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TrueNAScore51922

mk

Automated Executive Summary

Testing TrueNAS Core 12.0 performance had the most wins, coming in first place for 33% of the tests.

Based on the geometric mean of all complete results, the fastest (Testing TrueNAS Core 13 performace after in-place upgrade) was 2.264x the speed of the slowest (neu). Testing TrueNAS Core 12.0 performance was 0.998x the speed of Testing TrueNAS Core 13 performace after in-place upgrade, Testing TrueNAS Core 13 after a ZFS pool feature flag update was 0.989x the speed of Testing TrueNAS Core 12.0 performance, Testing TrueNAS Scale 22.02 after in-place upgrade from Core was 0.656x the speed of Testing TrueNAS Core 13 after a ZFS pool feature flag update, neu was 0.682x the speed of Testing TrueNAS Scale 22.02 after in-place upgrade from Core.

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

Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory) at 3.101x
Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory) at 3.096x
Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory) at 1.927x

Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory) at 1.927x
Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory) at 1.84x
Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory) at 1.833x
Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory) at 1.785x
Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory) at 1.78x
Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory) at -1x
Flexible IO Tester (Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory) at -1x.

Test Systems:

Testing TrueNAS Core 12.0 performance

Testing TrueNAS Core 13 performace after in-place upgrade

Testing TrueNAS Core 13 after a ZFS pool feature flag update

Testing TrueNAS Scale 22.02 after in-place upgrade from Core

Processor: AMD Ryzen 5 5600G (8 Cores), Motherboard: Xen HVM domU v4.13, Chipset: Intel 440FX 82441FX PMC, Memory: 836MB, Disk: 29GB, Graphics: bochs-drmdrmfb

OS: Ubuntu 20.04, Kernel: 5.4.0-110-generic (x86_64), Vulkan: 1.1.182, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.13

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: CPU Microcode: 0xa50000b
Disk Mount Options Notes: relatime,rw
Disk Details Notes: Block Size: 4096
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

neu

Processor: 8 x Intel Xeon E5-2430L v2 (15 Cores), Motherboard: Xen HVM domU v4.13, Chipset: Intel 440FX 82441FX PMC, Memory: 1 x 4088 MB RAM, Disk: 24GB, Graphics: bochs-drmdrmfb

OS: Ubuntu 20.04, Kernel: 5.4.0-110-generic (x86_64), Vulkan: 1.1.182, Compiler: GCC 9.4.0, File-System: ext4,

TrueNAScore51922

Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.13

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: CPU Microcode: 0x42e
Disk Mount Options Notes: relatime,rw
Disk Details Notes: Block Size: 4096
Security Notes: itlb_multihit: KVM: Vulnerable + l1tf: Mitigation of PTE Inversion + mds: Mitigation of Clear buffers; SMT Host state unknown + 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 Retpolines IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

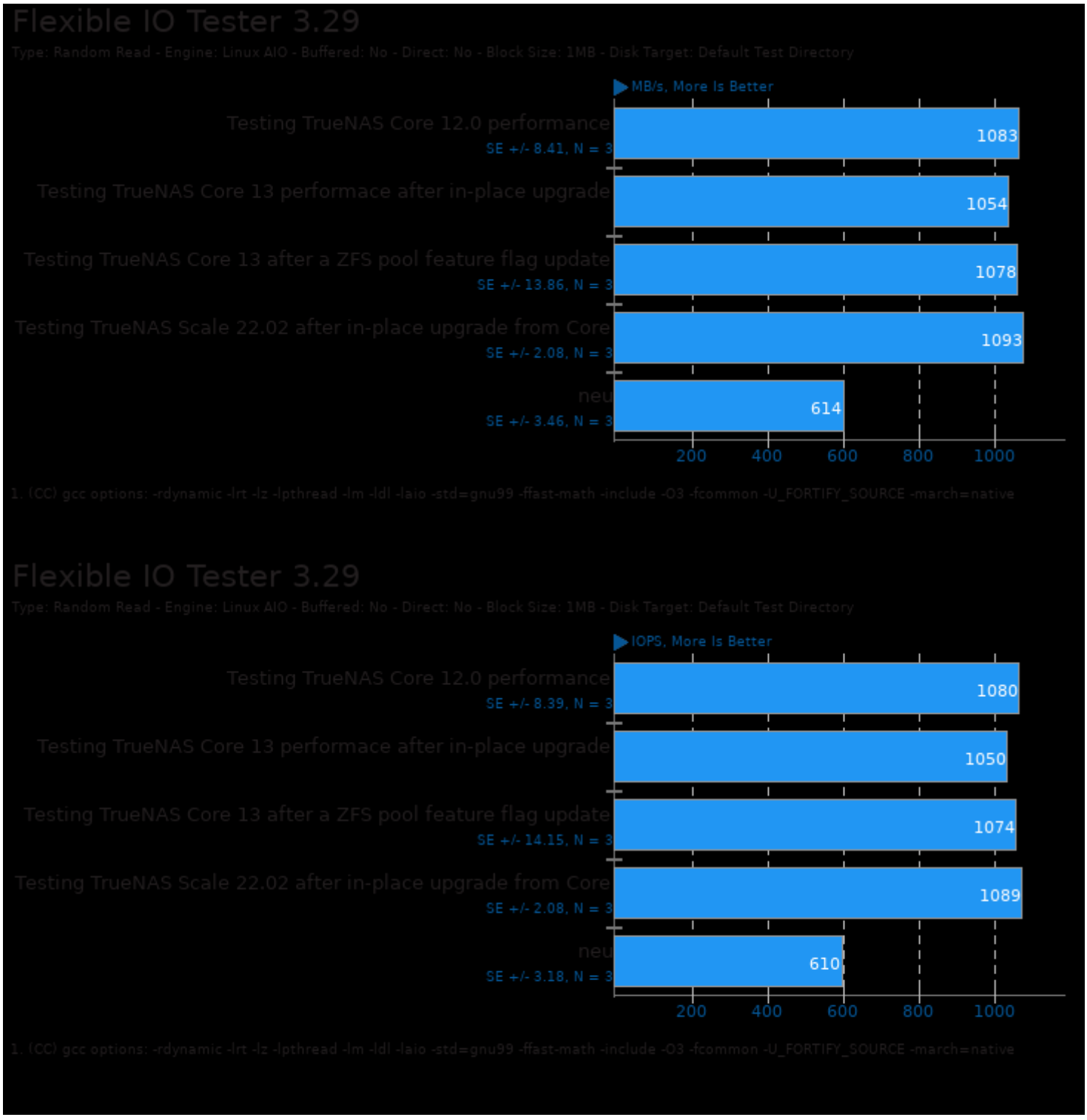
	Testing TrueNAS Core 12.0 performance	Testing TrueNAS Core 13 performace after in-place upgrade	Testing TrueNAS Core 13 after a ZFS pool feature flag update	Testing TrueNAS Scale 22.02 after in-place upgrade from	neu
Flexible IO Tester - Rand Read - Linux AIO - No - No - 1MB (MB/s)	1083	1054	1078	**1093**	**614**
Normalized	99.09%	96.43%	98.63%	100%	56.18%
Standard Deviation	1.3%		2.2%	0.3%	1%
Flexible IO Tester - Rand Read - Linux AIO - No - No - 1MB (IOPS)	1080	1050	1074	**1089**	**610**
Normalized	99.17%	96.42%	98.62%	100%	56.01%
Standard Deviation	1.3%		2.3%	0.3%	0.9%
Flexible IO Tester - Rand Read - Linux AIO - No - No - 4KB (MB/s)	**373**	347	342	144	**86.4**
Normalized	100%	93.03%	91.69%	38.61%	23.16%
Standard Deviation	0.5%	13%	12.7%	0.4%	1%
Flexible IO Tester - Rand Read - Linux AIO - No - No - 4KB (IOPS)	**95400**	88767	87667	36800	**22133**
Normalized	100%	93.05%	91.89%	38.57%	23.2%
Standard Deviation	0.5%	13%	12.6%	0.3%	0.9%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 1MB (MB/s)	**804**	757	757	708	**477**
Normalized	100%	94.15%	94.15%	88.06%	59.33%
Standard Deviation	22.1%	15.4%	20.2%	16%	15.5%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 1MB (IOPS)	**801**	753	753	705	**473**
Normalized	100%	94.01%	94.01%	88.01%	59.05%
Standard Deviation	22.2%	15.5%	20.3%	16.1%	15.6%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 4KB (MB/s)	261.6	276	**288**	**36.563**	52.3
Normalized	90.83%	95.83%	100%	12.7%	18.16%
Standard Deviation	21.2%	8.5%	1.8%	37.1%	1.7%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 4KB (IOPS)	66964	70740	**73667**	**9361**	13367
Normalized	90.9%	96.03%	100%	12.71%	18.15%
Standard Deviation	21.2%	8.4%	1.7%	37.2%	1.7%

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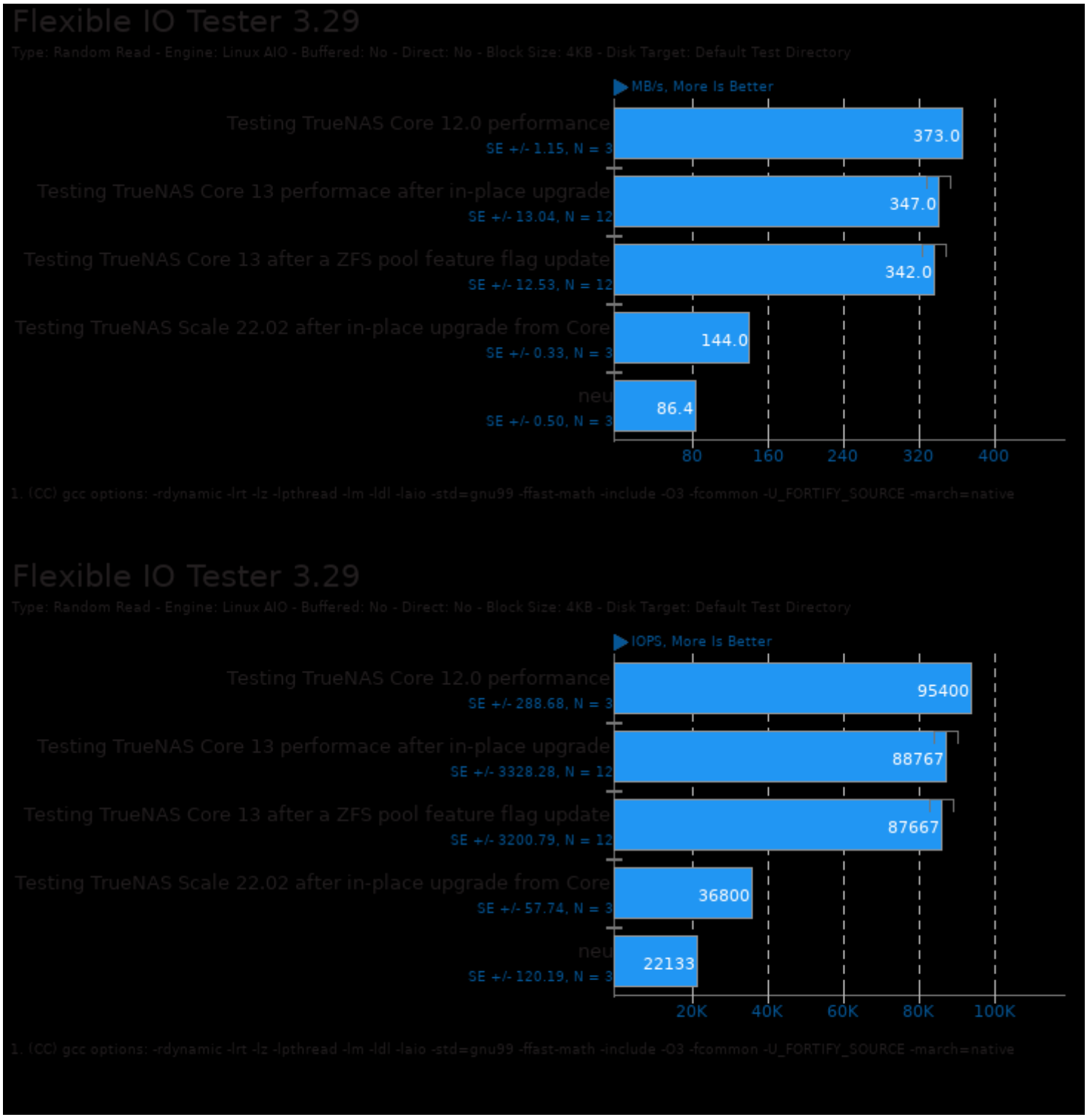
Flexible IO Tester - Rand Read - Linux AIO - No - No - 128KB (MB/s)	1102	1095	**1104**	1095	**573**
Normalized	99.82%	99.18%	100%	99.18%	51.9%
Standard Deviation	0.6%	1.2%	0.5%	0.5%	0.7%
Flexible IO Tester - Rand Read - Linux AIO - No - No - 128KB (IOPS)	8816	8757	**8831**	8753	**4582**
Normalized	99.83%	99.16%	100%	99.12%	51.89%
Standard Deviation	0.6%	1.2%	0.5%	0.5%	0.6%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 128KB (MB/s)	963	**995**	990	485	**468**
Normalized	96.78%	100%	99.5%	48.74%	47.04%
Standard Deviation	5.6%	4.5%	1.5%	30.2%	2.1%
Flexible IO Tester - Rand Write - Linux AIO - No - No - 128KB (IOPS)	7698	**7958**	7913	3878	**3737**
Normalized	96.73%	100%	99.43%	48.73%	46.96%
Standard Deviation	5.6%	4.5%	1.5%	30.2%	2.2%
Flexible IO Tester - Seq Read - Linux AIO - No - No - 1MB (MB/s)	1077	1068	1067	**1096**	**598**
Normalized	98.27%	97.45%	97.35%	100%	54.56%
Standard Deviation	1.1%	1.9%	2.3%	1%	3%
Flexible IO Tester - Seq Read - Linux AIO - No - No - 1MB (IOPS)	1073	1064	1063	**1093**	**594**
Normalized	98.17%	97.35%	97.26%	100%	54.35%
Standard Deviation	1.2%	2%	2.3%	0.9%	3%
Flexible IO Tester - Seq Read - Linux AIO - No - No - 4KB (MB/s)	641	**647**	638	440	**209**
Normalized	99.07%	100%	98.61%	68.01%	32.3%
Standard Deviation	0.9%	1.8%	0.6%	1.5%	2.3%
Flexible IO Tester - Seq Read - Linux AIO - No - No - 4KB (IOPS)	164333	**165667**	163000	112333	**53425**
Normalized	99.19%	100%	98.39%	67.81%	32.25%
Standard Deviation	0.7%	1.8%	0.6%	1.4%	2.3%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 1MB (MB/s)	738	**817**	697	637	**469**
Normalized	90.33%	100%	85.31%	77.97%	57.41%
Standard Deviation	16.2%	5.9%	17.1%	24.9%	8.9%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 1MB (IOPS)	735	**814**	693	634	**465**
Normalized	90.29%	100%	85.14%	77.89%	57.13%
Standard Deviation	16.3%	5.9%	17.2%	25.1%	9%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 4KB (MB/s)	518	**541**	536	227	**211**
Normalized	95.75%	100%	99.08%	41.96%	39%
Standard Deviation	6.9%	1.5%	6.5%	20.7%	1.9%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 4KB (IOPS)	132600	**138333**	137000	58067	**53867**
Normalized	95.86%	100%	99.04%	41.98%	38.94%
Standard Deviation	7%	1.5%	6.5%	20.7%	2.1%

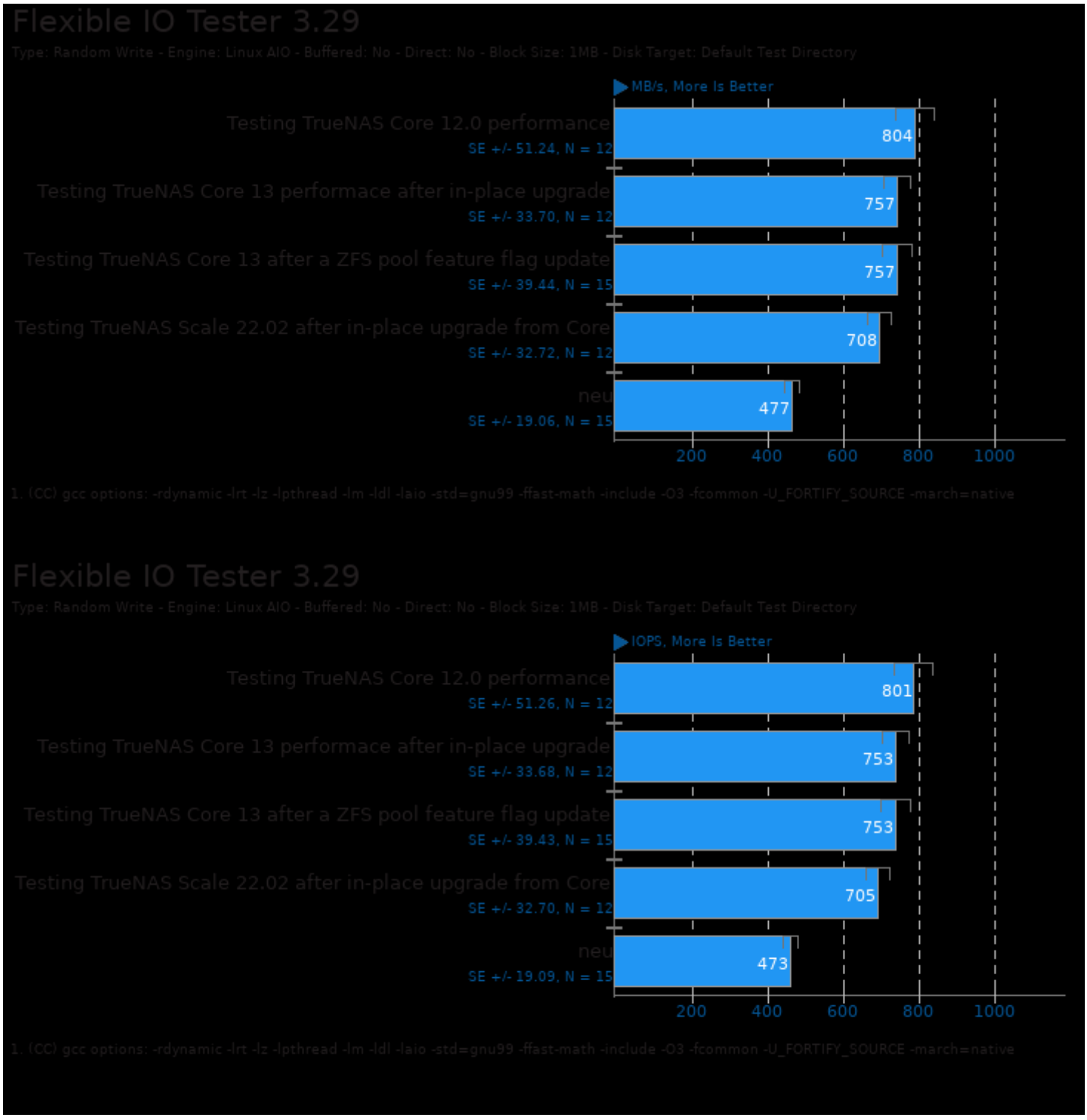
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Flexible IO Tester - Seq Read - Linux AIO - No - No - 128KB (MB/s)	**1090**	1061	1066	1064	**606**
Normalized	100%	97.34%	97.8%	97.61%	55.6%
Standard Deviation	1.3%	2.5%	2.1%	8.5%	12.7%
Flexible IO Tester - Seq Read - Linux AIO - No - No - 128KB (IOPS)	**8721**	8488	8526	8509	**4843**
Normalized	100%	97.33%	97.76%	97.57%	55.53%
Standard Deviation	1.3%	2.5%	2.1%	8.5%	12.8%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 128KB (MB/s)	**821**	810	788	746	**457**
Normalized	100%	98.66%	95.98%	90.86%	55.66%
Standard Deviation	4.3%	1.7%	9%	13.4%	9.1%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 128KB (IOPS)	**6562**	6478	6303	5962	**3651**
Normalized	100%	98.72%	96.05%	90.86%	55.64%
Standard Deviation	4.3%	1.7%	9%	13.4%	9.1%

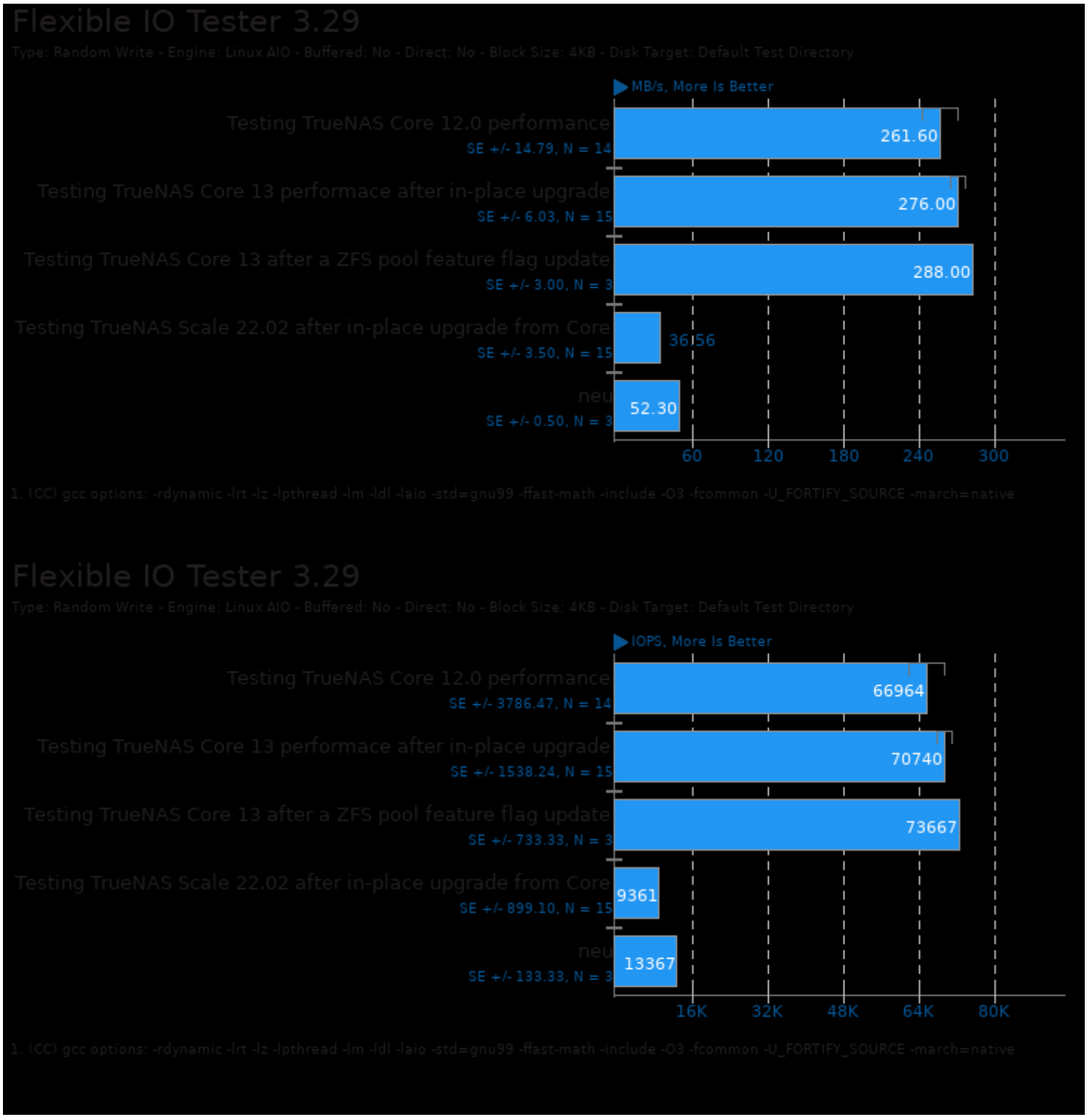

Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 8.41, N = 3
1083
Testing TrueNAS Core 13 performace after in-place upgrade
1054
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 13.86, N = 3
1078
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 2.08, N = 3
1093
neu
SE +/- 3.46, N = 3
614
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 8.39, N = 3
1080
Testing TrueNAS Core 13 performace after in-place upgrade
1050
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 14.15, N = 3
1074
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 2.08, N = 3
1089
neu
SE +/- 3.18, N = 3
610
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

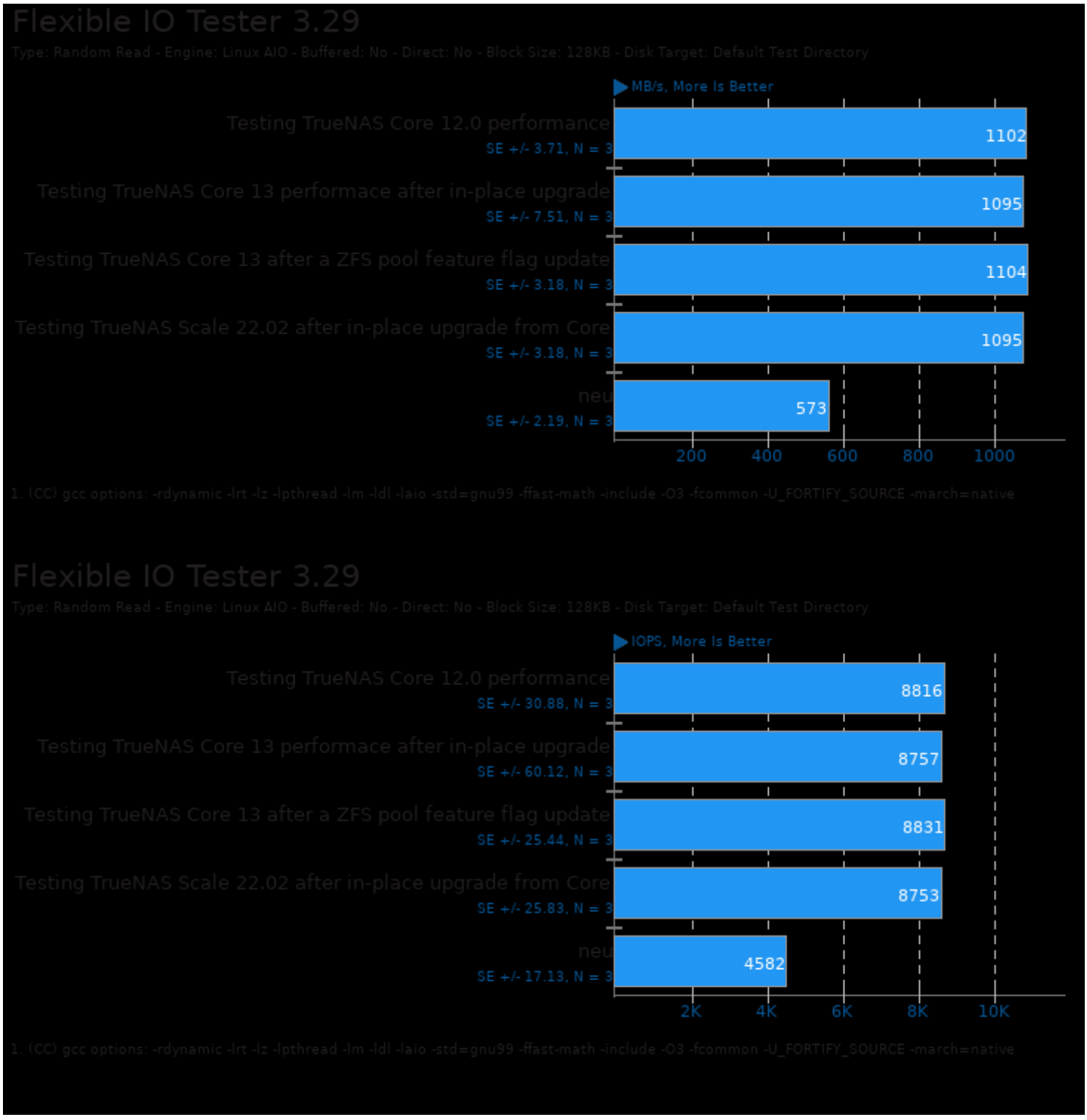

Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 1.15, N = 3
373.0
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 13.04, N = 12
347.0
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 12.53, N = 12
342.0
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 0.33, N = 3
144.0
neu
SE +/- 0.50, N = 3
86.4
80
160
240
320
400
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 288.68, N = 3
95400
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 3328.28, N = 12
88767
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 3200.79, N = 12
87667
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 57.74, N = 3
36800
neu
SE +/- 120.19, N = 3
22133
20K
40K
60K
80K
100K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.29
Type: Random Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 51.24, N = 12
804
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 33.70, N = 12
757
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 39.44, N = 15
757
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 32.72, N = 12
708
neu
SE +/- 19.06, N = 15
477
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

Flexible IO Tester 3.29
Type: Random Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 51.26, N = 12
801
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 33.68, N = 12
753
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 39.43, N = 15
753
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 32.70, N = 12
705
neu
SE +/- 19.09, N = 15
473
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

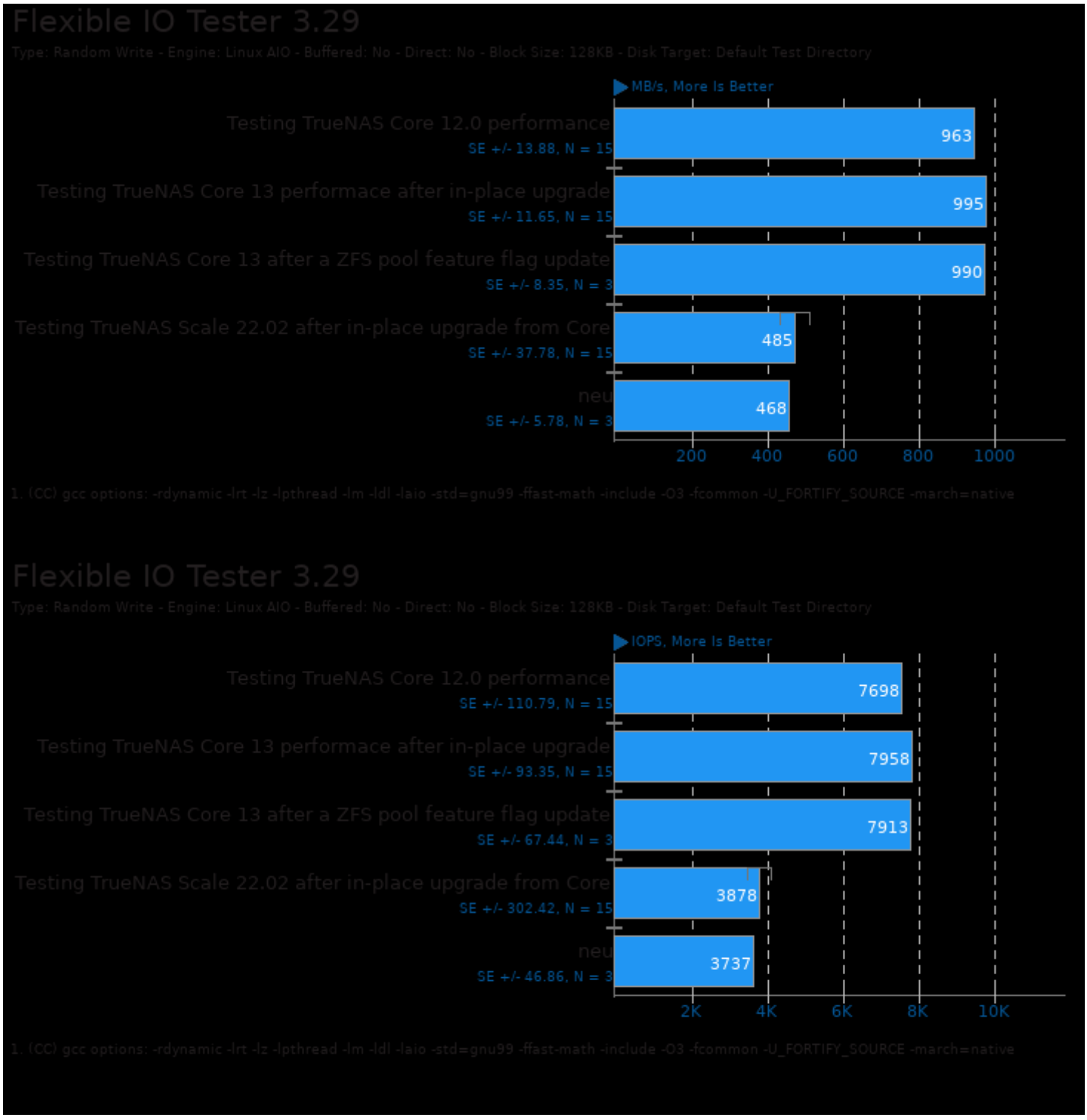

Flexible IO Tester 3.29
Type: Random Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 14.79, N = 14
261.60
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 6.03, N = 15
276.00
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 3.00, N = 3
288.00
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 3.50, N = 15
36.56
neu
SE +/- 0.50, N = 3
52.30
60
120
180
240
300
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

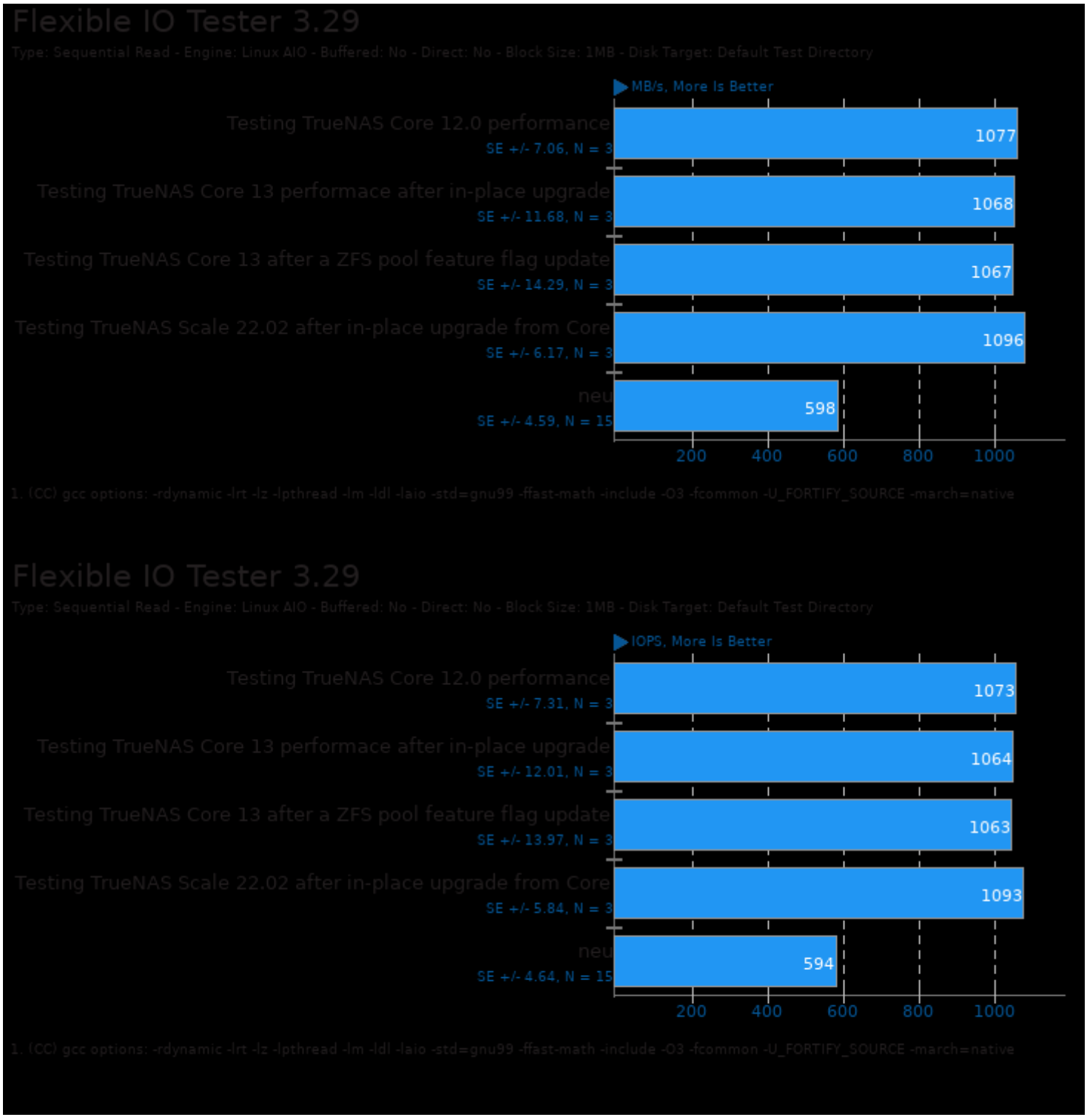
Flexible IO Tester 3.29
Type: Random Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 3786.47, N = 14
66964
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 1538.24, N = 15
70740
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 733.33, N = 3
73667
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 899.10, N = 15
9361
neu
SE +/- 133.33, N = 3
13367
16K
32K
48K
64K
80K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

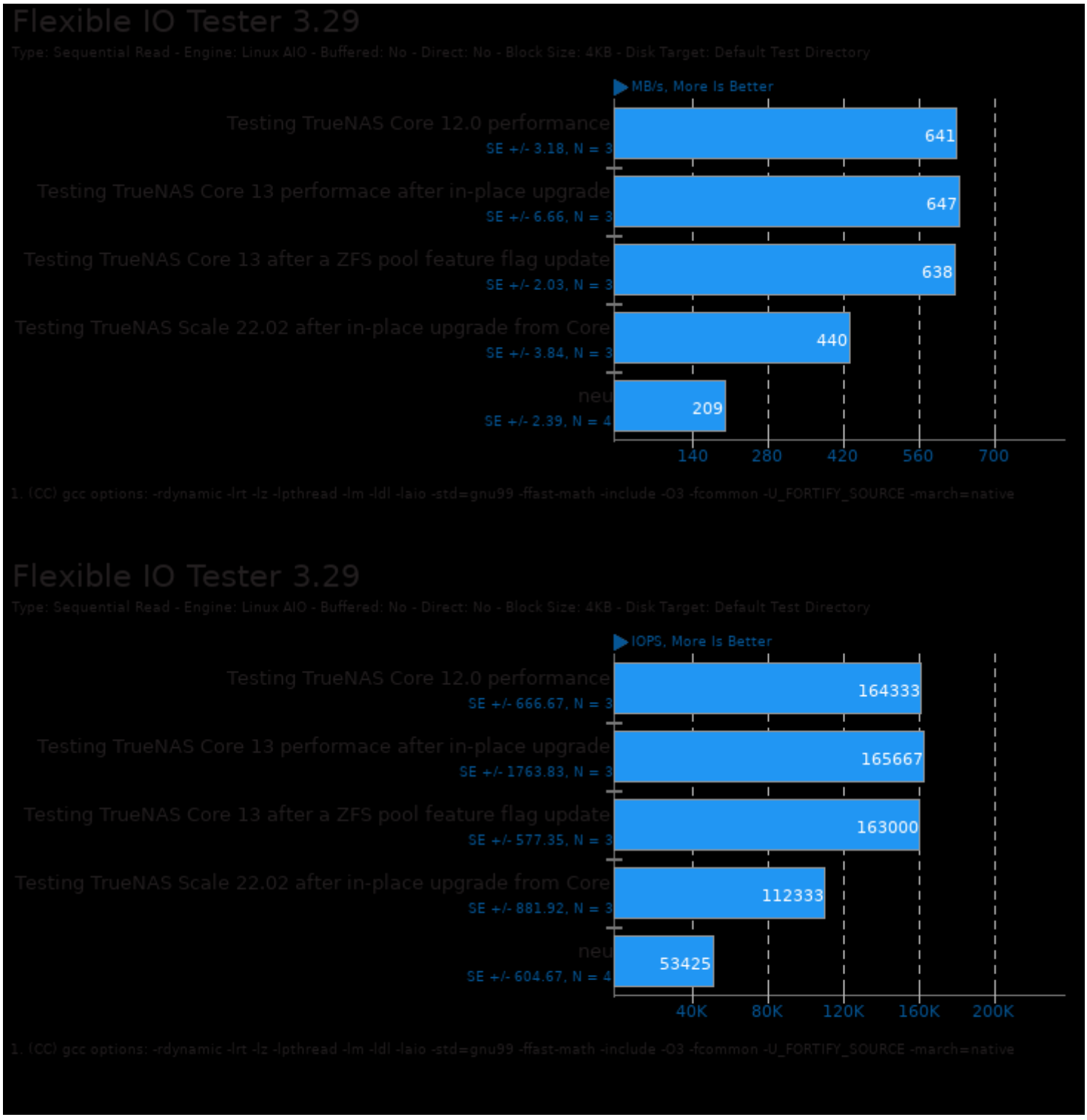

Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 3.71, N = 3
1102
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 7.51, N = 3
1095
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 3.18, N = 3
1104
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 3.18, N = 3
1095
neu
SE +/- 2.19, N = 3
573
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

Flexible IO Tester 3.29
Type: Random Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 30.88, N = 3
8816
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 60.12, N = 3
8757
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 25.44, N = 3
8831
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 25.83, N = 3
8753
neu
SE +/- 17.13, N = 3
4582
2K
4K
6K
8K
10K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

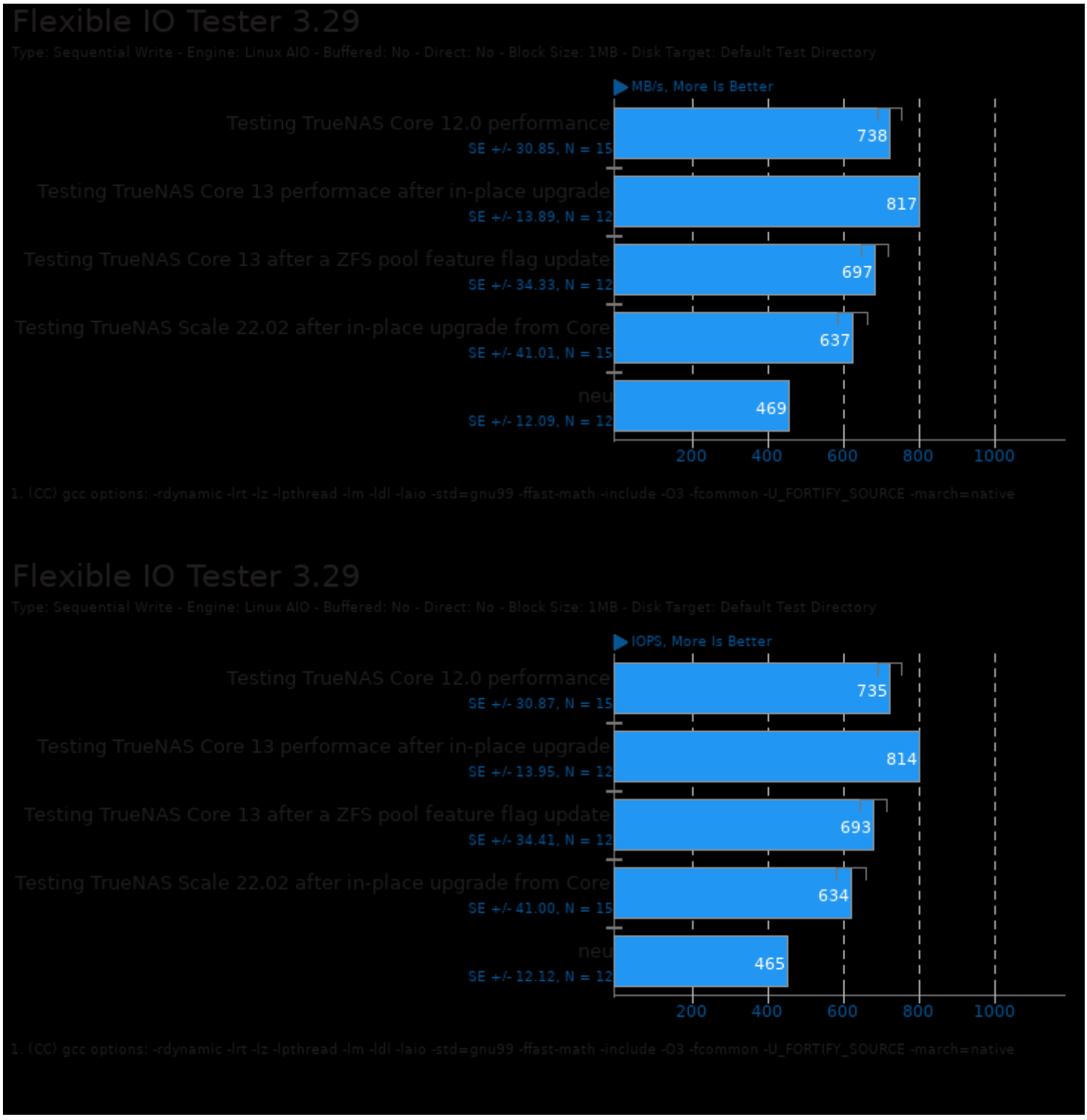
TrueNAScore51922



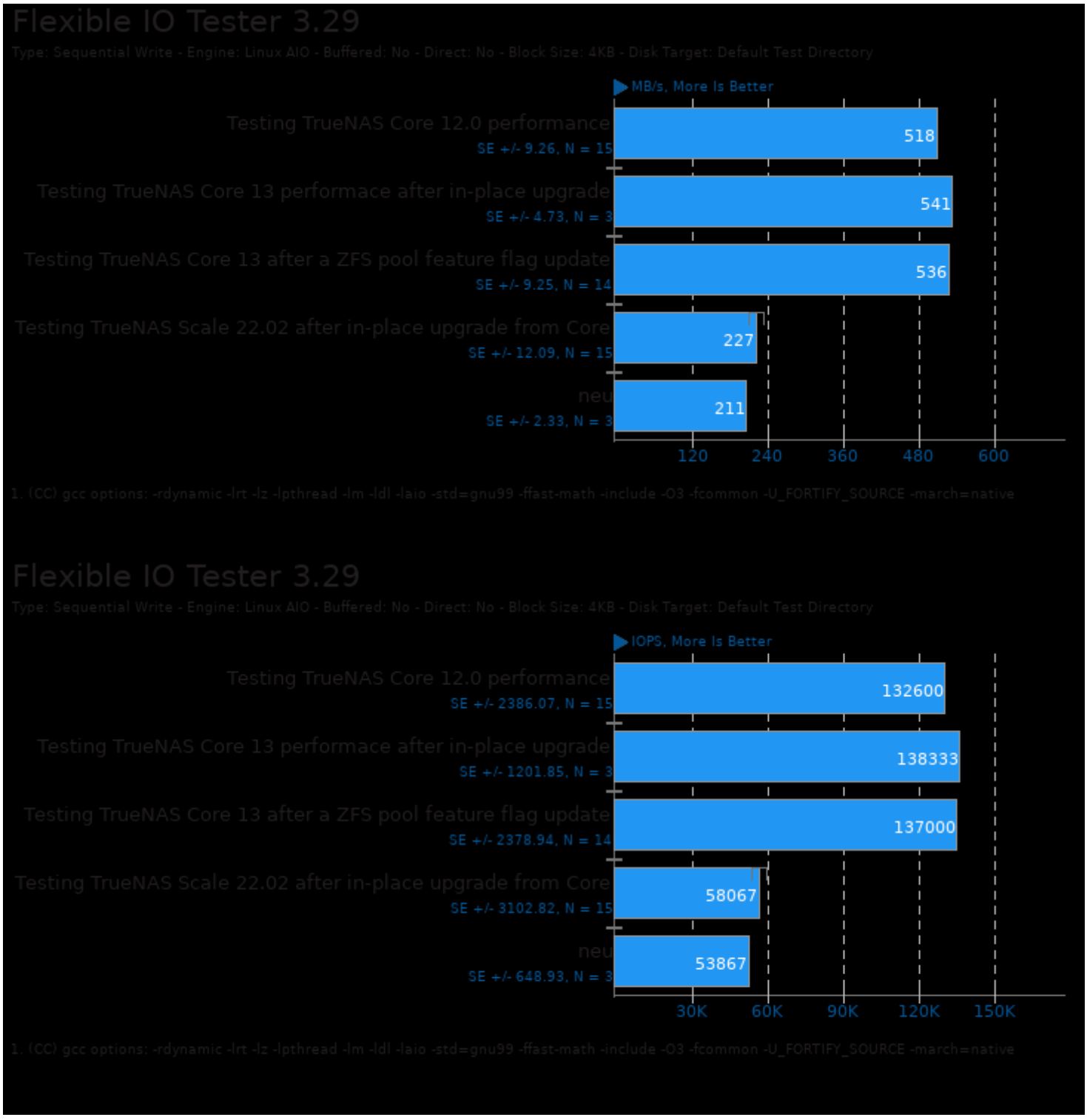

Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 7.06, N = 3
1077
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 11.68, N = 3
1068
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 14.29, N = 3
1067
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 6.17, N = 3
1096
neu
SE +/- 4.59, N = 15
598
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 7.31, N = 3
1073
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 12.01, N = 3
1064
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 13.97, N = 3
1063
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 5.84, N = 3
1093
neu
SE +/- 4.64, N = 15
594
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 3.18, N = 3
641
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 6.66, N = 3
647
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 2.03, N = 3
638
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 3.84, N = 3
440
neu
SE +/- 2.39, N = 4
209
140
280
420
560
700
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

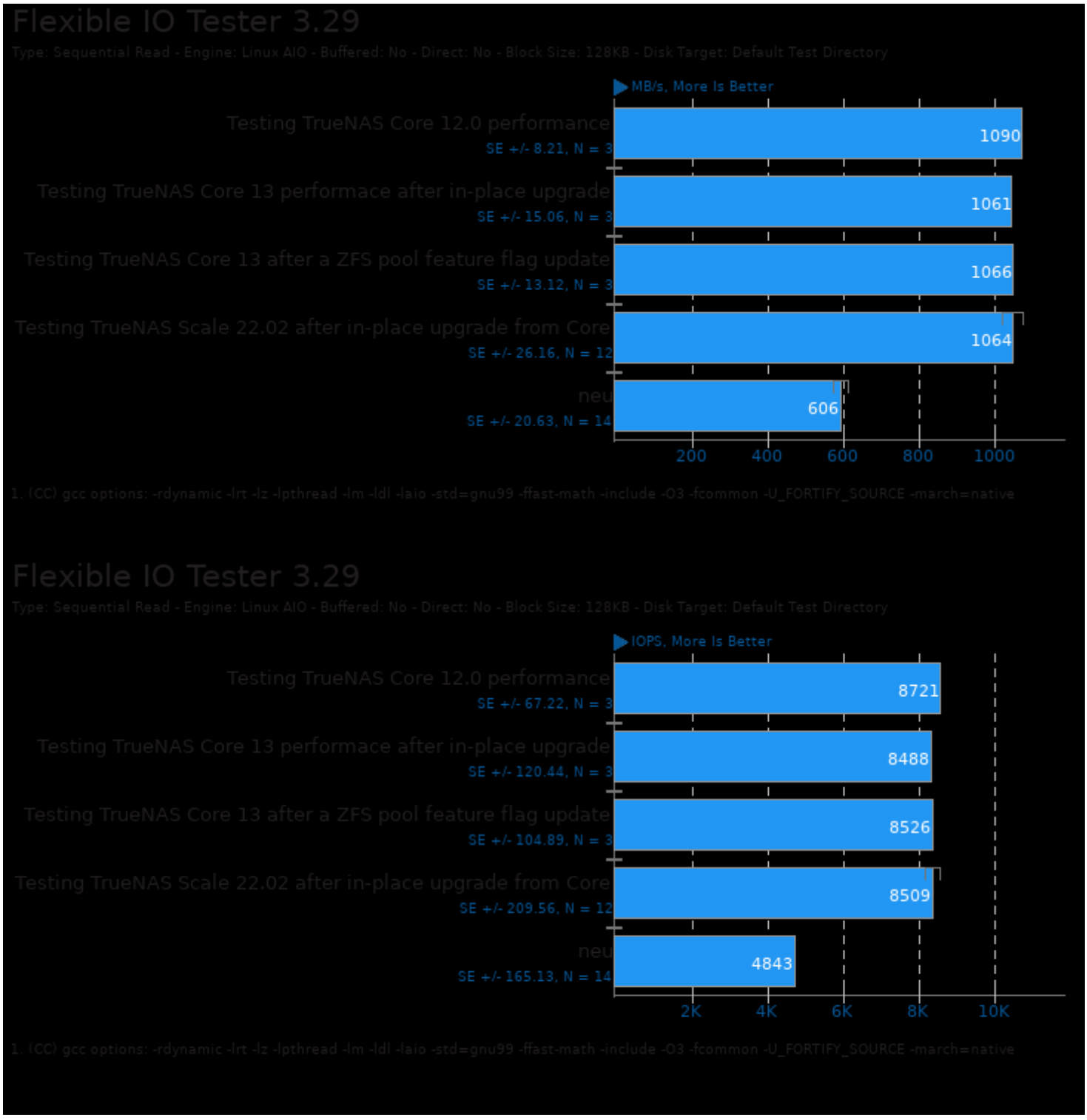
Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 666.67, N = 3
164333
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 1763.83, N = 3
165667
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 577.35, N = 3
163000
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 881.92, N = 3
112333
neu
SE +/- 604.67, N = 4
53425
40K
80K
120K
160K
200K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.29
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 30.85, N = 15
738
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 13.89, N = 12
817
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 34.33, N = 12
697
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 41.01, N = 15
637
neu
SE +/- 12.09, N = 12
469
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

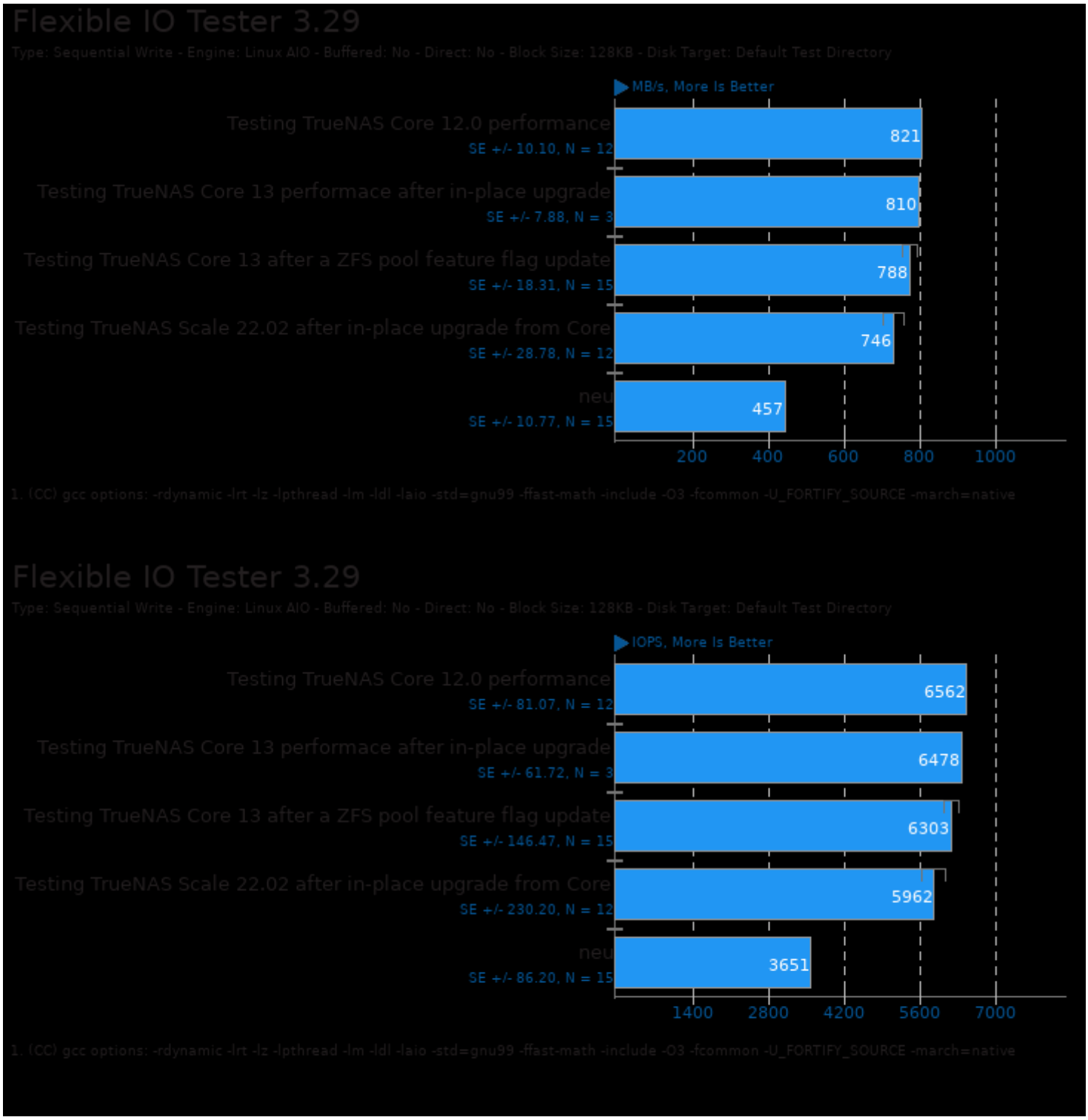
Flexible IO Tester 3.29
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 30.87, N = 15
735
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 13.95, N = 12
814
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 34.41, N = 12
693
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 41.00, N = 15
634
neu
SE +/- 12.12, N = 12
465
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.29
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 9.26, N = 15
518
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 4.73, N = 3
541
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 9.25, N = 14
536
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 12.09, N = 15
227
neu
SE +/- 2.33, N = 3
211
120
240
360
480
600
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

Flexible IO Tester 3.29
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 2386.07, N = 15
132600
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 1201.85, N = 3
138333
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 2378.94, N = 14
137000
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 3102.82, N = 15
58067
neu
SE +/- 648.93, N = 3
53867
30K
60K
90K
120K
150K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory
MB/s, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 8.21, N = 3
1090
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 15.06, N = 3
1061
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 13.12, N = 3
1066
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 26.16, N = 12
1064
neu
SE +/- 20.63, N = 14
606
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

Flexible IO Tester 3.29
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 128KB - Disk Target: Default Test Directory
IOPS, More Is Better
Testing TrueNAS Core 12.0 performance
SE +/- 67.22, N = 3
8721
Testing TrueNAS Core 13 performace after in-place upgrade
SE +/- 120.44, N = 3
8488
Testing TrueNAS Core 13 after a ZFS pool feature flag update
SE +/- 104.89, N = 3
8526
Testing TrueNAS Scale 22.02 after in-place upgrade from Core
SE +/- 209.56, N = 12
8509
neu
SE +/- 165.13, N = 14
4843
2K
4K
6K
8K
10K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 21:10.