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LocalZFS

Automated Executive Summary

IOTEST had the most wins, coming in first place for 87% of the tests.

Based on the geometric mean of all complete results, the fastest (IOTEST) was 1.335x the speed of the slowest (LocalZFS).

Test Systems:

IOTEST

LocalZFS

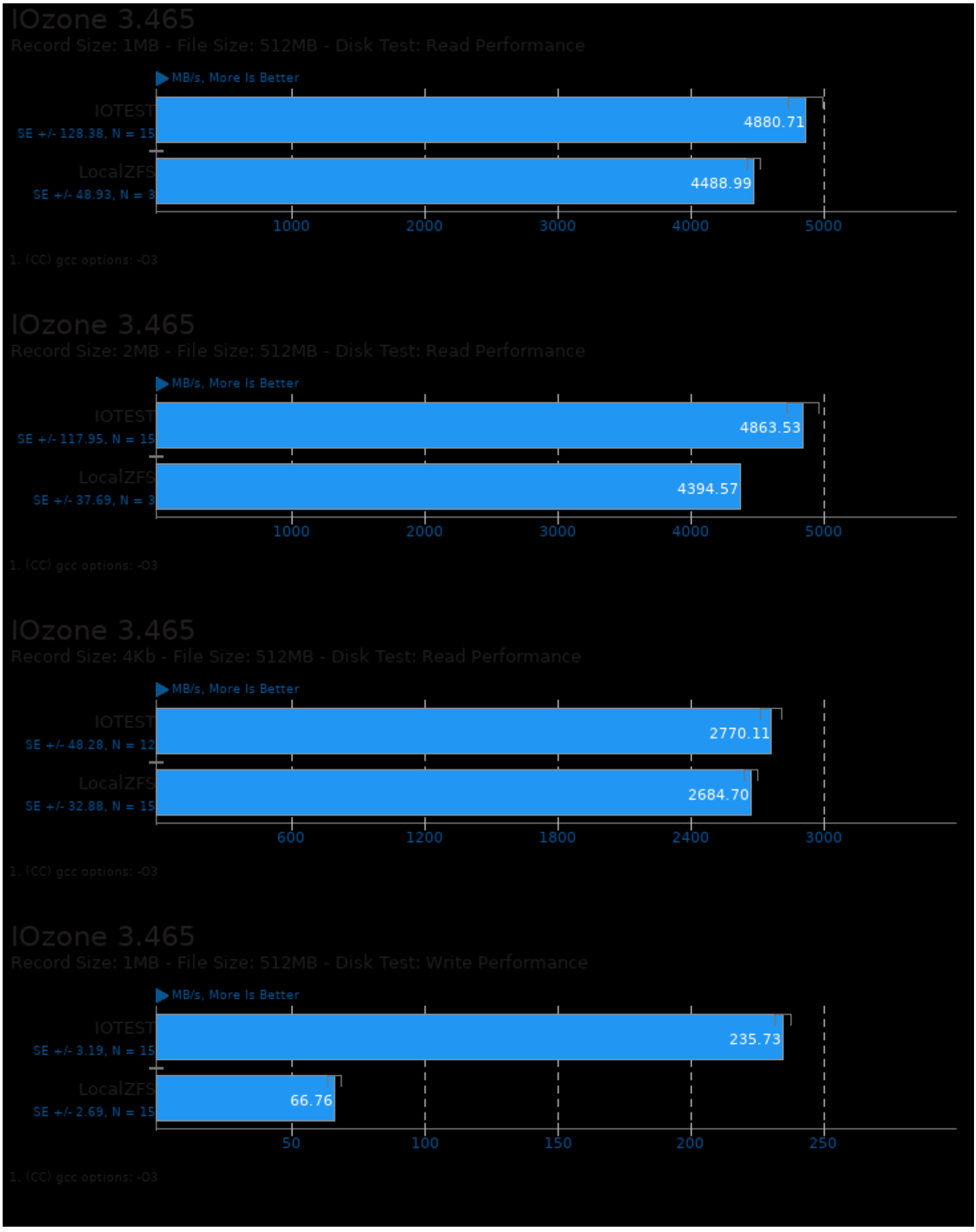
Processor: 8 x Intel Xeon E5-2640 v4 (8 Cores), Motherboard: Xen HVM domU v4.13, Chipset: Intel 440FX 82441FX PMC, Memory: 16GB, Disk: 24GB, Graphics: bochs-drmdrmfb

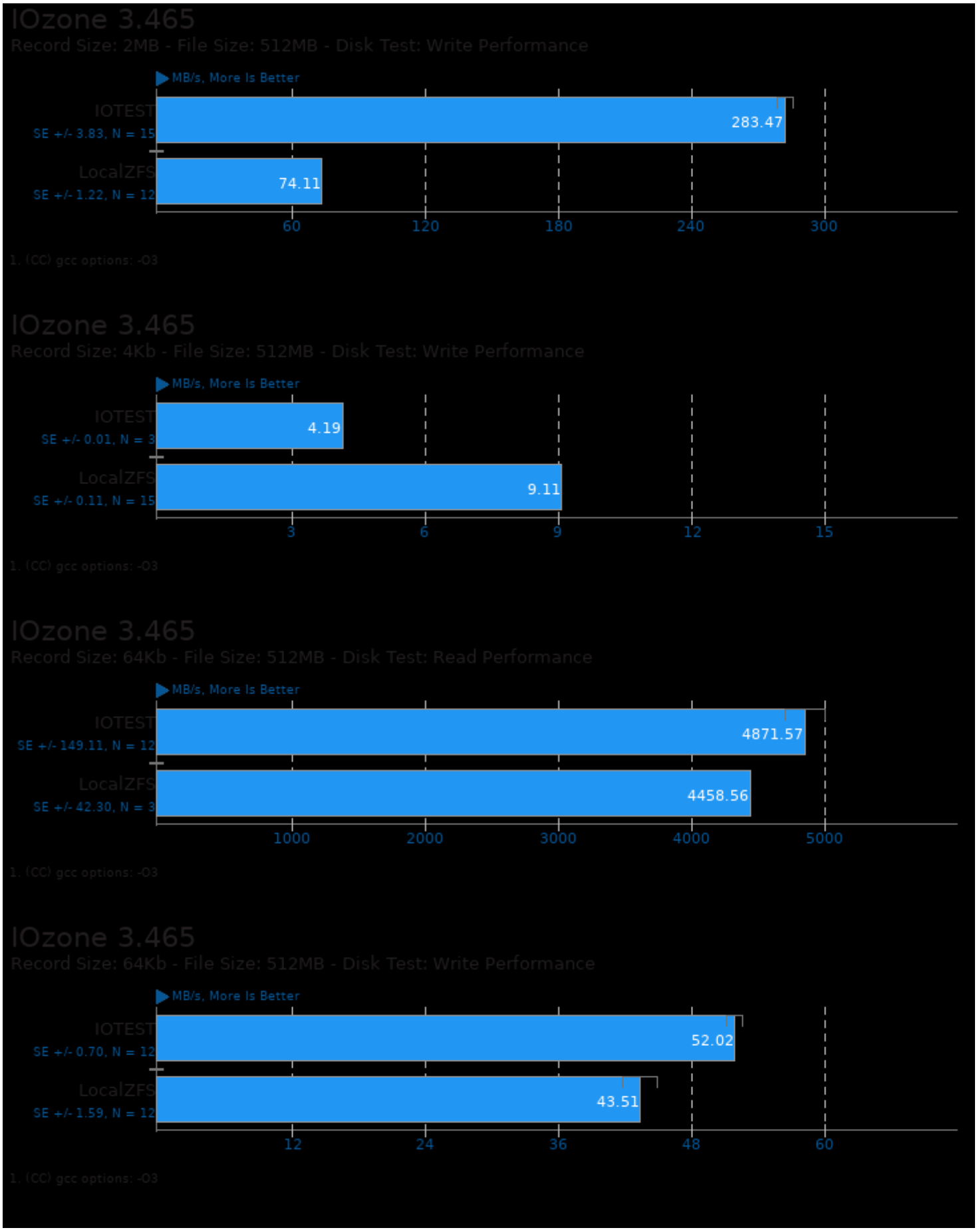
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OS: Ubuntu 20.04, Kernel: 5.13.0-41-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.13

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
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0xb000040
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + 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

	IOTEST	LocalZFS
IOzone - 1MB - 512MB - Read Performance (MB/s)	**4881**	**4489**
Normalized	100%	91.97%
Standard Deviation	10.2%	1.9%
IOzone - 2MB - 512MB - Read Performance (MB/s)	**4864**	**4395**
Normalized	100%	90.36%
Standard Deviation	9.4%	1.5%
IOzone - 4Kb - 512MB - Read Performance (MB/s)	**2770**	**2685**
Normalized	100%	96.92%
Standard Deviation	6%	4.7%
IOzone - 1MB - 512MB - Write Performance (MB/s)	**235.73**	**66.76**
Normalized	100%	28.32%
Standard Deviation	5.2%	15.6%
IOzone - 2MB - 512MB - Write Performance (MB/s)	**283.47**	**74.11**
Normalized	100%	26.14%
Standard Deviation	5.2%	5.7%
IOzone - 4Kb - 512MB - Write Performance (MB/s)	**4.19**	**9.11**
Normalized	45.99%	100%
Standard Deviation	0.6%	4.6%
IOzone - 64Kb - 512MB - Read Performance (MB/s)	**4872**	**4459**
Normalized	100%	91.52%
Standard Deviation	10.6%	1.6%
IOzone - 64Kb - 512MB - Write Performance (MB/s)	**52.02**	**43.51**
Normalized	100%	83.64%
Standard Deviation	4.6%	12.7%


IOzone 3.465
Record Size: 1MB - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
IOTEST
SE +/- 128.38, N = 15
4880.71
LocalZFS
SE +/- 48.93, N = 3
4488.99
1000
2000
3000
4000
5000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 2MB - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
IOTEST
SE +/- 117.95, N = 15
4863.53
LocalZFS
SE +/- 37.69, N = 3
4394.57
1000
2000
3000
4000
5000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
IOTEST
SE +/- 48.28, N = 12
2770.11
LocalZFS
SE +/- 32.88, N = 15
2684.70
600
1200
1800
2400
3000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 1MB - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
IOTEST
SE +/- 3.19, N = 15
235.73
LocalZFS
SE +/- 2.69, N = 15
66.76
50
100
150
200
250
1. (CC) gcc options: -O3


IOzone 3.465
Record Size: 2MB - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
IOTEST
SE +/- 3.83, N = 15
283.47
LocalZFS
SE +/- 1.22, N = 12
74.11
60
120
180
240
300
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
IOTEST
SE +/- 0.01, N = 3
4.19
LocalZFS
SE +/- 0.11, N = 15
9.11
3
6
9
12
15
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
IOTEST
SE +/- 149.11, N = 12
4871.57
LocalZFS
SE +/- 42.30, N = 3
4458.56
1000
2000
3000
4000
5000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
IOTEST
SE +/- 0.70, N = 12
52.02
LocalZFS
SE +/- 1.59, N = 12
43.51
12
24
36
48
60
1. (CC) gcc options: -O3

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This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 10:56.