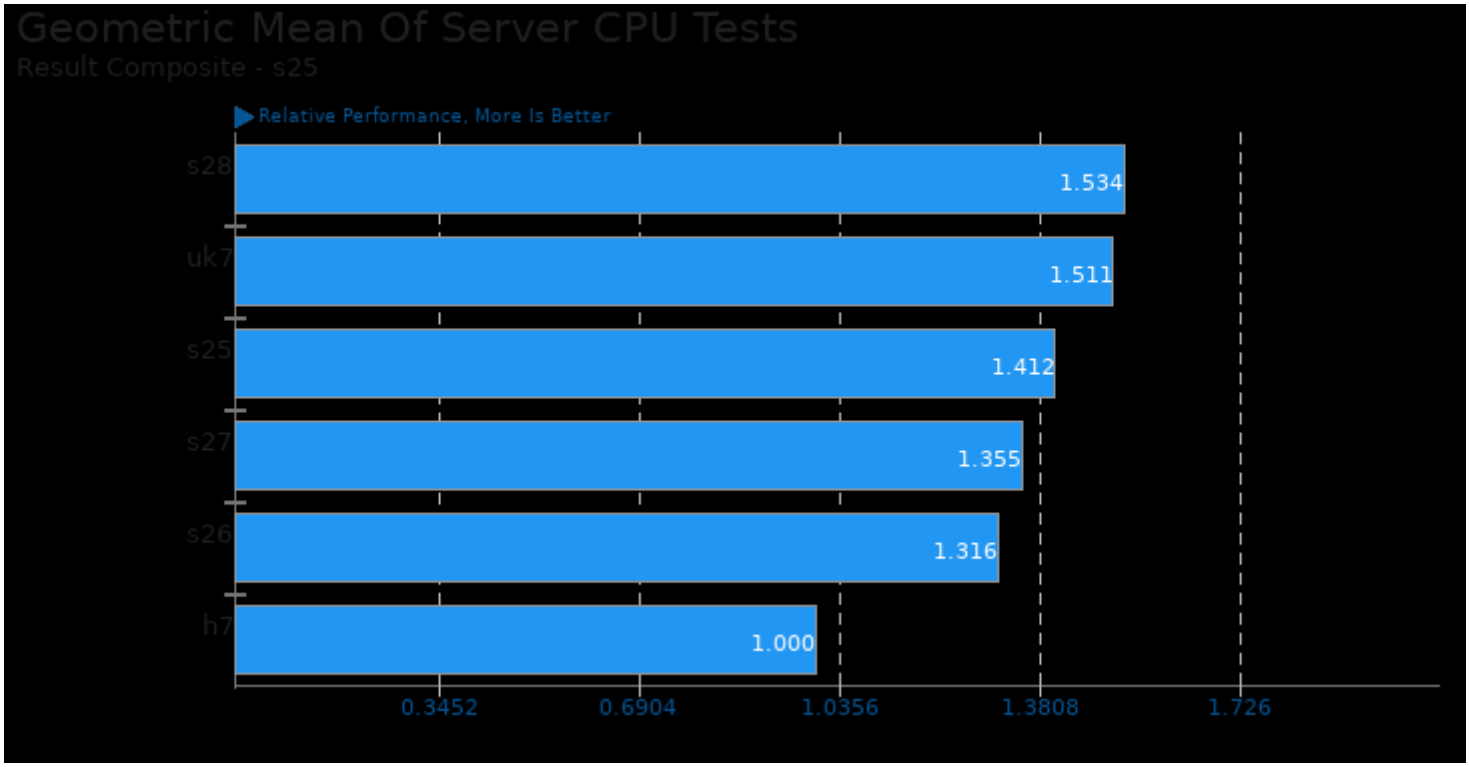
Geometric mean based upon tests: pts/sysbench, pts/c-ray, pts/gromacs, pts/mysqlslap and pts/build-php



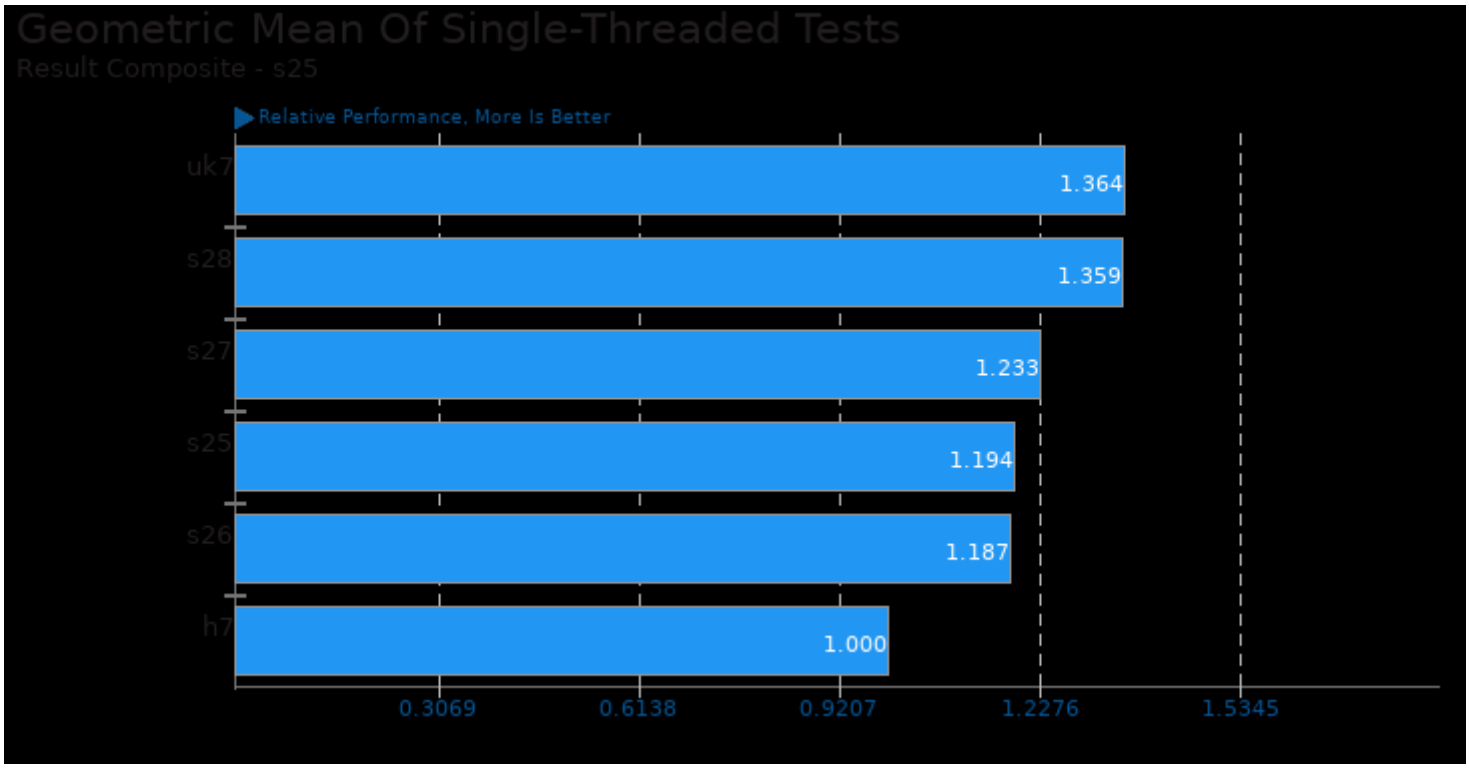
Geometric mean based upon tests: pts/ffte and pts/gromacs



Geometric mean based upon tests: pts/apache, pts/nginx, pts/mysqlslap, pts/php, pts/phpbench and pts/openssl



Geometric mean based upon tests: pts/build-php, pts/c-ray, pts/openssl, pts/glibc-bench, pts/mysqlslap, pts/sysbench, pts/phpbench and pts/ramspeed



Geometric mean based upon tests: pts/compress-gzip, pts/minion, pts/glibc-bench, pts/phpbench and pts/nginx

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 18:25.