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zstd 1.5 5900x

AMD Ryzen 9 5900X 12-Core testing with a ASUS ROG CROSSHAIR VIII HERO (3402 BIOS) and NVIDIA GeForce RTX 3060 Ti 8GB on Ubuntu 21.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 63% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.008x the speed of the slowest (4). 2 was 0.993x the speed of 1, 3 was 1x the speed of 2, 4 was 0.999x the speed of 3.

Test Systems:

1

2

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3

4

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (3402 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 Plus, Graphics: NVIDIA GeForce RTX 3060 Ti 8GB, Audio: NVIDIA GA104 HD Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: Ubuntu 21.04, Kernel: 5.11.0-16-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server 1.20.11, Display Driver: NVIDIA 465.27, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.3.101, Vulkan: 1.2.168, Compiler: GCC 10.3.0 + CUDA 11.3, File-System: ext4, Screen Resolution: 3840x2160

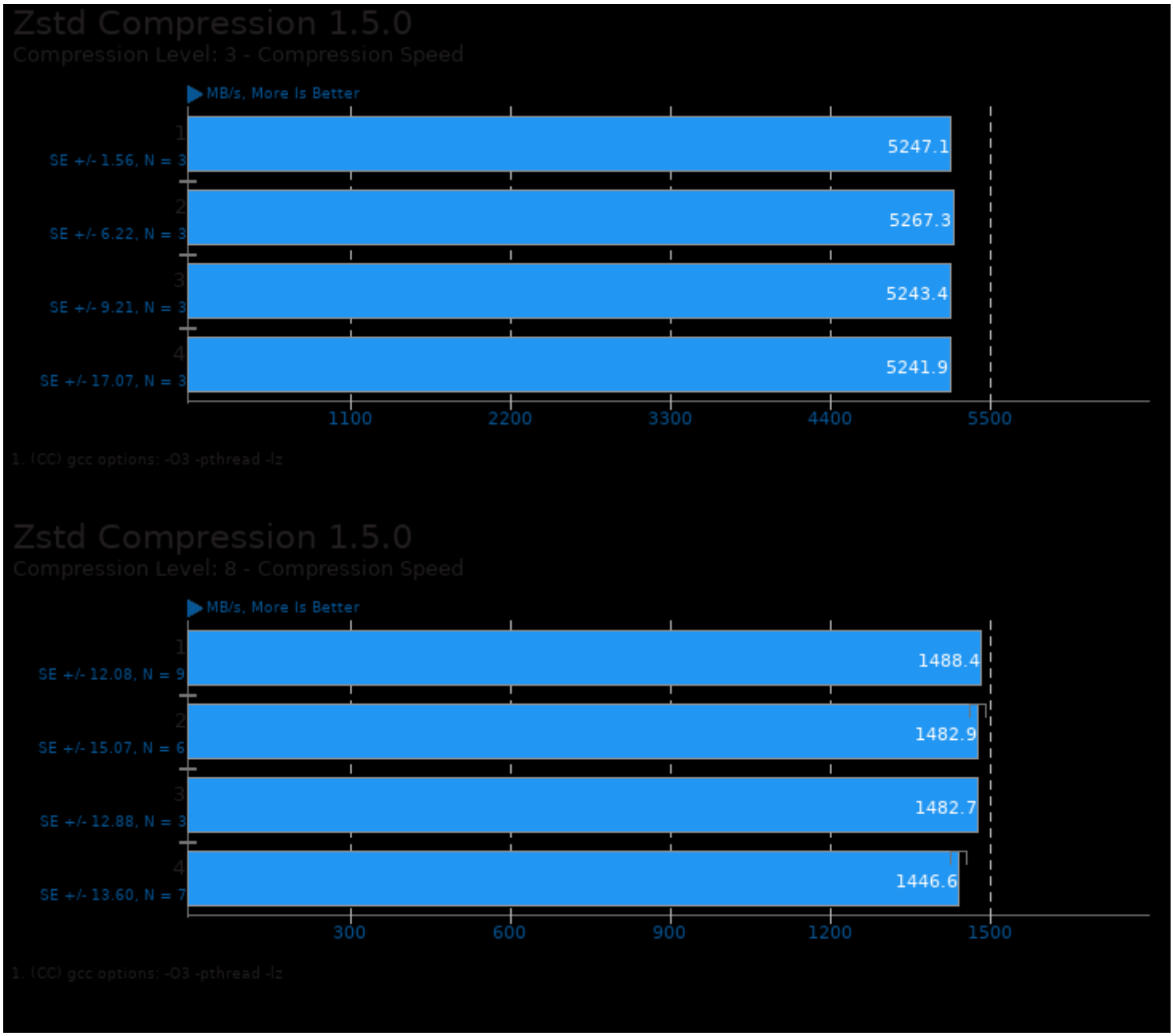
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/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-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 schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
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 IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3	4
Zstd Compression - 3 - Compression Speed (MB/s)	5247	**5267**	5243	**5242**
Normalized	99.62%	100%	99.55%	99.52%
Standard Deviation	0.1%	0.2%	0.3%	0.6%
Zstd Compression - 8 - Compression Speed (MB/s)	**1488**	1483	1483	**1447**
Normalized	100%	99.63%	99.62%	97.19%
Standard Deviation	2.4%	2.5%	1.5%	2.5%
Zstd Compression - 8 - D.S (MB/s)	**4604**	4562	4601	**4560**
Normalized	100%	99.1%	99.95%	99.06%
Standard Deviation	1%	1.3%	0.4%	1.6%
Zstd Compression - 19 - Compression Speed (MB/s)	**43.3**	43.2	**43.1**	**43.1**
Normalized	100%	99.77%	99.54%	99.54%
Standard Deviation	0.4%	0.7%	0.8%	0.3%
Zstd Compression - 19 - D.S (MB/s)	4010	**3973**	**4028**	3991
Normalized	99.57%	98.64%	100%	99.08%
Standard Deviation	0.9%	1.5%	1.8%	2.4%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**996.3**	965.0	**959.4**	976.6
Normalized	100%	96.86%	96.3%	98.02%
Standard Deviation	4.7%	1.4%	1.5%	1.1%
Zstd Compression - 3, Long Mode - D.S (MB/s)	**4807**	**4718**	4755	4795
Normalized	100%	98.16%	98.91%	99.76%
Standard Deviation	1.1%		0.9%	1.6%

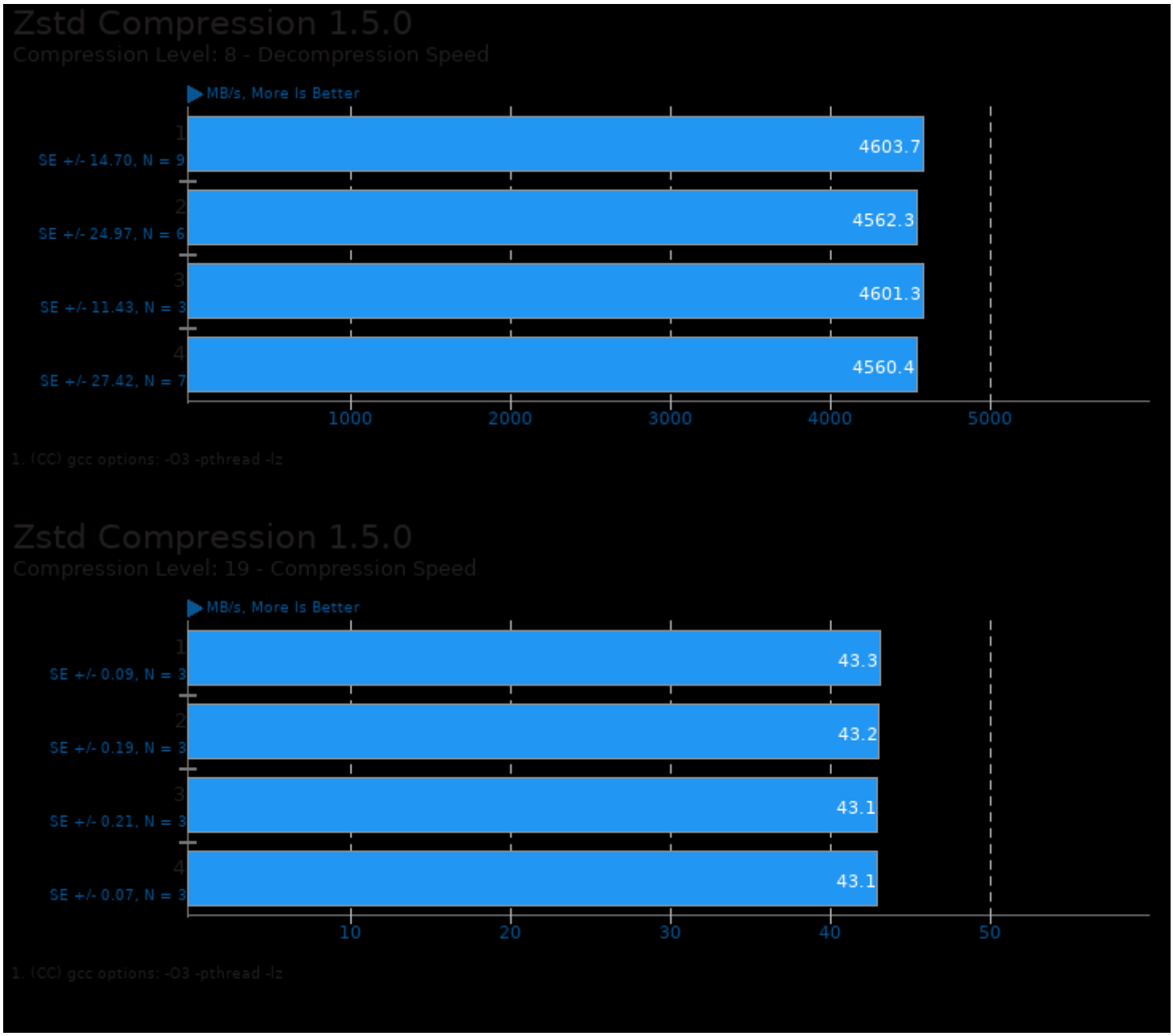
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Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**1263**	1255	1253	**1247**
Normalized	100%	99.36%	99.19%	98.76%
Standard Deviation	0.8%	0.2%	1%	0.9%
Zstd Compression - 8, Long Mode - D.S (MB/s)	**4914**	4944	4918	**4989**
Normalized	98.5%	99.1%	98.59%	100%
Standard Deviation	3%	1%	1%	1.6%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	33.4	**33.6**	**33.3**	33.5
Normalized	99.4%	100%	99.11%	99.7%
Standard Deviation	0.3%	0.5%	0.8%	1.7%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**4101**	4074	4062	**4020**
Normalized	100%	99.33%	99.03%	98.01%
Standard Deviation	0.9%	1.8%	2.2%	1.1%

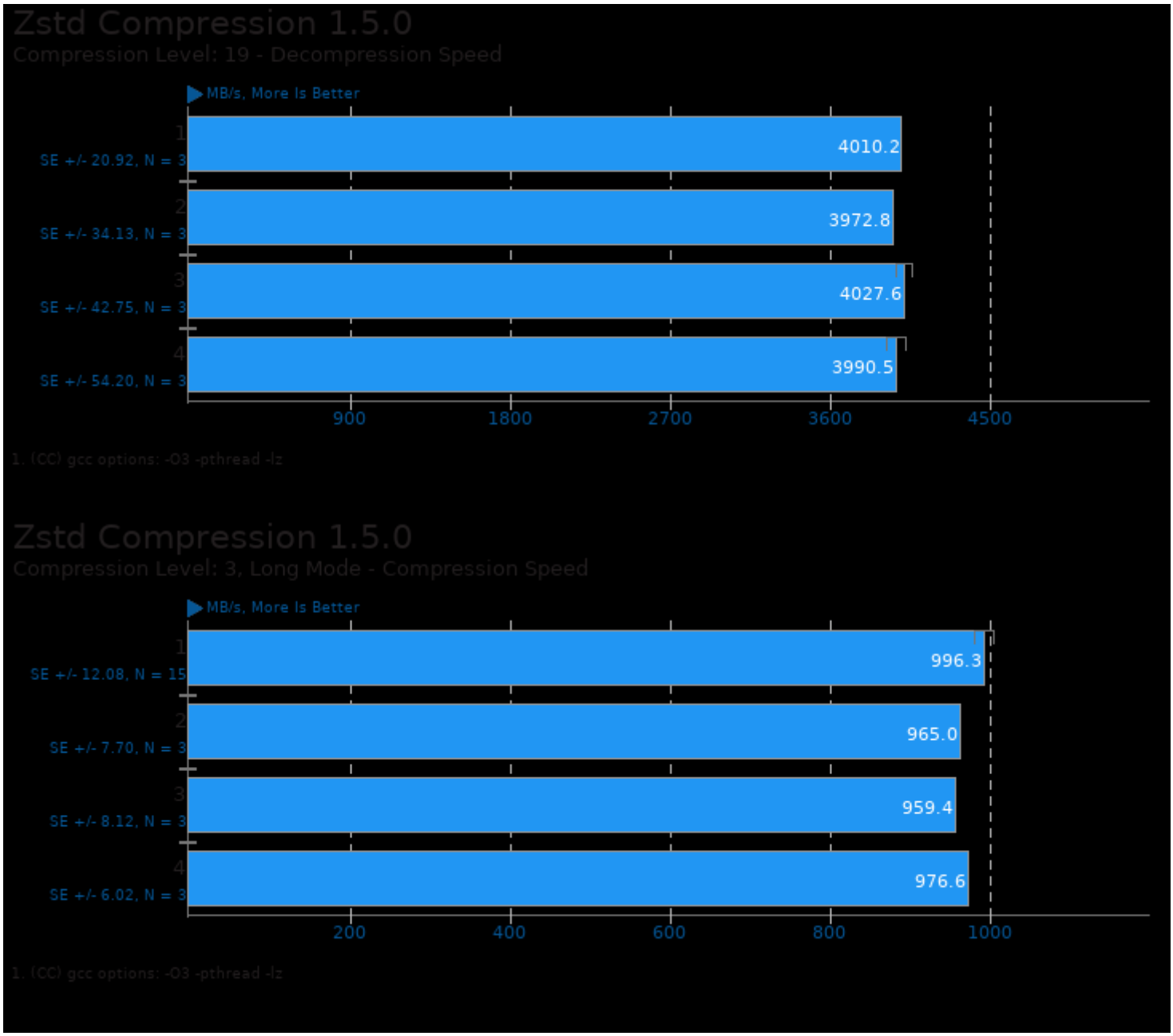
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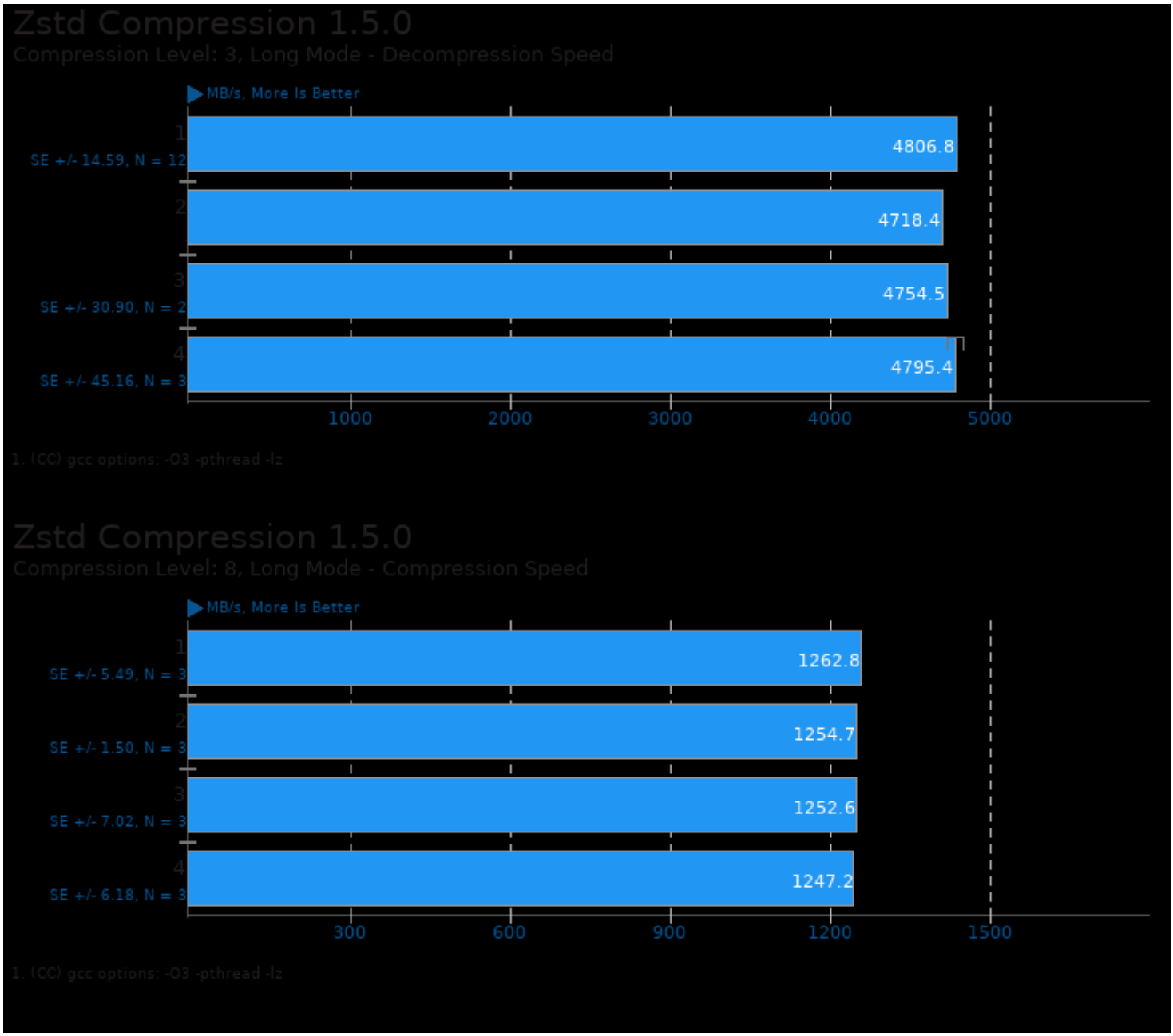
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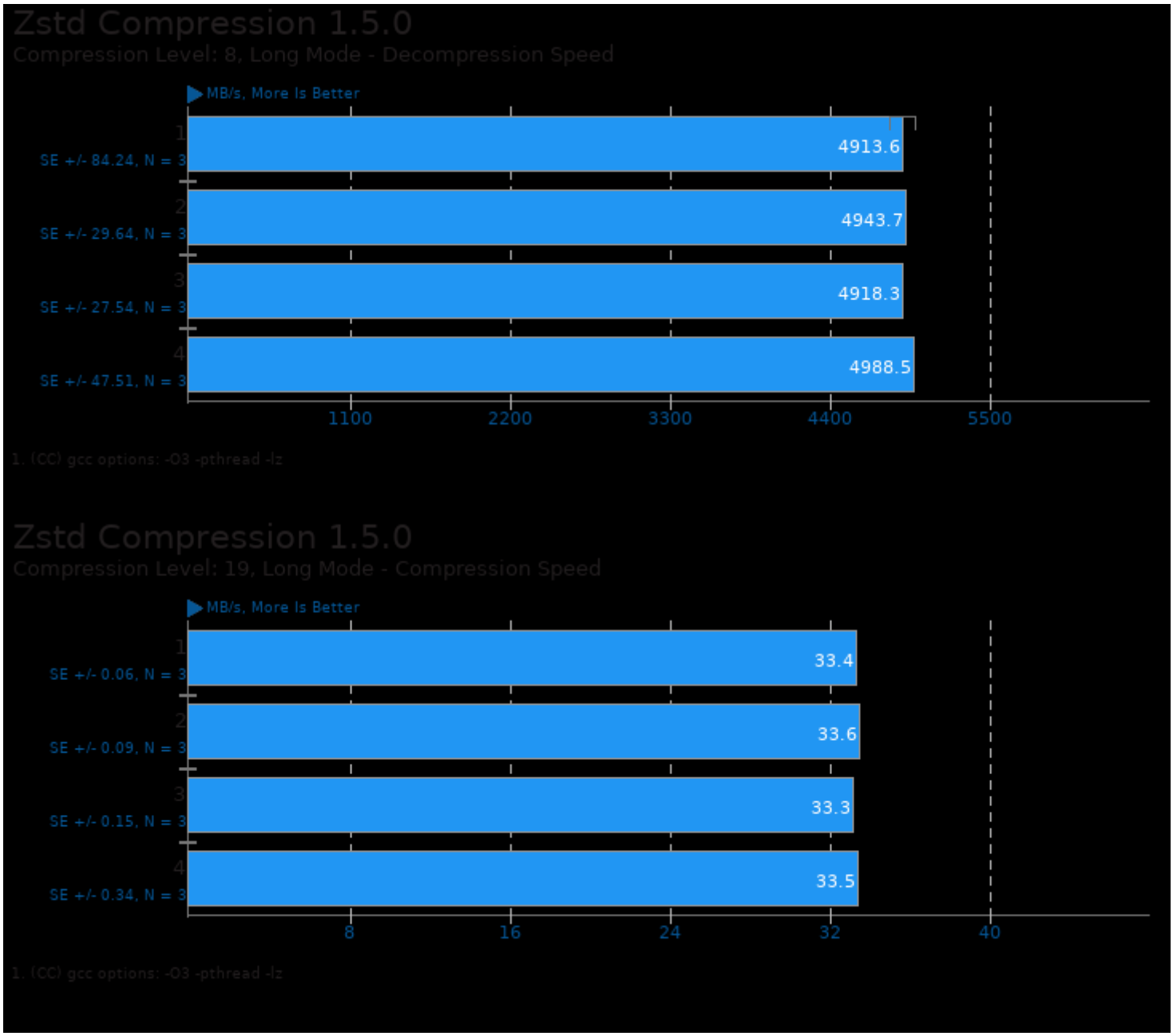
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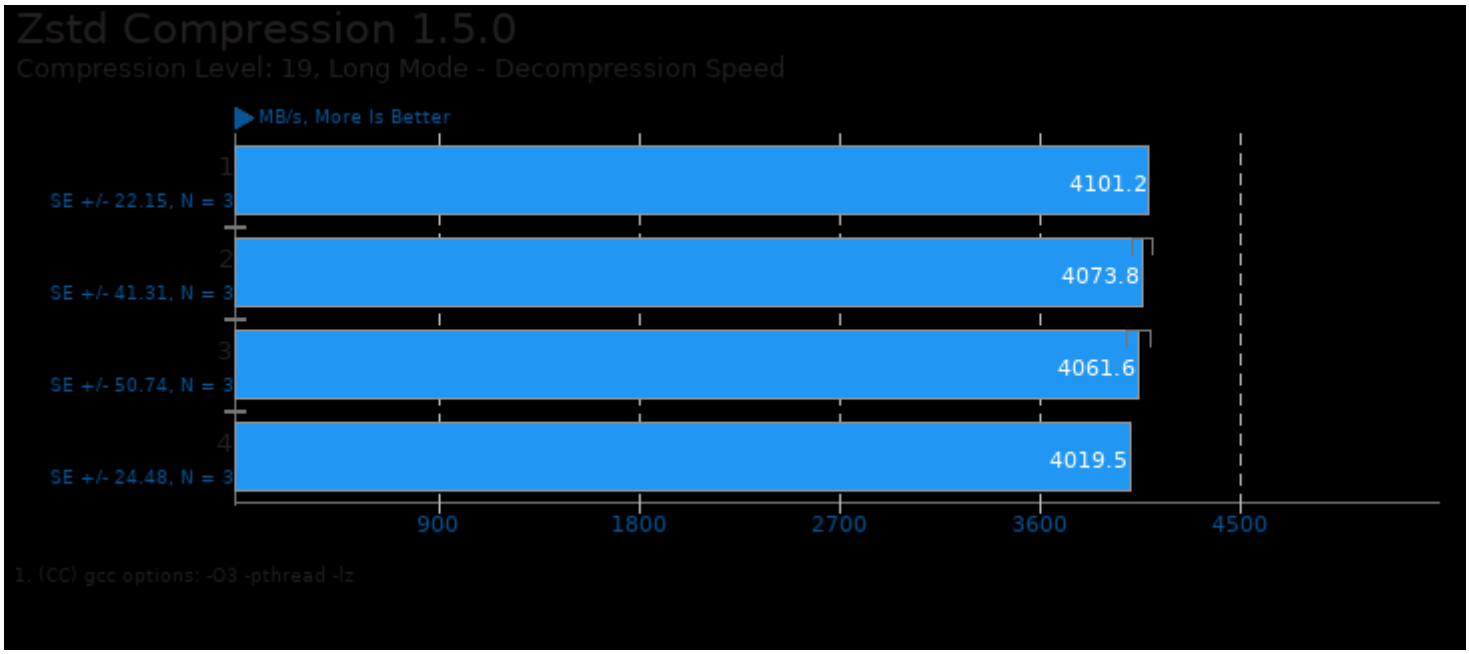
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