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chinese-ext4

AMD Ryzen 3 3200G testing with a ASRock B450 Gaming-ITX/ac (P4.10 BIOS) and AMD Picasso 2GB on Ubuntu 20.10 via the Phoronix Test Suite.

Test Systems:

ext4 test on chinese disks

Processor: AMD Ryzen 3 3200G @ 3.60GHz (4 Cores), Motherboard: ASRock B450 Gaming-ITX/ac (P4.10 BIOS), Chipset: AMD Raven/Raven2, Memory: 30GB, Disk: 2 x 1000GB NVME SSD 1TB + 1000GB CT1000P1SSD8, Graphics: AMD Picasso 2GB (1250/1333MHz), Audio: AMD Raven/Raven2/Fenghuang, Monitor: LG TV, Network: Intel I211 + Intel Dual Band-AC 3168NGW

OS: Ubuntu 20.10, Kernel: 5.8.0-33-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1360x768

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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug

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--enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/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: NONE / relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8108109
Python Notes: Python 3.8.6
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 Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	ext4 test on chinese disks
SQLite - T.S.I (sec)	44.399
Standard Deviation	0.1%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 2MB (MB/s)	1593
Standard Deviation	0.1%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 2MB (IOPS)	793
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 4KB (MB/s)	787
Standard Deviation	0.5%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 4KB (IOPS)	201333
Standard Deviation	0.6%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 2MB (MB/s)	1329
Standard Deviation	0.1%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 2MB (IOPS)	661
Standard Deviation	0.2%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 4KB (MB/s)	604
Standard Deviation	1.5%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 4KB (IOPS)	154667
Standard Deviation	1.6%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 2MB (MB/s)	1632
Standard Deviation	0.3%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 2MB (IOPS)	813
Standard Deviation	0.3%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (MB/s)	1091
Standard Deviation	2.9%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (IOPS)	279200
Standard Deviation	2.9%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 2MB (MB/s)	1401
Standard Deviation	0.2%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 2MB (IOPS)	697
Standard Deviation	0.1%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (MB/s)	674
Standard Deviation	2.4%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (IOPS)	172667
Standard Deviation	2.6%
FS-Mark - 1.F.1.S (Files/s)	263.5
Standard Deviation	0.4%
FS-Mark - 5.F.1.S.4.T (Files/s)	501.7
Standard Deviation	0.2%
FS-Mark - 4.F.3.S.D.1.S (Files/s)	260.5
Standard Deviation	0.3%

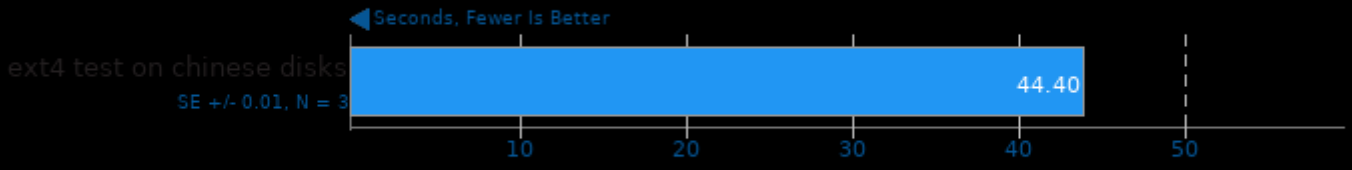
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FS-Mark - 1.F.1.S.N.S.F (Files/s)	2181
Standard Deviation	0.4%
Dbench - 12 Clients (MB/s)	954.840
Standard Deviation	0.2%
Dbench - 1 Clients (MB/s)	151.726
Standard Deviation	0%
Compile Bench - Compile (MB/s)	1646
Standard Deviation	0.5%
Compile Bench - Initial Create (MB/s)	418.40
Standard Deviation	1.2%
Compile Bench - Read Compiled Tree (MB/s)	2806
Standard Deviation	2.1%
PostMark - D.T.P (TPS)	5813

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SQLite 3.30.1

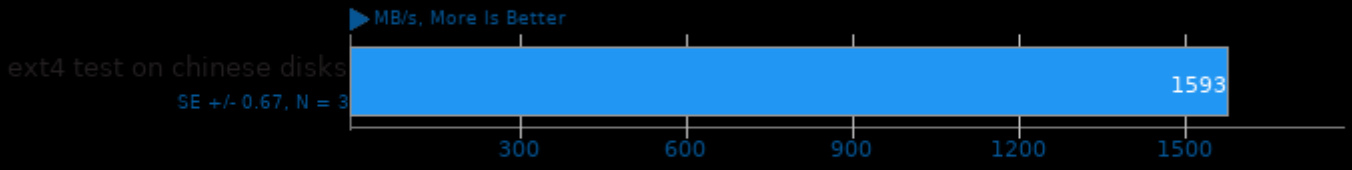
Timed SQLite Insertions



1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

Flexible IO Tester 3.25

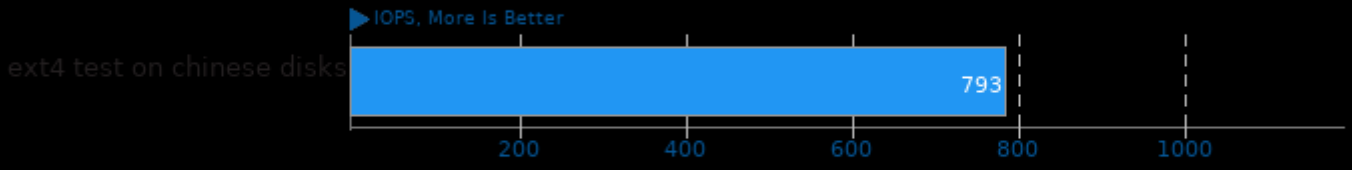
Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory



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 3.25

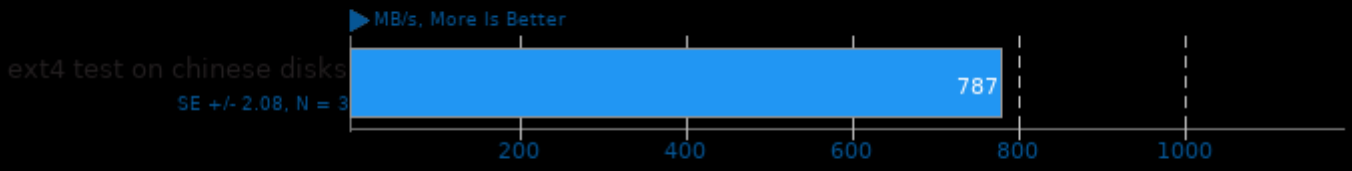
Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory



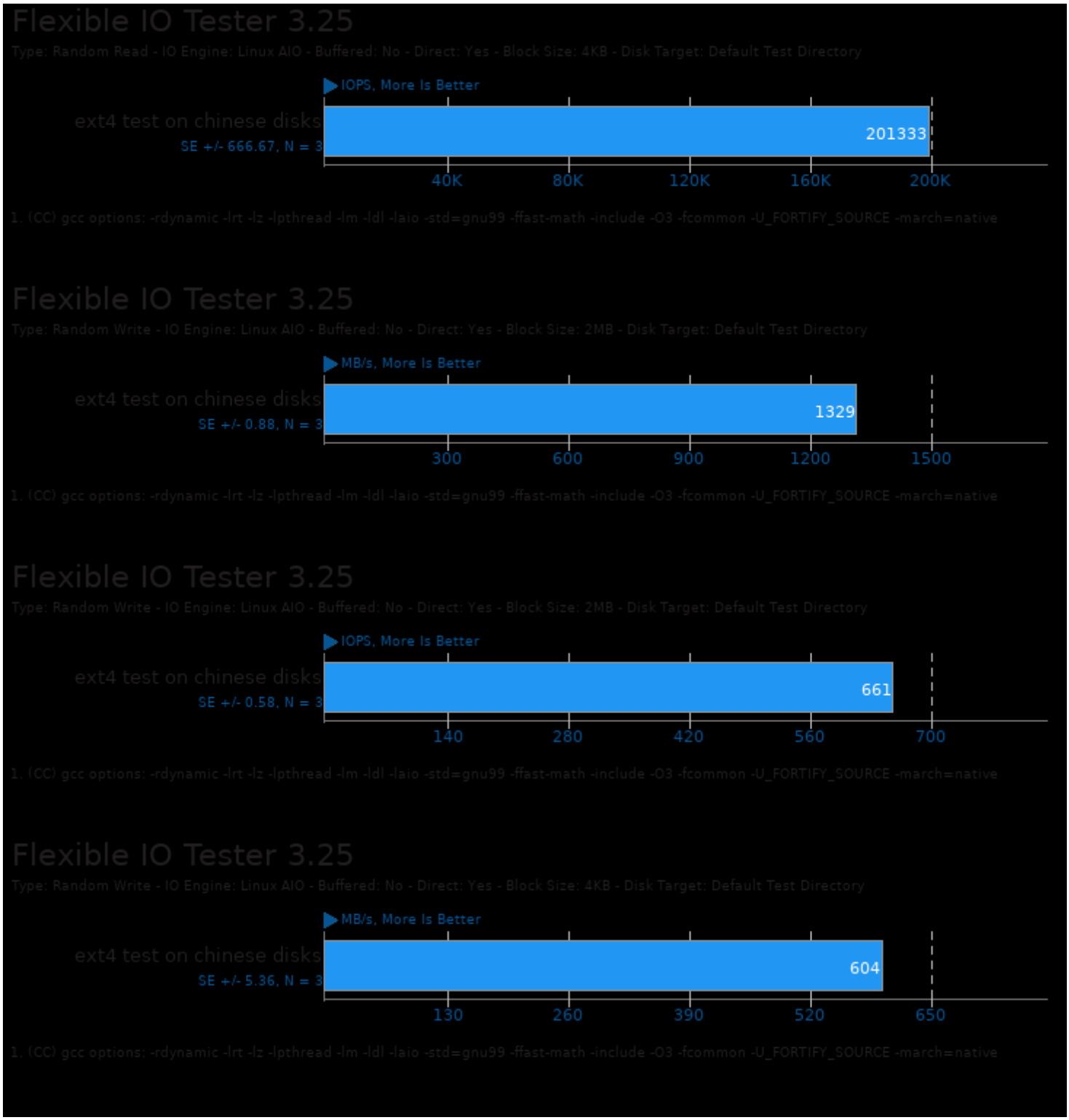
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

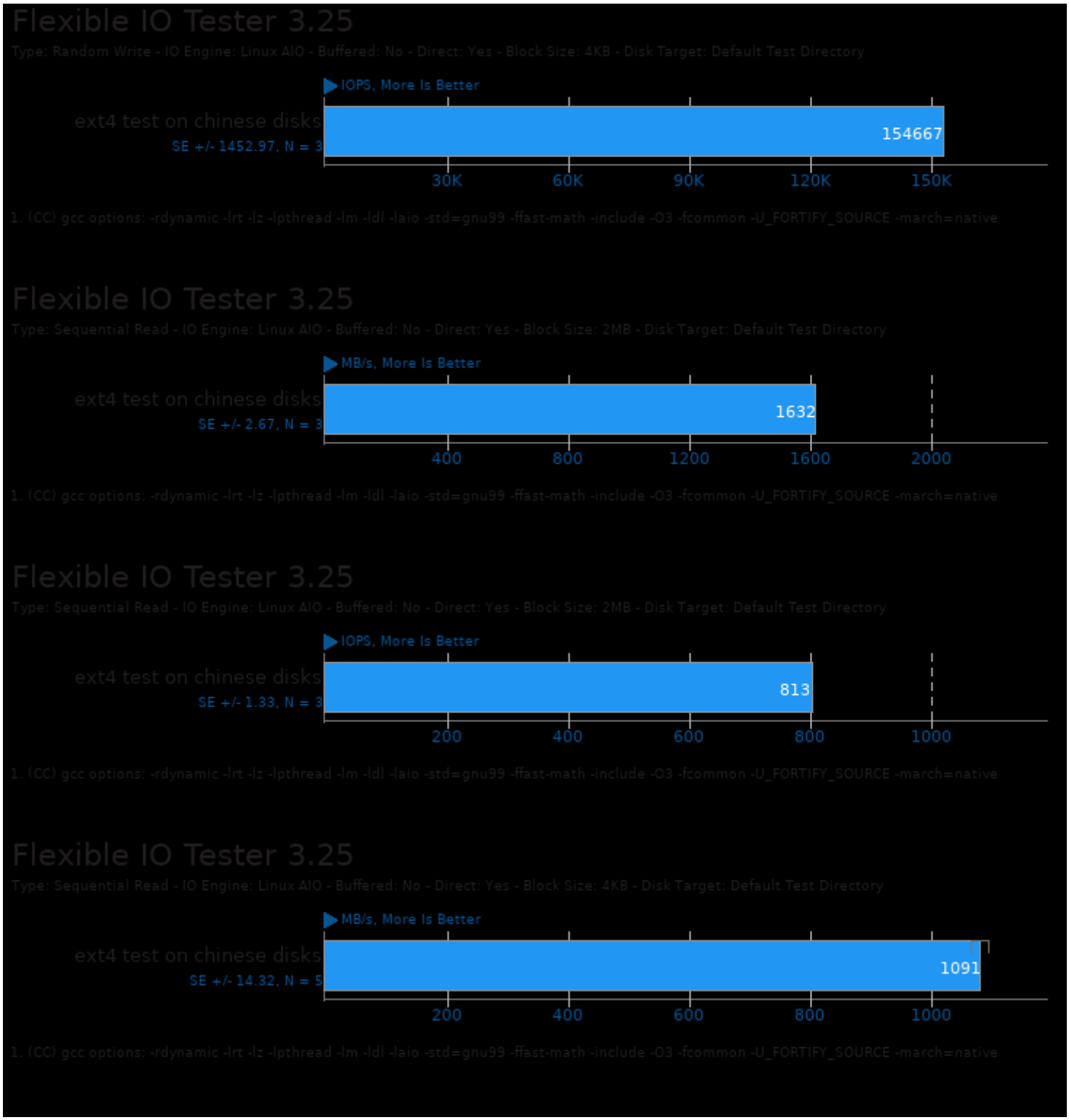
Flexible IO Tester 3.25

Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory

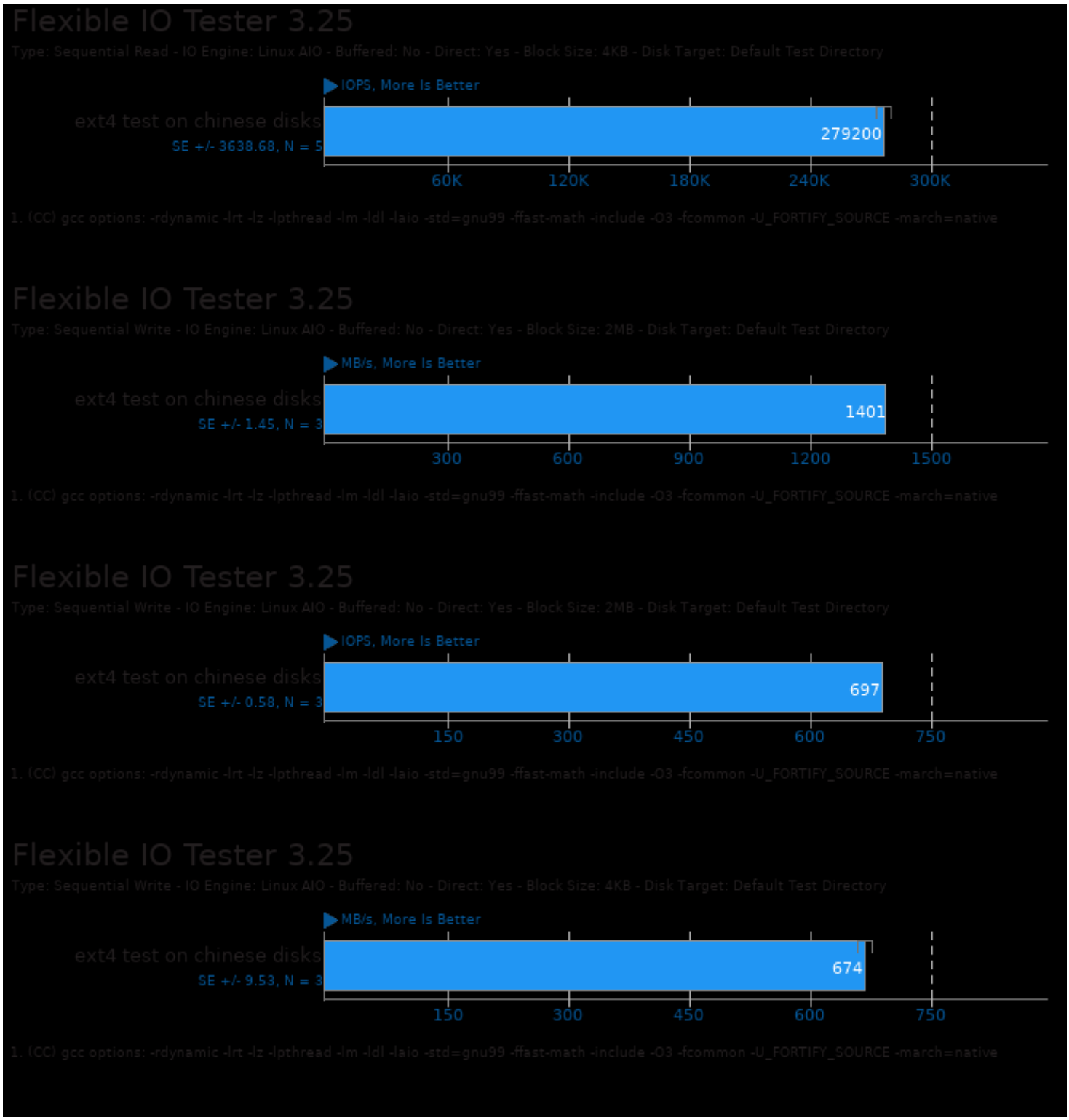


1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native


Flexible IO Tester 3.25
Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
ext4 test on chinese disks
SE +/- 666.67, N = 3
201333
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 3.25
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
ext4 test on chinese disks
SE +/- 0.88, N = 3
1329
300
600
900
1200
1500
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 3.25
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
IOPS, More Is Better
ext4 test on chinese disks
SE +/- 0.58, N = 3
661
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 3.25
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
ext4 test on chinese disks
SE +/- 5.36, N = 3
604
130
260
390
520
650
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

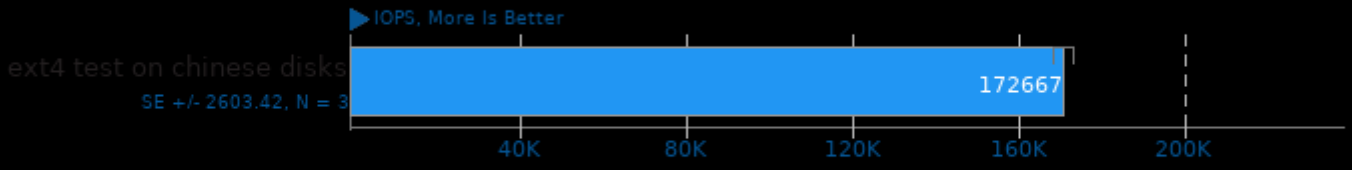

Flexible IO Tester 3.25
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
ext4 test on chinese disks
SE +/- 1452.97, N = 3
154667
30K
60K
90K
120K
150K
1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native
Flexible IO Tester 3.25
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
ext4 test on chinese disks
SE +/- 2.67, N = 3
1632
400
800
1200
1600
2000
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 3.25
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
IOPS, More Is Better
ext4 test on chinese disks
SE +/- 1.33, N = 3
813
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 3.25
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
ext4 test on chinese disks
SE +/- 14.32, N = 5
1091
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

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Flexible IO Tester 3.25

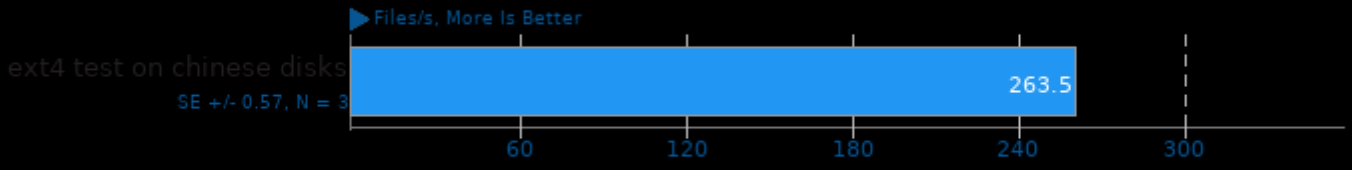
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -march=native

FS-Mark 3.3

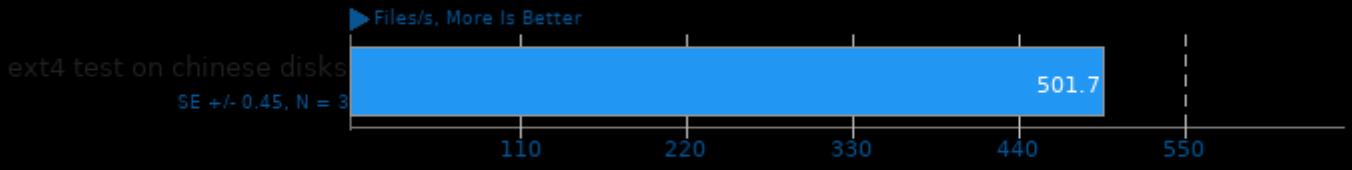
Test: 1000 Files, 1MB Size



1. (CC) gcc options: -static

FS-Mark 3.3

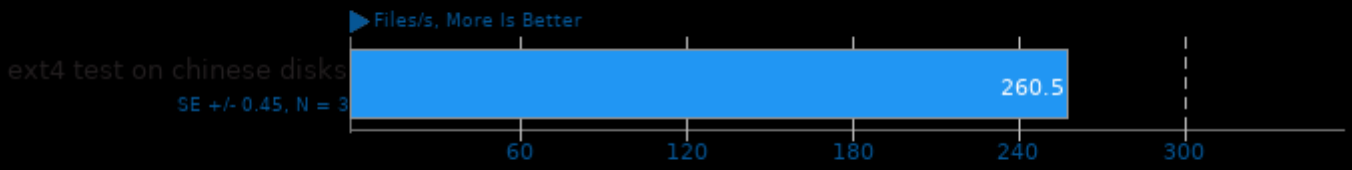
Test: 5000 Files, 1MB Size, 4 Threads



1. (CC) gcc options: -static

FS-Mark 3.3

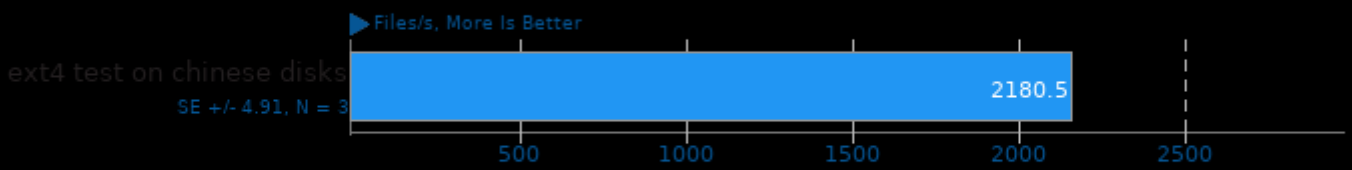
Test: 4000 Files, 32 Sub Dirs, 1MB Size



1. (CC) gcc options: -static

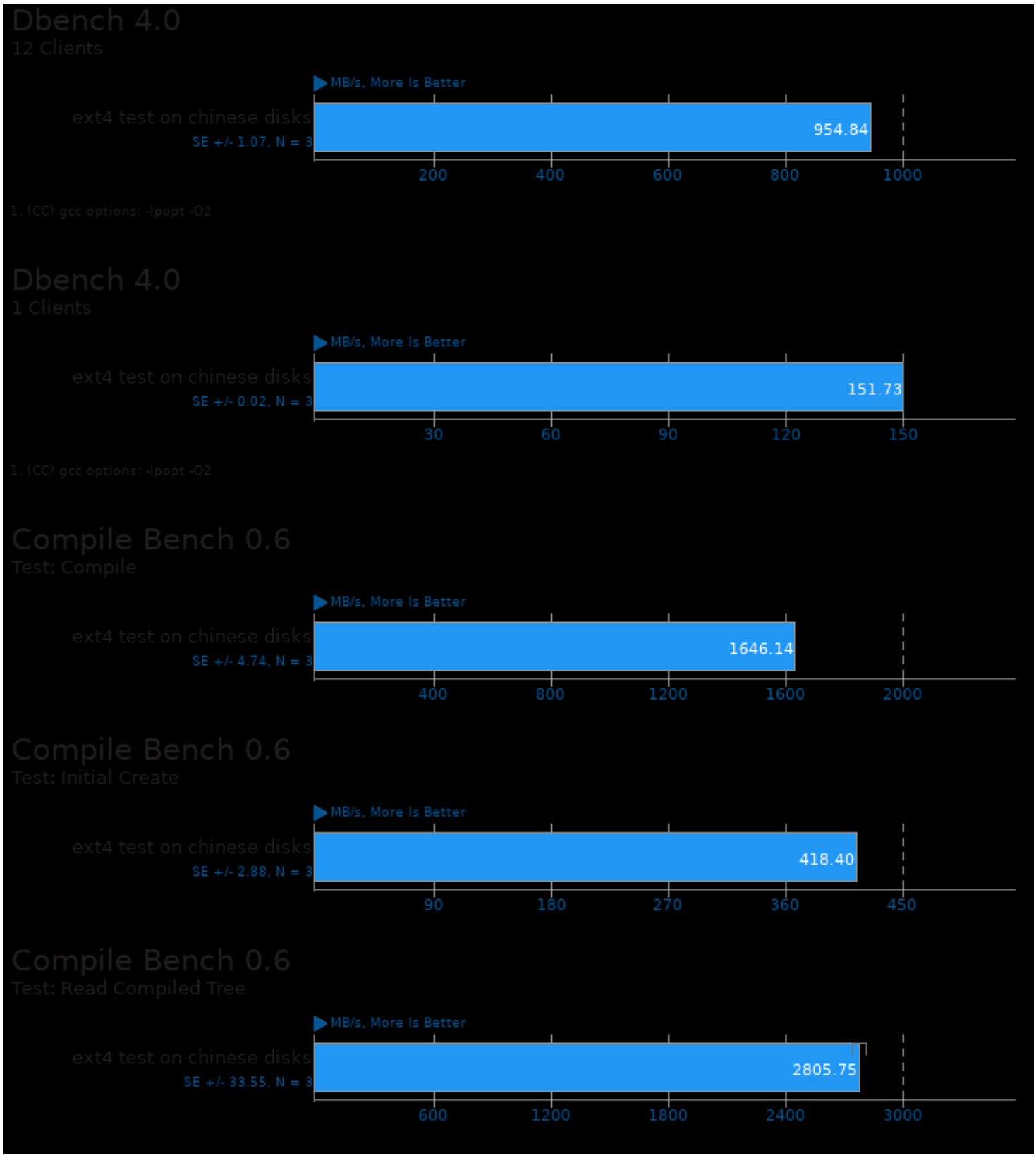
FS-Mark 3.3

Test: 1000 Files, 1MB Size, No Sync/FSync

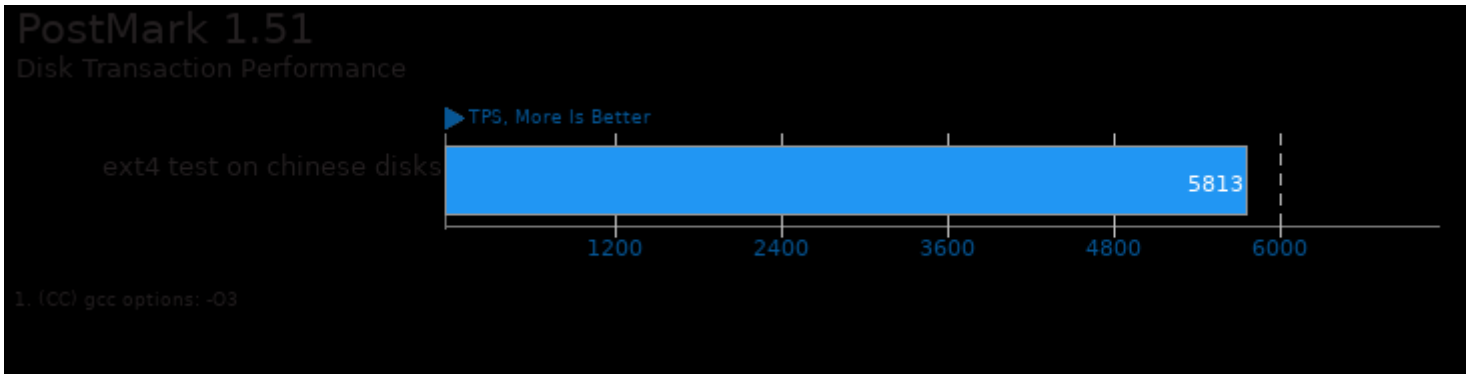


1. (CC) gcc options: -static

chinese-ext4



chinese-ext4



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