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g3-30 origin

Intel Xeon E5-2678 v3 testing with a Blade ShadowM (1.1.0 BIOS) and NVIDIA GeForce GTX 1080 8GB on Microsoft Windows 10 Famille Build 19041 via the Phoronix Test Suite.

Automated Executive Summary

b2-7 OCS had the most wins, coming in first place for 78% of the tests.

Based on the geometric mean of all complete results, the fastest (b2-7 OCS) was 2.694x the speed of the slowest (BLDLVM-test1). g3-30 origin - 1 was 0.806x the speed of b2-7 OCS and BLDLVM-test1 was 0.46x the speed of g3-30 origin - 1.

Test Systems:

g3-30 origin - 1

Processor: Intel Xeon E5-2640 v4 (4 Cores / 8 Threads), Motherboard: OpenStack Foundation Nova v19.0.4 (2:1.10.2-58953eb7 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 16384 MB + 13616 MB RAM, Disk: 248GB,

Graphics: Cirrus Logic GD 5446, Audio: NVIDIA GP102 HDMI Audio, Network: Red Hat Virtio device

OS: Ubuntu 20.04, Kernel: 5.4.0-54-generic (x86_64), Compiler: GCC 9.3.0, File-System: ext4, System Layer: vm-other

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-HskZEa/gcc-9-9.3.0/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
Disk Notes: MQ-DEADLINE / relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1
Python Notes: Python 3.8.5
Security Notes: 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 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 Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of Clear buffers; SMT Host state unknown

b2-7 OCS

Processor: 2 x Intel Core (Haswell no TSX) (2 Cores), Motherboard: OpenStack Foundation Nova v19.0.4 (2:1.10.2-58953eb7 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 1 x 7000 MB RAM QEMU, Disk: 49GB, Graphics: Cirrus Logic GD 5446, Network: Red Hat Virtio device

OS: Ubuntu 20.04, Kernel: 5.4.0-54-generic (x86_64), Compiler: GCC 9.3.0, File-System: ext4, System Layer: KVM

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-HskZEa/gcc-9-9.3.0/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
Disk Notes: MQ-DEADLINE / relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline STIBP: disabled RSB filling + srbds: Unknown: Dependent on hypervisor status + tsx_async_abort: Not affected

BLDLVM-test1

Processor: Intel Xeon E5-2678 v3 @ 2.50GHz (4 Cores / 8 Threads), Motherboard: Blade ShadowM (1.1.0 BIOS), Memory: 1 x 12288 MB 2400MHz Blade XQLKV1HWQWTFET-NEP, Disk: 256GB QEMU HDD Disk, Graphics: NVIDIA GeForce GTX 1080 8GB, Audio: NVIDIA Virtual Audio Device (Wave Extensible) (WDM) + NVIDIA HD Audio + Shadow Virtual Audio Device, Monitor: BLADE_DISLAY;Coor LCD

OS: Microsoft Windows 10 Famille Build 19041, Kernel: 10.0 (x86_64), Display Driver: 457.30 (27.21.14.5730), File-System: NTFS, Screen Resolution: 2880x1800

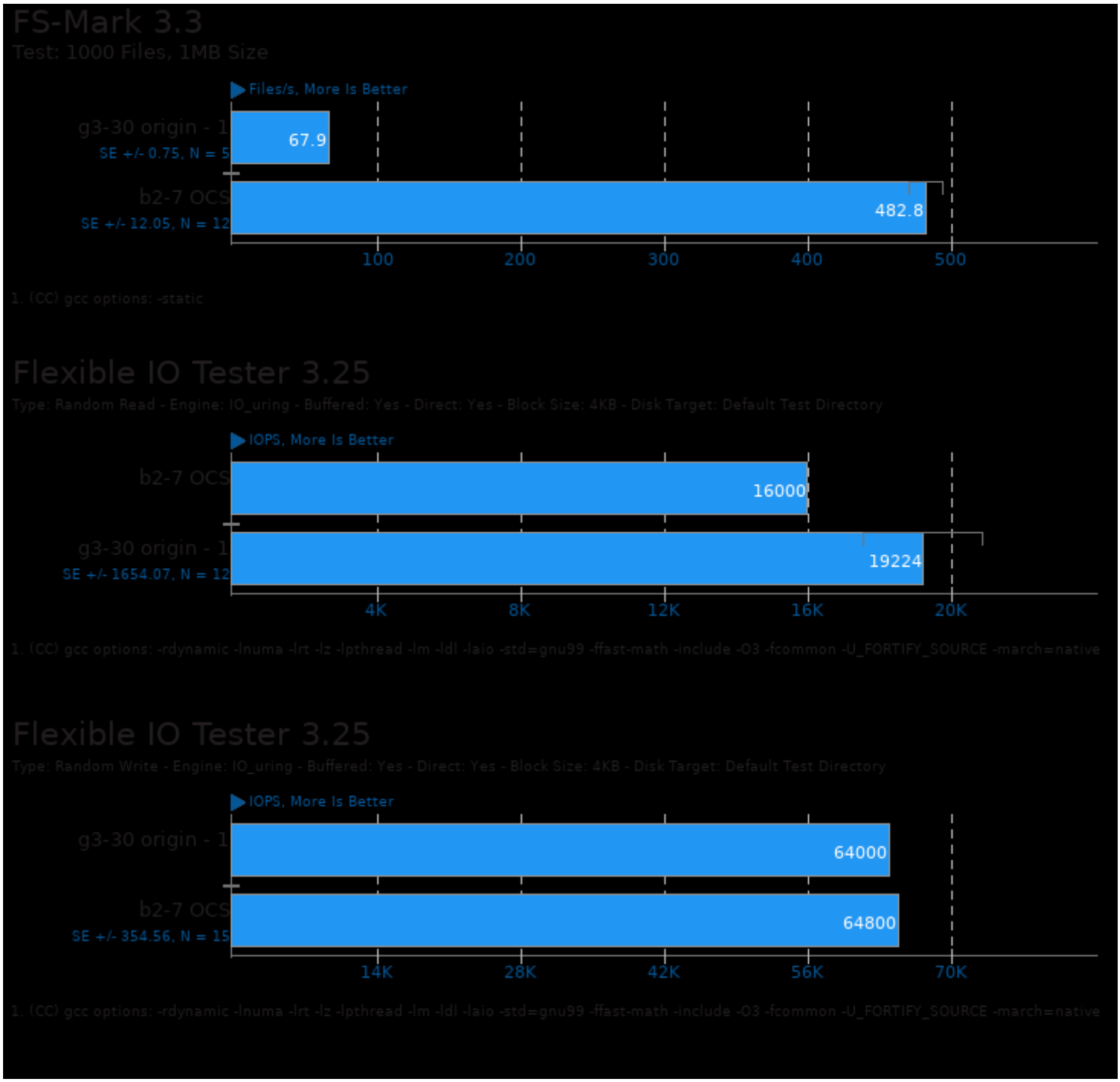
Processor Notes: CPU Microcode: 0000000001000000
Security Notes: __user pointer sanitization: Disabled + KPTI Enabled: Yes + PTE Inversion: Yes

	g3-30 origin - 1	b2-7 OCS	BLDLVM-test1
FS-Mark - 1.F.1.S (Files/s)	67.9	482.8	
Normalized	14.06%	100%	
Standard Deviation	2.5%	8.6%	

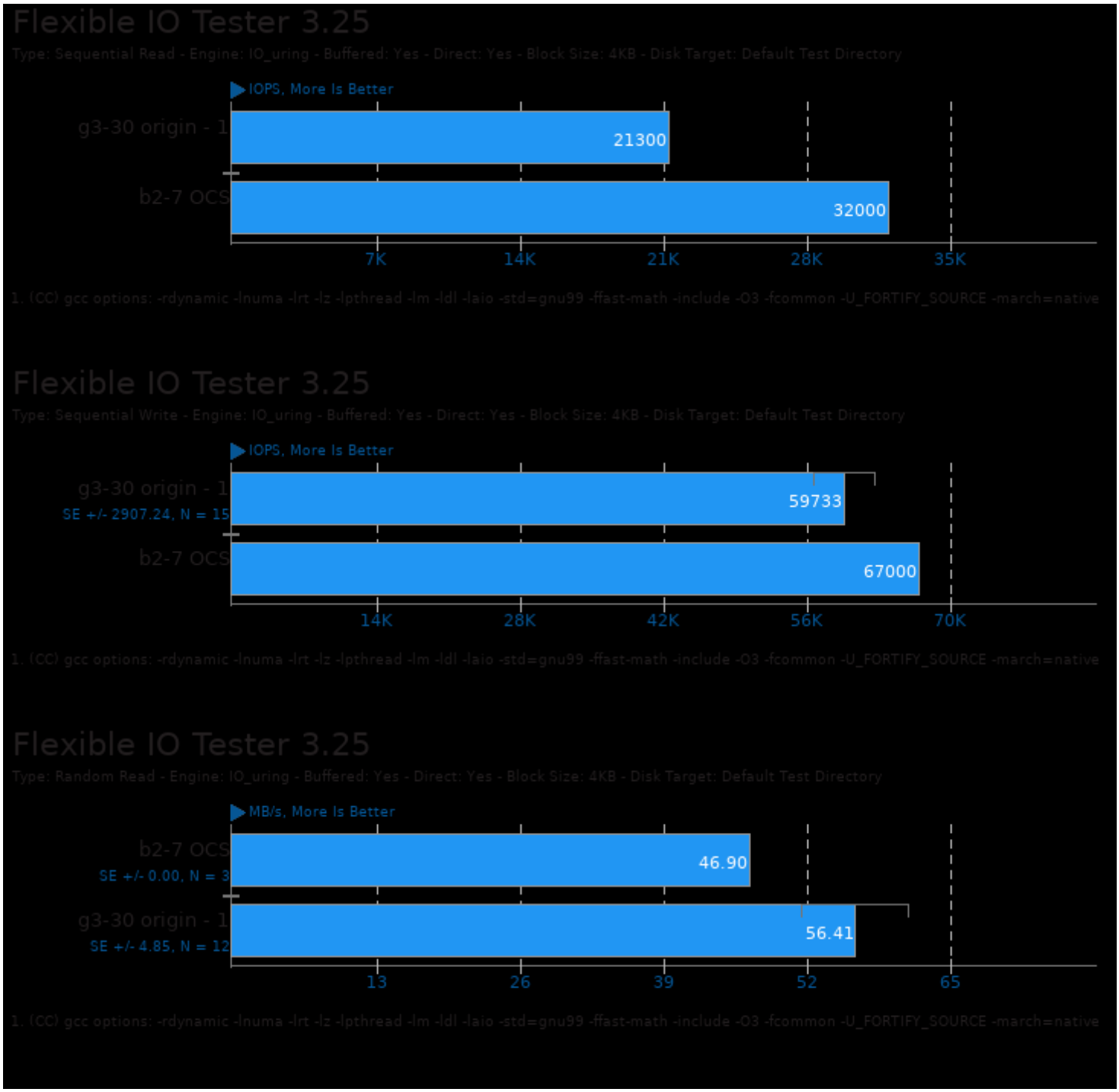
g3-30 origin

Flexible IO Tester - Rand Read - IO_uring - Yes - Yes - 4KB (IOPS)	**19224**	**16000**	
Normalized	100%	83.23%	
Standard Deviation	29.8%		
Flexible IO Tester - Rand Write - IO_uring - Yes - Yes - 4KB (IOPS)	**64000**	**64800**	
Normalized	98.77%	100%	
Standard Deviation		2.1%	
Flexible IO Tester - Seq Read - IO_uring - Yes - Yes - 4KB (IOPS)	**21300**	**32000**	
Normalized	66.56%	100%	
Flexible IO Tester - Seq Write - IO_uring - Yes - Yes - 4KB (IOPS)	**59733**	**67000**	
Normalized	89.15%	100%	
Standard Deviation	18.8%		
Flexible IO Tester - Rand Read - IO_uring - Yes - Yes - 4KB (MB/s)	**56.413**	**46.9**	
Normalized	100%	83.14%	
Standard Deviation	29.8%	0%	
Flexible IO Tester - Rand Write - IO_uring - Yes - Yes - 4KB (MB/s)	**188**	**191**	
Normalized	98.43%	100%	
Standard Deviation		2.6%	
Flexible IO Tester - Seq Read - IO_uring - Yes - Yes - 4KB (MB/s)	**62.5**	**93.8**	
Normalized	66.63%	100%	
Standard Deviation	0%	0%	
Flexible IO Tester - Seq Write - IO_uring - Yes - Yes - 4KB (MB/s)	**175.4**	**199**	
Normalized	88.14%	100%	
Standard Deviation	18.9%		
Dbench - 1 (MB/s)	**172.464**	**377.074**	
Normalized	45.74%	100%	
Standard Deviation	1.9%	0.1%	
IOR - 2MB (MB/s)	**225.72**	**883.40**	
Normalized	25.55%	100%	
Standard Deviation	3.4%	2.5%	
IOzone - 4Kb - 512MB - Read Performance (MB/s)	3153	**4011**	**952.919270833**
Normalized	78.6%	100%	23.76%
Standard Deviation	14.3%	0.7%	1.5%
PostMark - D.T.P (TPS)	**3989**	**2659**	
Normalized	100%	66.66%	
Standard Deviation	0.9%		
SQLite - 1 (sec)	27.206	**22.498**	**38.796**
Normalized	82.69%	100%	57.99%
Standard Deviation	17.5%	0%	2.4%

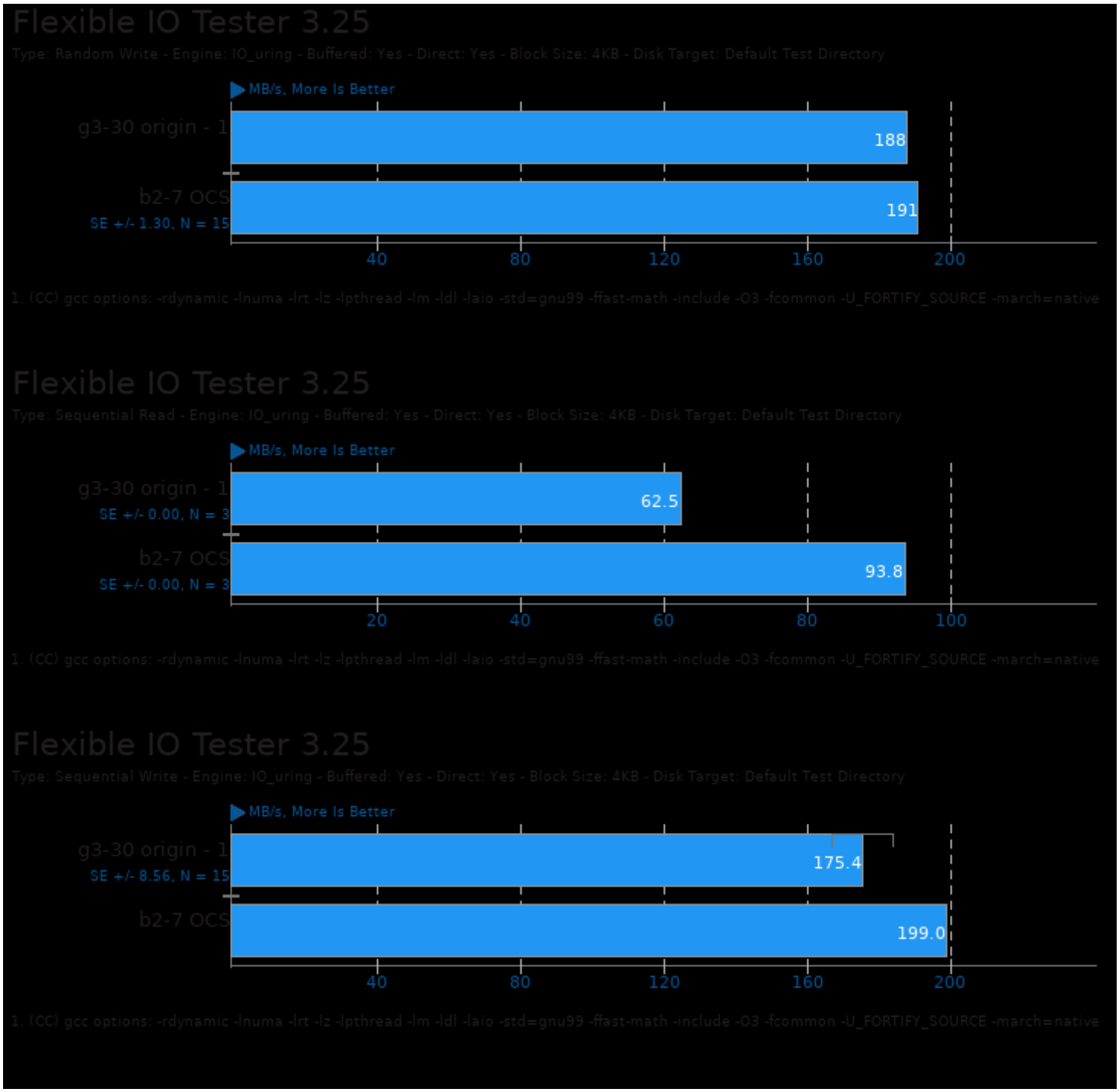
g3-30 origin


FS-Mark 3.3
Test: 1000 Files, 1MB Size
Files/s, More Is Better
g3-30 origin - 1
SE +/- 0.75, N = 5
67.9
b2-7 OCS
SE +/- 12.05, N = 12
482.8
100
200
300
400
500
1. (CC) gcc options: -static
Flexible IO Tester 3.25
Type: Random Read - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
b2-7 OCS
16000
g3-30 origin - 1
SE +/- 1654.07, N = 12
19224
4K
8K
12K
16K
20K
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Random Write - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
g3-30 origin - 1
64000
b2-7 OCS
SE +/- 354.56, N = 15
64800
14K
28K
42K
56K
70K
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

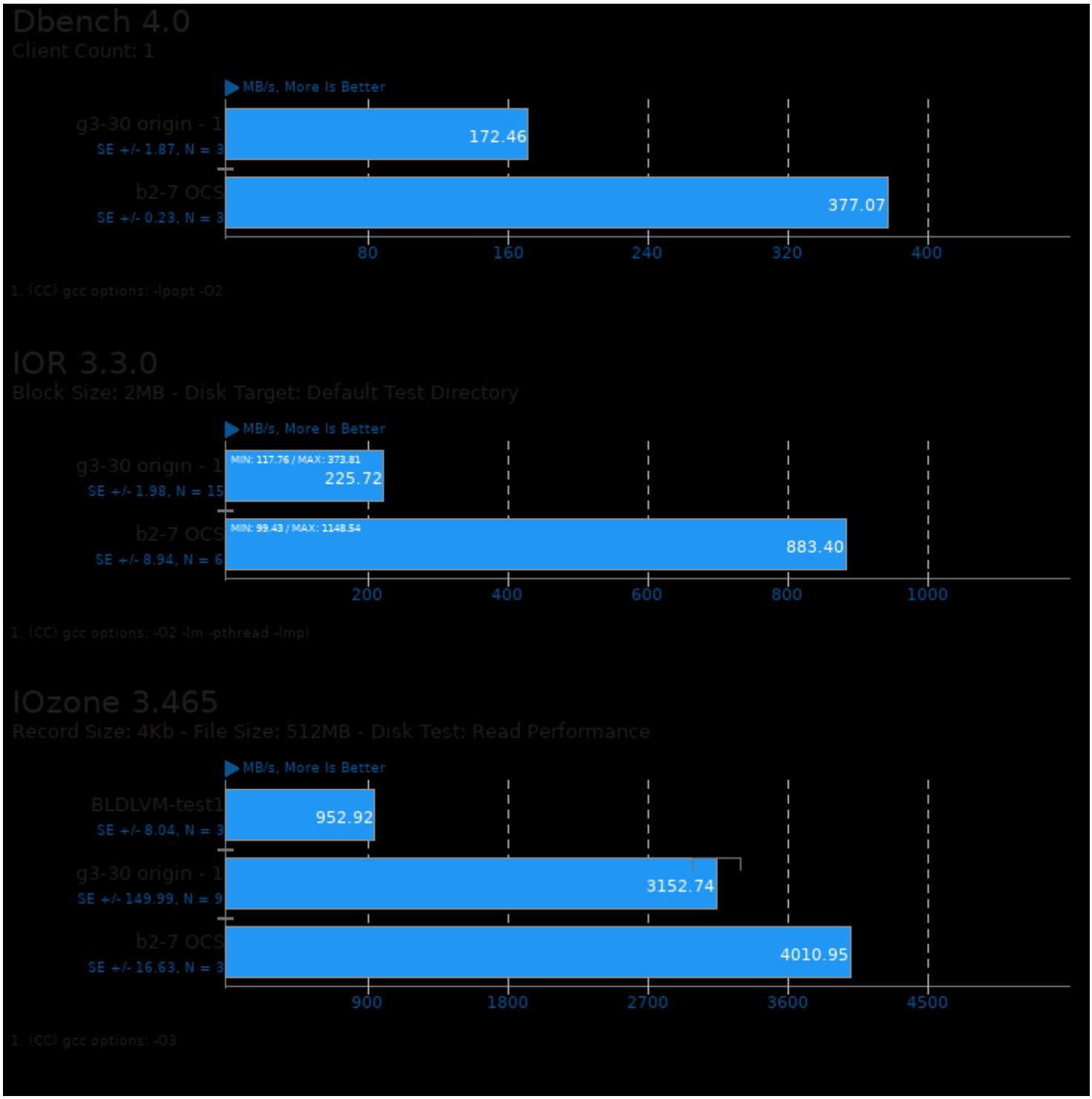
g3-30 origin


Flexible IO Tester 3.25
Type: Sequential Read - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
g3-30 origin - 1
21300
b2-7 OCS
32000
7K
14K
21K
28K
35K
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Sequential Write - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
g3-30 origin - 1
SE +/- 2907.24, N = 15
59733
b2-7 OCS
67000
14K
28K
42K
56K
70K
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Random Read - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
b2-7 OCS
SE +/- 0.00, N = 3
46.90
g3-30 origin - 1
SE +/- 4.85, N = 12
56.41
13
26
39
52
65
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

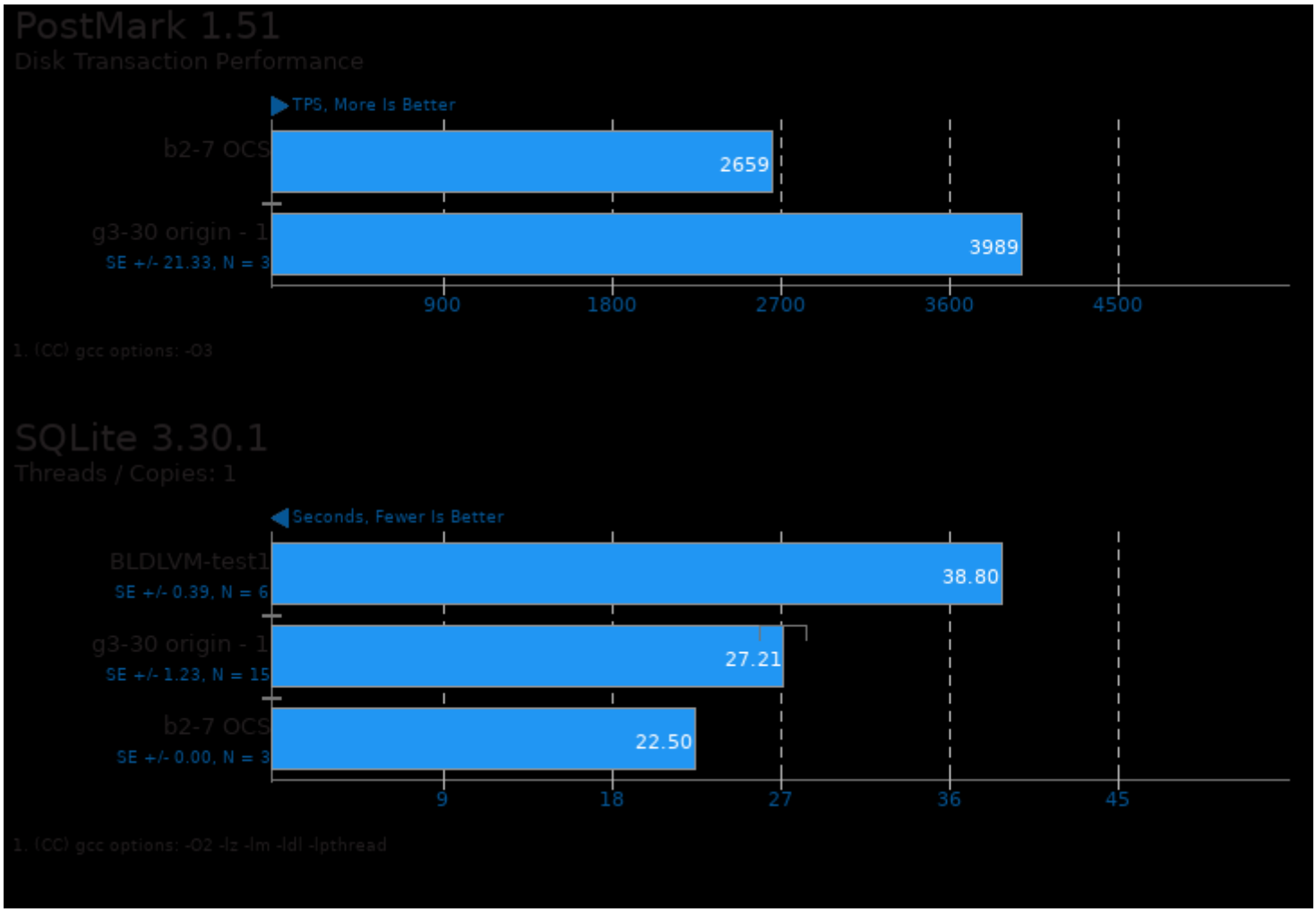
g3-30 origin


Flexible IO Tester 3.25
Type: Random Write - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
g3-30 origin - 1
188
b2-7 OCS
SE +/- 1.30, N = 15
191
40
80
120
160
200
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Sequential Read - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
g3-30 origin - 1
SE +/- 0.00, N = 3
62.5
b2-7 OCS
SE +/- 0.00, N = 3
93.8
20
40
60
80
100
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Sequential Write - Engine: IO_uring - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
g3-30 origin - 1
SE +/- 8.56, N = 15
175.4
b2-7 OCS
199.0
40
80
120
160
200
1. (CC) gcc options: -rdynamic -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

g3-30 origin

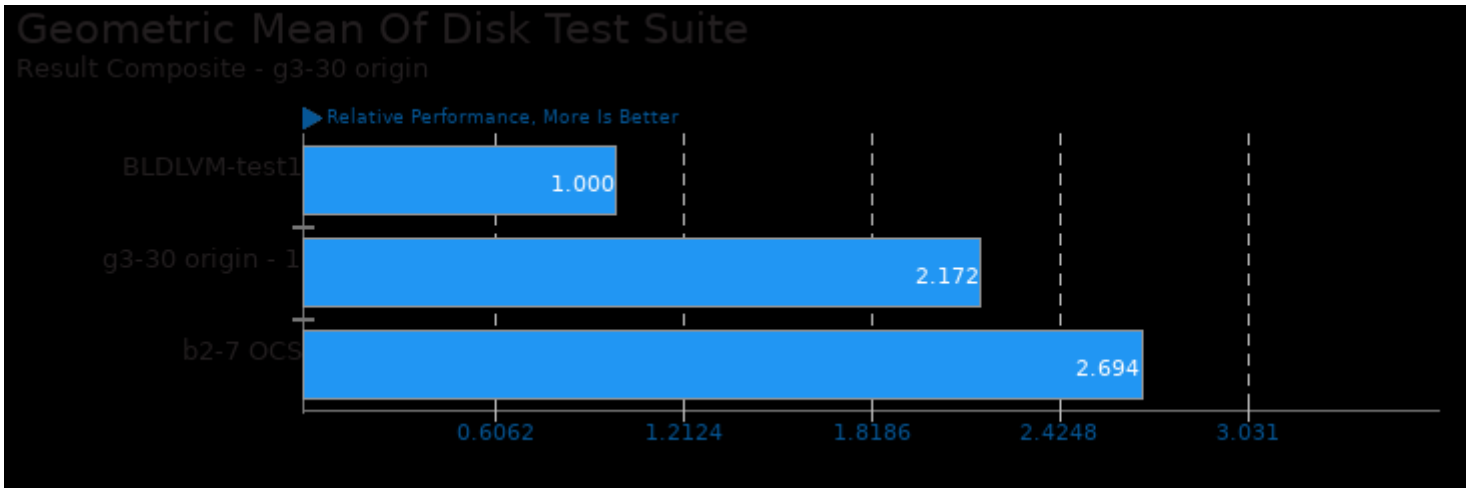

Dbench 4.0
Client Count: 1
MB/s, More Is Better
g3-30 origin - 1
SE +/- 1.87, N = 3
172.46
b2-7 OCS
SE +/- 0.23, N = 3
377.07
80
160
240
320
400
1. (CC) gcc options: -lpopt -O2
IOR 3.3.0
Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
g3-30 origin - 1
SE +/- 1.98, N = 15
MIN: 117.76 / MAX: 373.81
225.72
b2-7 OCS
SE +/- 8.94, N = 6
MIN: 99.43 / MAX: 1148.54
883.40
200
400
600
800
1000
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
BLDLVM-test1
SE +/- 8.04, N = 3
952.92
g3-30 origin - 1
SE +/- 149.99, N = 9
3152.74
b2-7 OCS
SE +/- 16.63, N = 3
4010.95
900
1800
2700
3600
4500
1. (CC) gcc options: -O3

g3-30 origin


PostMark 1.51
Disk Transaction Performance
TPS, More Is Better
b2-7 OCS
2659
g3-30 origin - 1
SE +/- 21.33, N = 3
3989
900
1800
2700
3600
4500
1. (CC) gcc options: -O3
SQLite 3.30.1
Threads / Copies: 1
Seconds, Fewer Is Better
BLDLVM-test1
SE +/- 0.39, N = 6
38.80
g3-30 origin - 1
SE +/- 1.23, N = 15
27.21
b2-7 OCS
SE +/- 0.00, N = 3
22.50
9
18
27
36
45
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

g3-30 origin

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



Geometric mean based upon tests: pts/sqlite, pts/fs-mark, pts/iozone, pts/dbench, pts/postmark and pts/fio

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 05:21.