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2 x Intel Xeon Platinum 8490H testing with a Quanta Cloud S6Q-MB-MPS (3A10.uh BIOS) and ASPEED on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

b had the most wins, coming in first place for 42% of the tests.

Based on the geometric mean of all complete results, the fastest (a) was 1.02x the speed of the slowest (c). d was 0.999x the speed of a, b was 0.986x the speed of d, c was 0.995x the speed of b.

Test Systems:

a

b

c

d

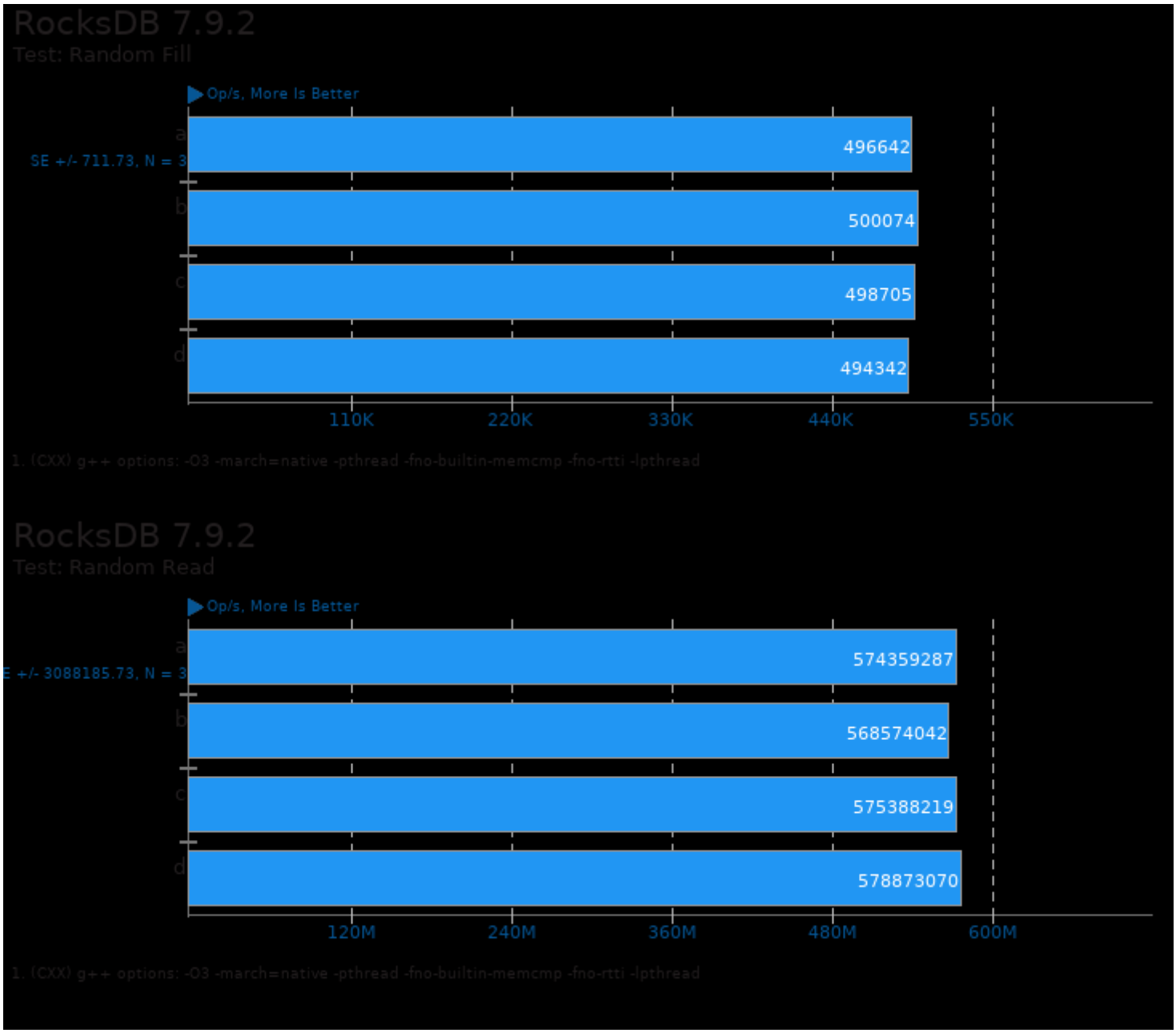
Processor: 2 x Intel Xeon Platinum 8490H @ 3.50GHz (120 Cores / 240 Threads), Motherboard: Quanta Cloud S6Q-MB-MPS (3A10.uh BIOS), Chipset: Intel Device 1bce, Memory: 16 x 64 GB 4800MT/s Samsung M321R8GA0BB0-CQKEG, Disk: 2 x 1920GB SAMSUNG MZWLJ1T9HBJR-00007 + 960GB INTEL SSDSC2KG96, Graphics: ASPEED, Monitor: VGA HDMI, Network: 4 x Intel E810-C for QSFP + 2 x Intel X710 for 10GBASE-T

OS: Ubuntu 22.04, Kernel: 6.1.4-060104-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server 1.21.1.3, Vulkan: 1.2.204, Compiler: GCC 11.3.0 + Clang 14.0.0-1ubuntu1, File-System: ext4, Screen Resolution: 1920x1080

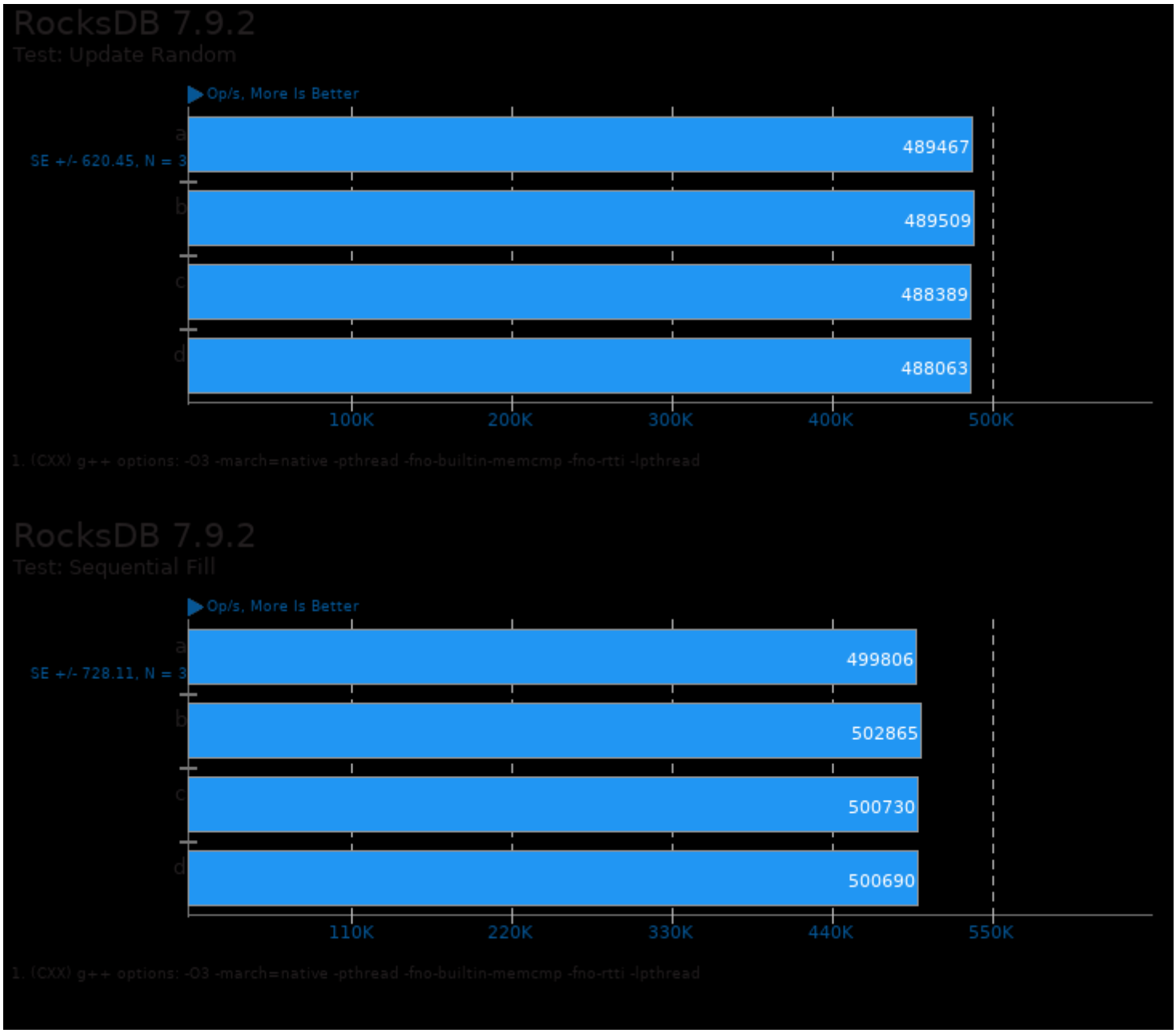
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --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: Scaling Governor: intel_pstate performance (EPP: performance) - CPU Microcode: 0x2b0000c0
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: SW sequence + srbds: Not affected + tsx_async_abort: Not affected

	a	b	c	d
RocksDB - Rand Fill (Op/s)	496642	**500074**	498705	**494342**
Normalized	99.31%	100%	99.73%	98.85%
Standard Deviation	0.2%			
RocksDB - Rand Read (Op/s)	574359287	**568574042**	575388219	**578873070**
Normalized	99.22%	98.22%	99.4%	100%
Standard Deviation	0.9%			
RocksDB - Update Rand (Op/s)	489467	**489509**	488389	**488063**
Normalized	99.99%	100%	99.77%	99.7%
Standard Deviation	0.2%			
RocksDB - Seq Fill (Op/s)	**499806**	**502865**	500730	500690
Normalized	99.39%	100%	99.58%	99.57%
Standard Deviation	0.3%			
RocksDB - Rand Fill Sync (Op/s)	**433902**	**421667**	432059	429568
Normalized	100%	97.18%	99.58%	99%
Standard Deviation	0.5%			
RocksDB - Read While Writing (Op/s)	**9853786**	9026703	**8585241**	9717450
Normalized	100%	91.61%	87.13%	98.62%
Standard Deviation	9.5%			
RocksDB - R.R.W.R (Op/s)	**2074439**	2094132	2075956	**2108637**
Normalized	98.38%	99.31%	98.45%	100%
Standard Deviation	1.7%			

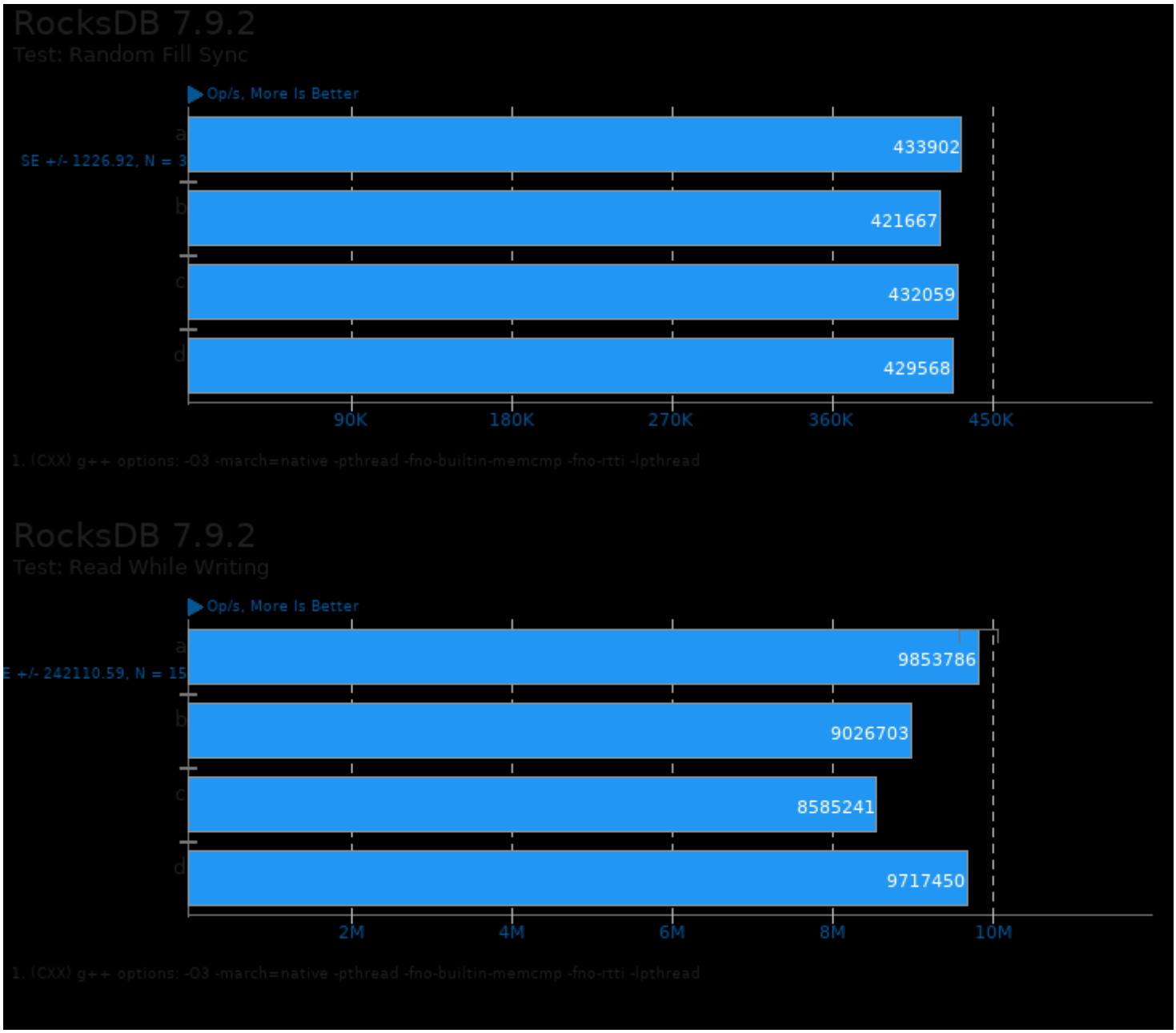
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RocksDB 7.9.2
Test: Random Fill
Op/s, More Is Better
SE +/- 711.73, N = 3
a
b
c
d
496642
500074
498705
494342
110K
220K
330K
440K
550K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
RocksDB 7.9.2
Test: Random Read
Op/s, More Is Better
E +/- 3088185.73, N = 3
a
b
c
d
574359287
568574042
575388219
578873070
120M
240M
360M
480M
600M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

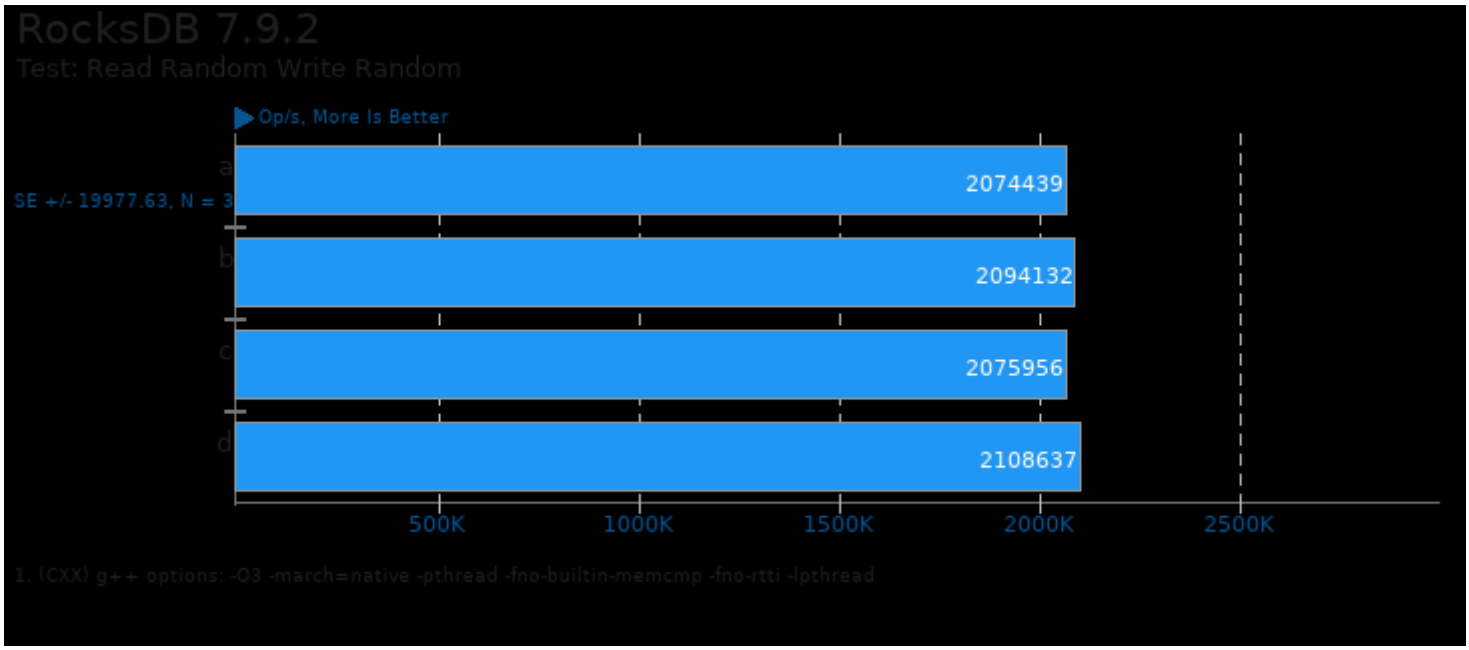
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RocksDB 7.9.2
Test: Update Random
Op/s, More Is Better
SE +/- 620.45, N = 3
a
b
c
d
489467
489509
488389
488063
100K
200K
300K
400K
500K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
RocksDB 7.9.2
Test: Sequential Fill
Op/s, More Is Better
SE +/- 728.11, N = 3
a
b
c
d
499806
502865
500730
500690
110K
220K
330K
440K
550K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

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RocksDB 7.9.2
Test: Random Fill Sync
Op/s, More Is Better
SE +/- 1226.92, N = 3
a
b
c
d
433902
421667
432059
429568
90K
180K
270K
360K
450K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
RocksDB 7.9.2
Test: Read While Writing
Op/s, More Is Better
E +/- 242110.59, N = 15
a
b
c
d
9853786
9026703
8585241
9717450
2M
4M
6M
8M
10M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

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This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:24.