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AMD Ryzen 7 PRO 6850U testing with a LENOVO 21CM0001US (R22ET51W 1.21 BIOS) and AMD Radeon 680M 1GB on Ubuntu 22.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 61% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.01x the speed of the slowest (B). C was 0.996x the speed of A and B was 0.994x the speed of C.

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

SMHasher (Hash: SHA3-256) at 1.021x
SMHasher (Hash: fasthash32) at 1.02x
SMHasher (Hash: t1ha2_atonce) at 1.018x
SMHasher (Hash: FarmHash128) at 1.017x
SMHasher (Hash: t1ha0_aes_avx2 x86_64) at 1.013x
SMHasher (Hash: MeowHash x86_64 AES-NI) at 1.009x
SMHasher (Hash: wyhash) at 1.007x
SMHasher (Hash: Spooky32) at 1.006x
SMHasher (Hash: FarmHash32 x86_64 AVX) at 1.005x

SMHasher (Hash: wyhash) at -1x.

Test Systems:

A

B

C

Processor: AMD Ryzen 7 PRO 6850U @ 2.70GHz (8 Cores / 16 Threads), Motherboard: LENOVO 21CM0001US (R22ET51W 1.21 BIOS), Chipset: AMD Device 14b5, Memory: 16GB, Disk: 512GB Micron MTFDKBA512TFK, Graphics: AMD Radeon 680M 1GB (2200/400MHz), Audio: AMD Rembrandt Radeon HD Audio, Network: Qualcomm QCNFA765

OS: Ubuntu 22.10, Kernel: 6.0.0-060000rc2daily20220824-generic (x86_64), Desktop: GNOME Shell 42.4, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.1.3 (LLVM 14.0.6 DRM 3.48), Vulkan: 1.3.211, Compiler: GCC 11.3.0, File-System: ext4, Screen Resolution: 1920x1200

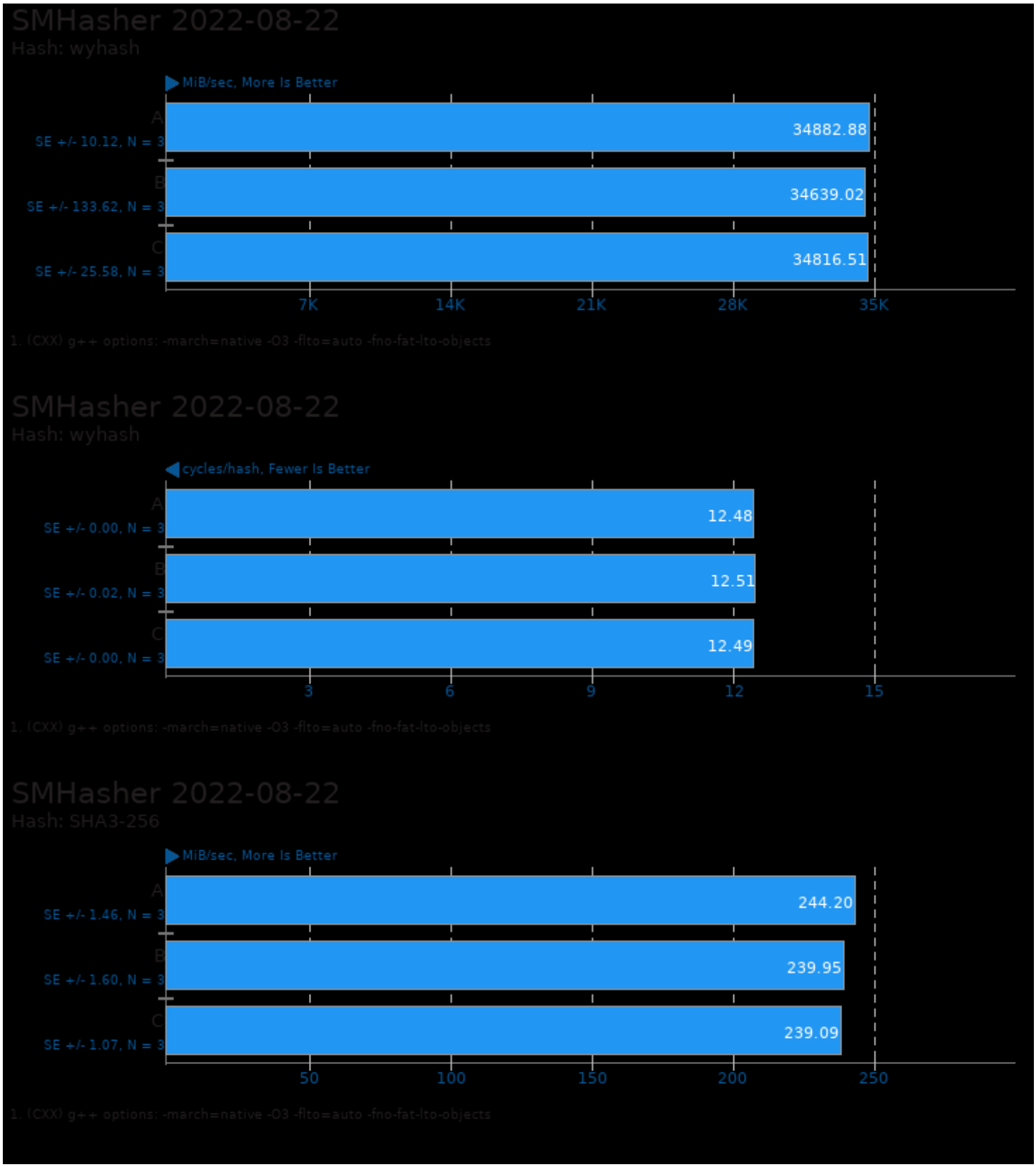
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --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-11-7Xaroy/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-7Xaroy/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: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa404102 - ACPI Profile: balanced
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 Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
SMHasher - wyhash (MiB/sec)	**34883**	**34639**	34817
Normalized	100%	99.3%	99.81%
Standard Deviation	0.1%	0.7%	0.1%
SMHasher - wyhash (cycles/hash)	**12.483**	**12.512**	12.486
Normalized	100%	99.77%	99.98%
Standard Deviation	0%	0.2%	0%
SMHasher - SHA3-256 (MiB/sec)	**244.20**	239.95	**239.09**
Normalized	100%	98.26%	97.91%
Standard Deviation	1%	1.2%	0.8%
SMHasher - SHA3-256 (cycles/hash)	**1593**	**1632**	1624
Normalized	100%	97.65%	98.11%
Standard Deviation	0.3%	1.1%	0.2%
SMHasher - Spooky32 (MiB/sec)	24705	**24690**	**24830**
Normalized	99.5%	99.44%	100%

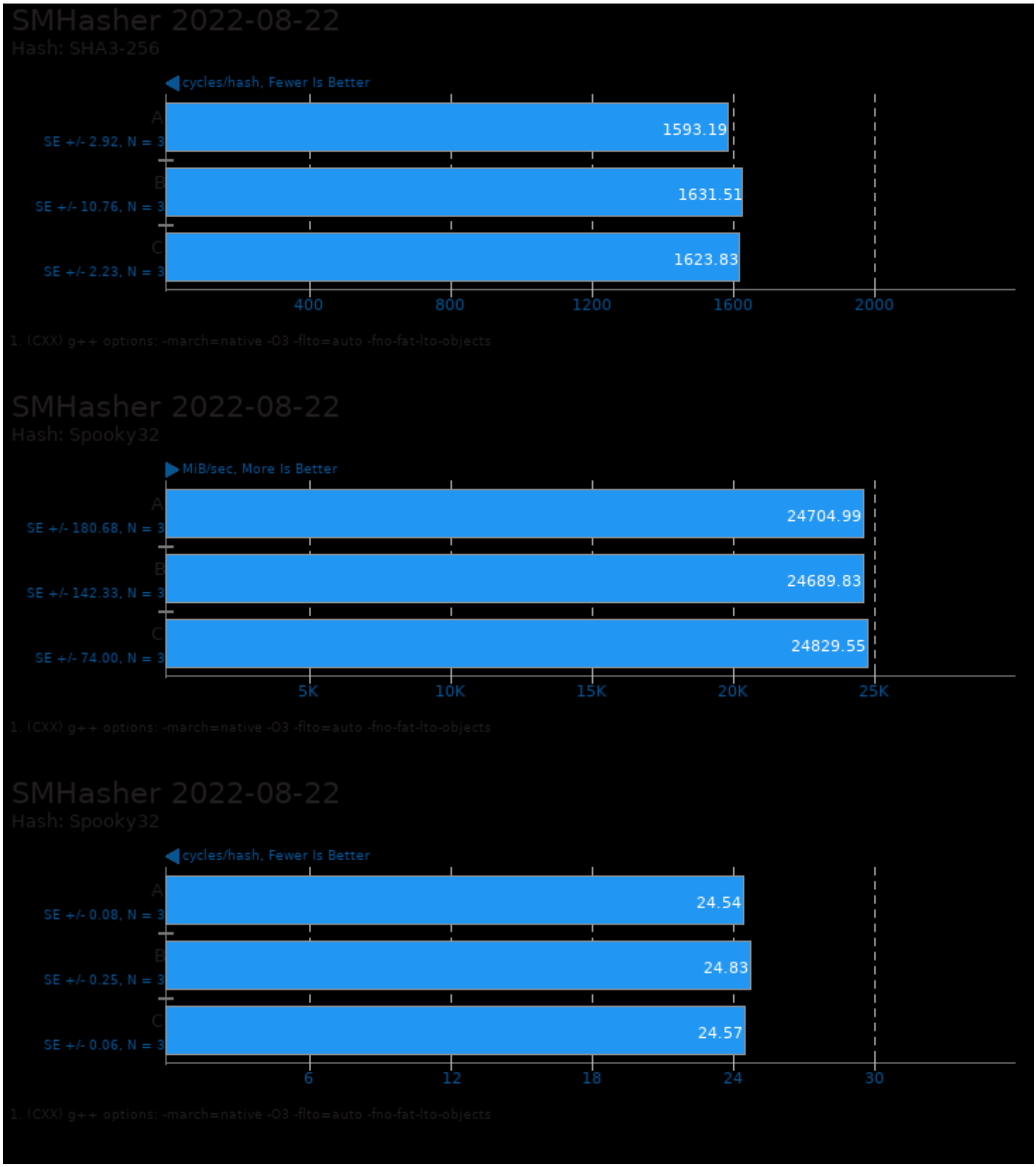
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Standard Deviation	1.3%	1%	0.5%
SMHasher - Spooky32 (cycles/hash)	**24.542**	**24.827**	24.565
Normalized	100%	98.85%	99.91%
Standard Deviation	0.6%	1.8%	0.4%
SMHasher - fasthash32 (MiB/sec)	**10000**	**9801**	9897
Normalized	100%	98%	98.97%
Standard Deviation	0%	0%	0%
SMHasher - fasthash32 (cycles/hash)	**19.700**	**20.125**	19.918
Normalized	100%	97.89%	98.91%
Standard Deviation	0.2%	0.1%	0.1%
SMHasher - FarmHash128 (MiB/sec)	**22942**	22607	**22569**
Normalized	100%	98.54%	98.37%
Standard Deviation	0.1%	0.9%	0.3%
SMHasher - FarmHash128 (cycles/hash)	**41.559**	42.007	**42.159**
Normalized	100%	98.93%	98.58%
Standard Deviation	0%	0.9%	0%
SMHasher - t1ha2_atonce (MiB/sec)	25637	**25576**	**26048**
Normalized	98.42%	98.19%	100%
Standard Deviation	0.1%	0.3%	0.3%
SMHasher - t1ha2_atonce (cycles/hash)	18.646	**18.707**	**18.350**
Normalized	98.41%	98.09%	100%
Standard Deviation	0.2%	0.1%	0.1%
SMHasher - F.x.A (MiB/sec)	43970	**44105**	**43894**
Normalized	99.69%	100%	99.52%
Standard Deviation	0.3%	0.1%	0.4%
SMHasher - F.x.A (cycles/hash)	**23.105**	23.114	**23.128**
Normalized	100%	99.96%	99.9%
Standard Deviation	0.1%	0%	0%
SMHasher - t.x (MiB/sec)	**102268**	101302	**100983**
Normalized	100%	99.06%	98.74%
Standard Deviation	0.2%	1%	0.4%
SMHasher - t.x (cycles/hash)	17.738	**18.289**	**17.620**
Normalized	99.33%	96.34%	100%
Standard Deviation	0.2%	2.7%	0%
SMHasher - M.x.A.N (MiB/sec)	58840	**58519**	**59024**
Normalized	99.69%	99.14%	100%
Standard Deviation	0.5%	0.8%	0.3%
SMHasher - M.x.A.N (cycles/hash)	**39.049**	**38.859**	39.021
Normalized	99.51%	100%	99.58%
Standard Deviation	0.1%	0.7%	0%

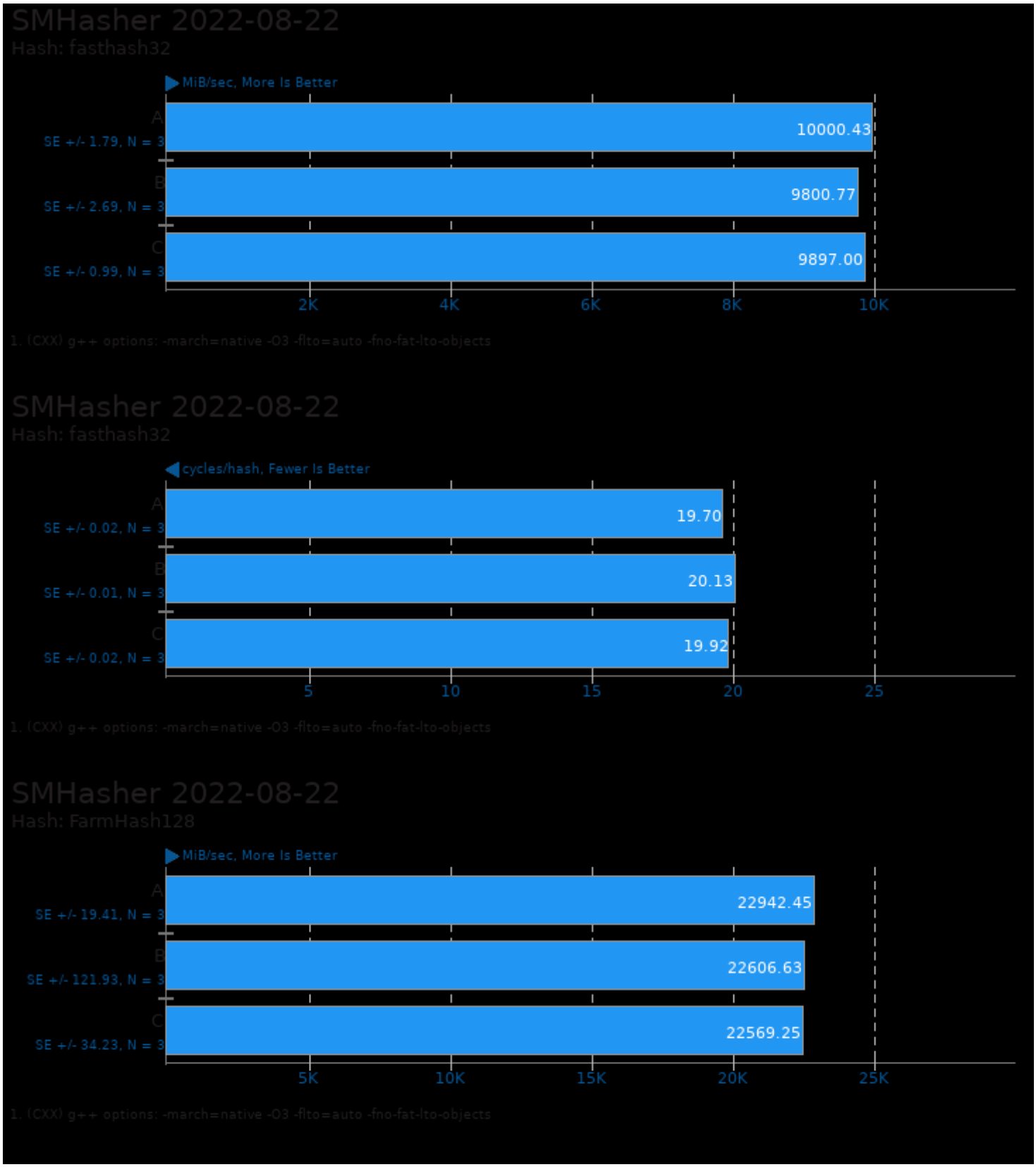
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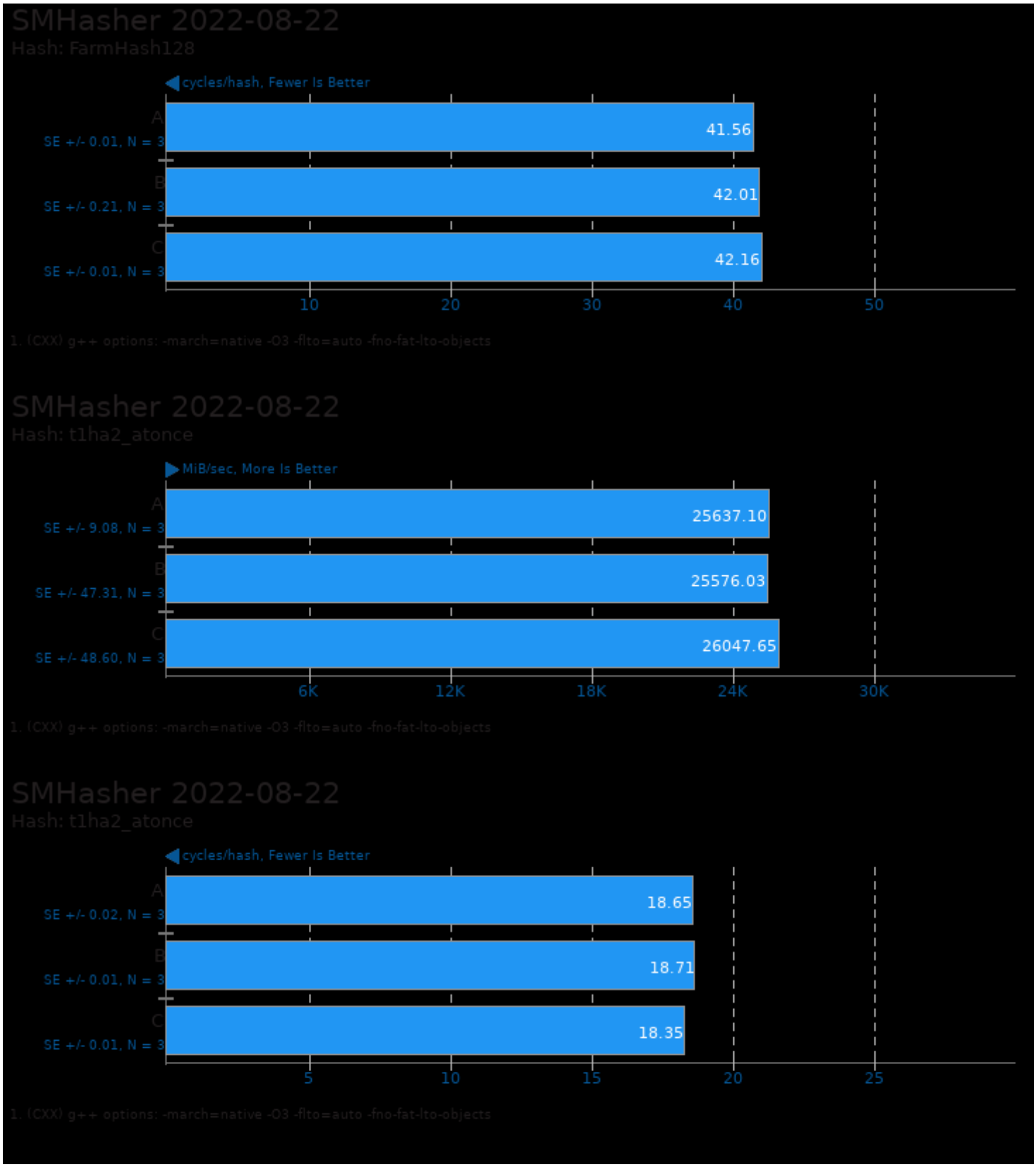
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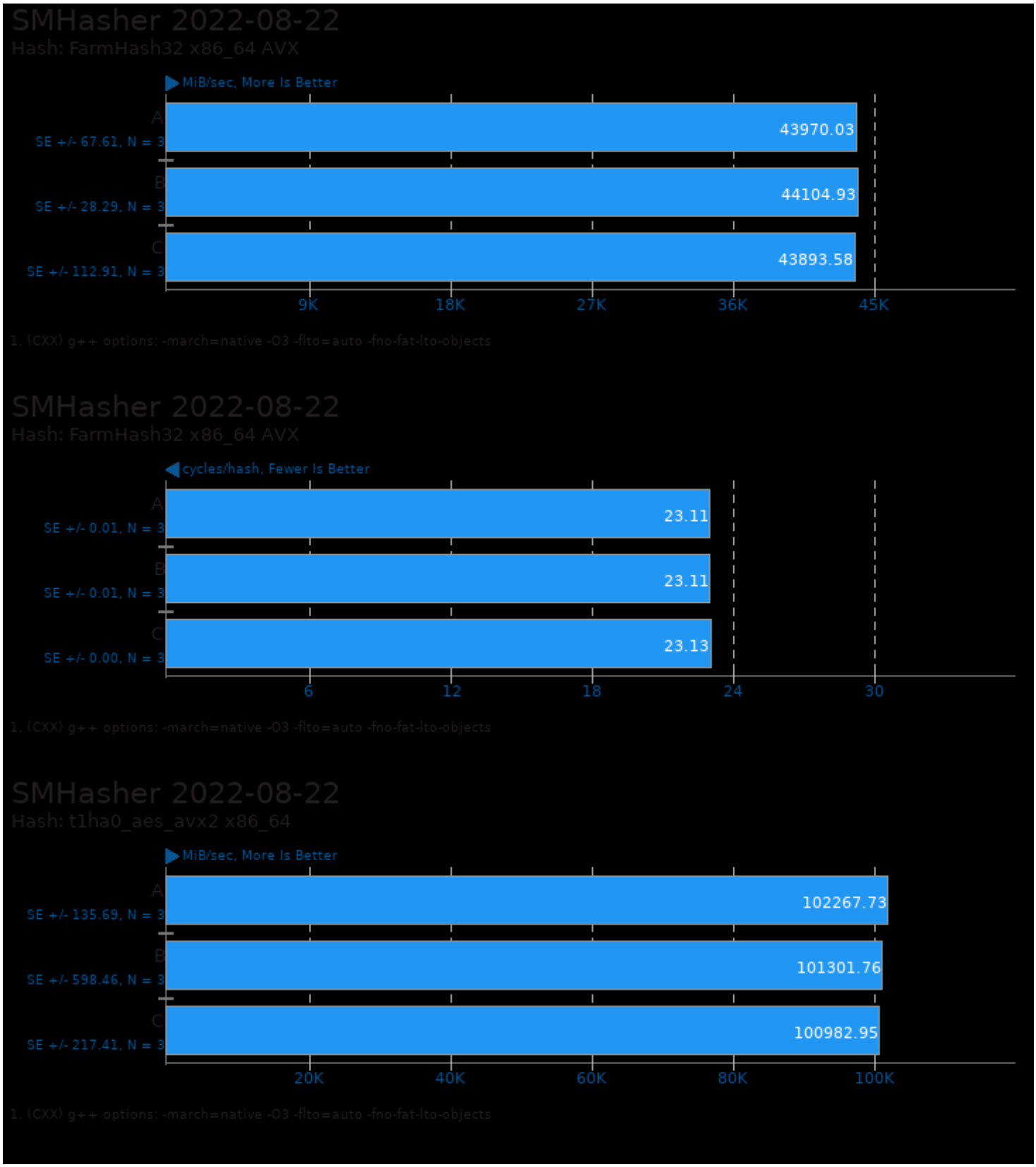
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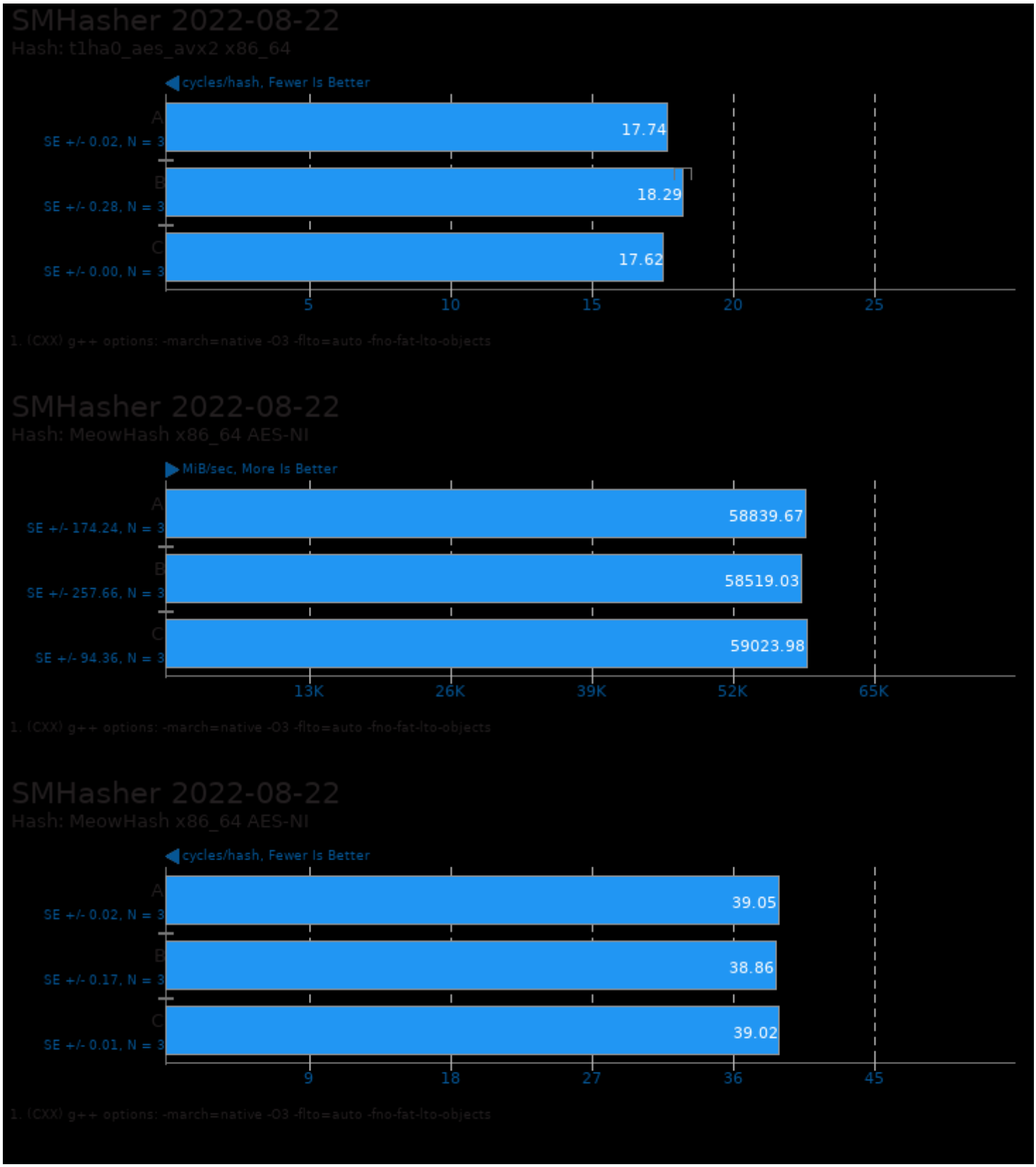
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