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zstd + kernel build 3900XT

AMD Ryzen 9 3900XT 12-Core testing with a MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.B3 BIOS) and AMD Radeon RX 56/64 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 81% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.004x the speed of the slowest (2).

Test Systems:

1

2

Processor: AMD Ryzen 9 3900XT 12-Core @ 3.80GHz (12 Cores / 24 Threads), Motherboard: MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.B3 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB Seagate

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FireCuda 520 SSD ZP500GM30002, Graphics: AMD Radeon RX 56/64 8GB (1630/945MHz), Audio: AMD Vega 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek Device 2600 + Realtek Device 3000 + Intel Wi-Fi 6 AX200

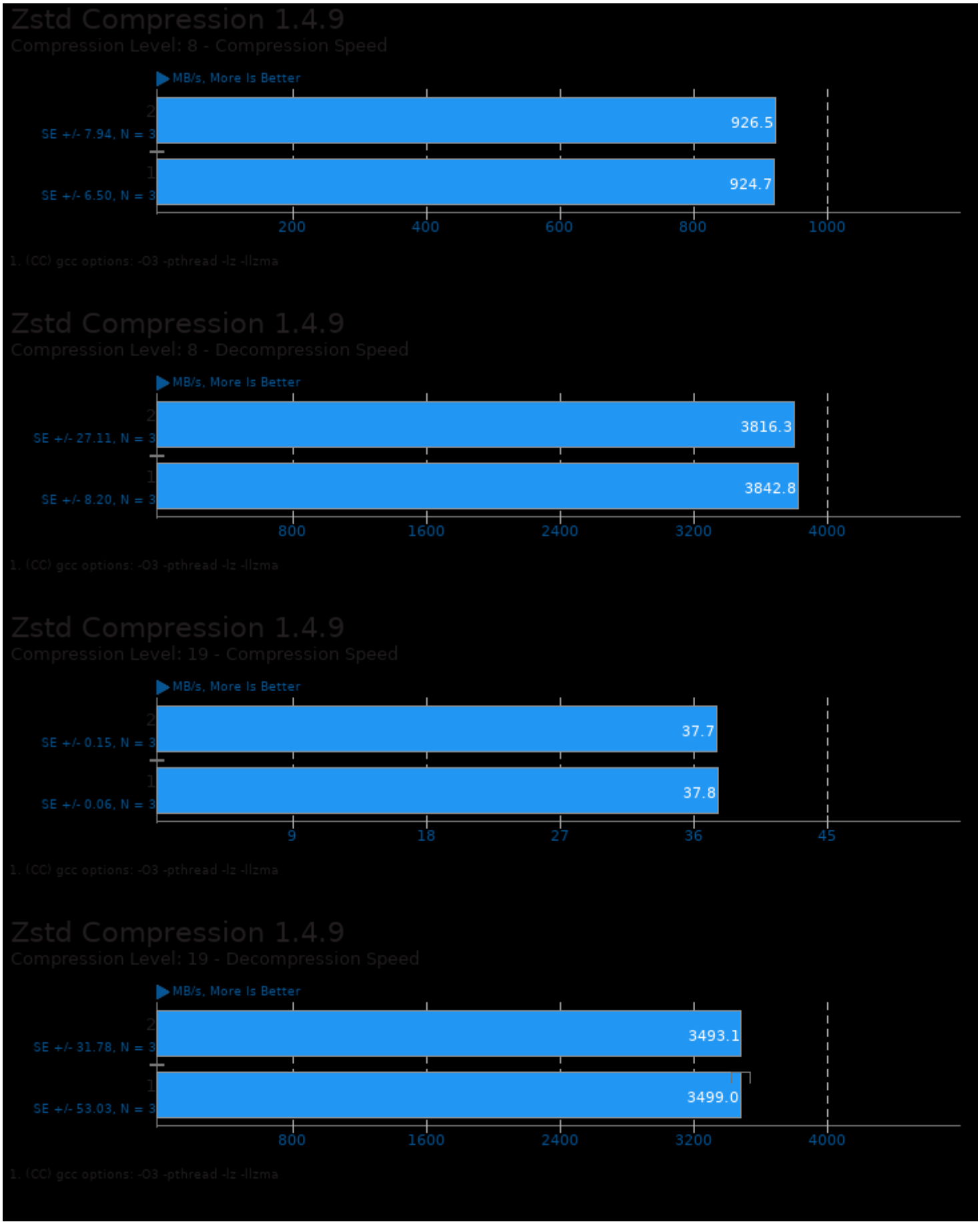
OS: Ubuntu 20.10, Kernel: 5.11.0-rc1-phx (x86_64) 20201228, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

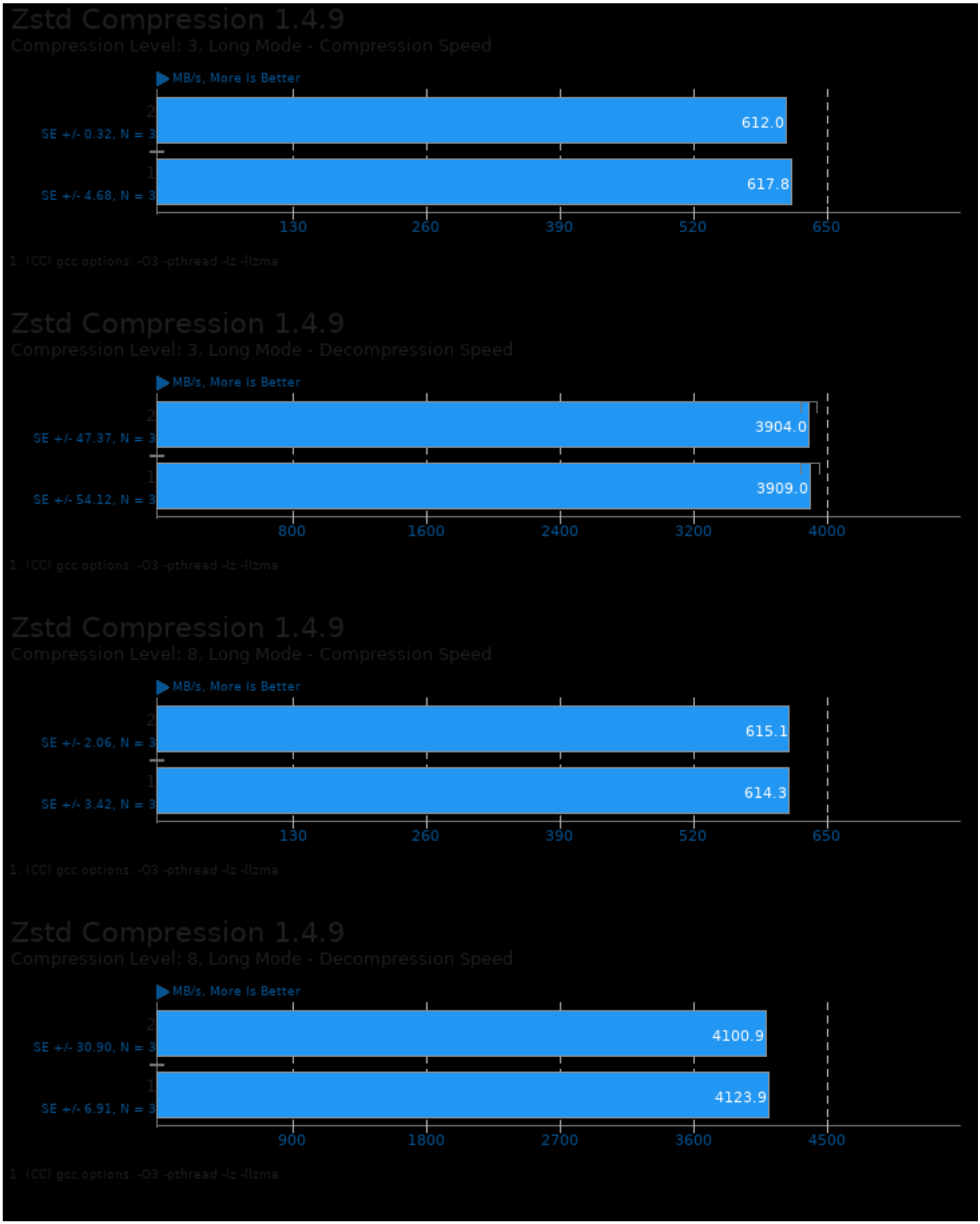
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --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
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8701021
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: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2
Zstd Compression - 8 - Compression Speed (MB/s)	**924.7**	**926.5**
Normalized	99.81%	100%
Standard Deviation	1.2%	1.5%
Zstd Compression - 8 - D.S (MB/s)	**3843**	**3816**
Normalized	100%	99.31%
Standard Deviation	0.4%	1.2%
Zstd Compression - 19 - Compression Speed (MB/s)	**37.8**	**37.7**
Normalized	100%	99.74%
Standard Deviation	0.3%	0.7%
Zstd Compression - 19 - D.S (MB/s)	**3499**	**3493**
Normalized	100%	99.83%
Standard Deviation	2.6%	1.6%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**617.8**	**612.0**
Normalized	100%	99.06%
Standard Deviation	1.3%	0.1%
Zstd Compression - 3, Long Mode - D.S (MB/s)	**3909**	**3904**
Normalized	100%	99.87%
Standard Deviation	2.4%	2.1%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**614.3**	**615.1**
Normalized	99.87%	100%
Standard Deviation	1%	0.6%
Zstd Compression - 8, Long Mode - D.S (MB/s)	**4124**	**4101**
Normalized	100%	99.44%
Standard Deviation	0.3%	1.3%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**30.1**	**30.0**
Normalized	100%	99.67%
Standard Deviation	2%	1.1%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**3513**	**3455**
Normalized	100%	98.33%

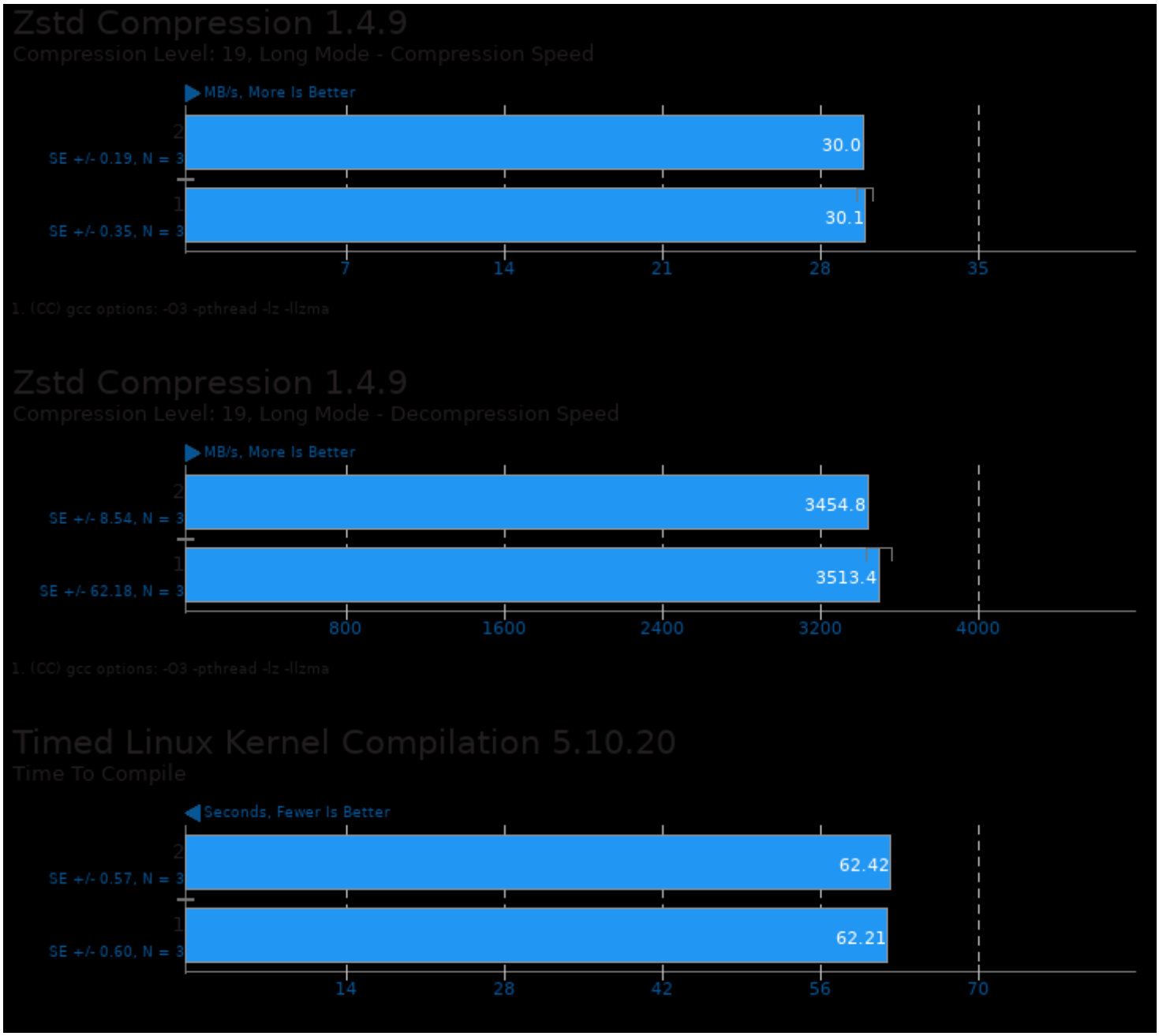
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Standard Deviation	3.1%	0.4%
Timed Linux Kernel Compilation - Time To Compile	**62.210**	**62.421**
Normalized	100%	99.66%
Standard Deviation	1.7%	1.6%


Zstd Compression 1.4.9
Compression Level: 8 - Compression Speed
MB/s, More Is Better
2
SE +/- 7.94, N = 3
926.5
1
SE +/- 6.50, N = 3
924.7
200
400
600
800
1000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
2
SE +/- 27.11, N = 3
3816.3
1
SE +/- 8.20, N = 3
3842.8
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 19 - Compression Speed
MB/s, More Is Better
2
SE +/- 0.15, N = 3
37.7
1
SE +/- 0.06, N = 3
37.8
9
18
27
36
45
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
2
SE +/- 31.78, N = 3
3493.1
1
SE +/- 53.03, N = 3
3499.0
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.4.9
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
2
SE +/- 0.32, N = 3
612.0
1
SE +/- 4.68, N = 3
617.8
130
260
390
520
650
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
2
SE +/- 47.37, N = 3
3904.0
1
SE +/- 54.12, N = 3
3909.0
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
2
SE +/- 2.06, N = 3
615.1
1
SE +/- 3.42, N = 3
614.3
130
260
390
520
650
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
2
SE +/- 30.90, N = 3
4100.9
1
SE +/- 6.91, N = 3
4123.9
900
1800
2700
3600
4500
1. (CC) gcc options: -O3 -pthread -lz -llzma

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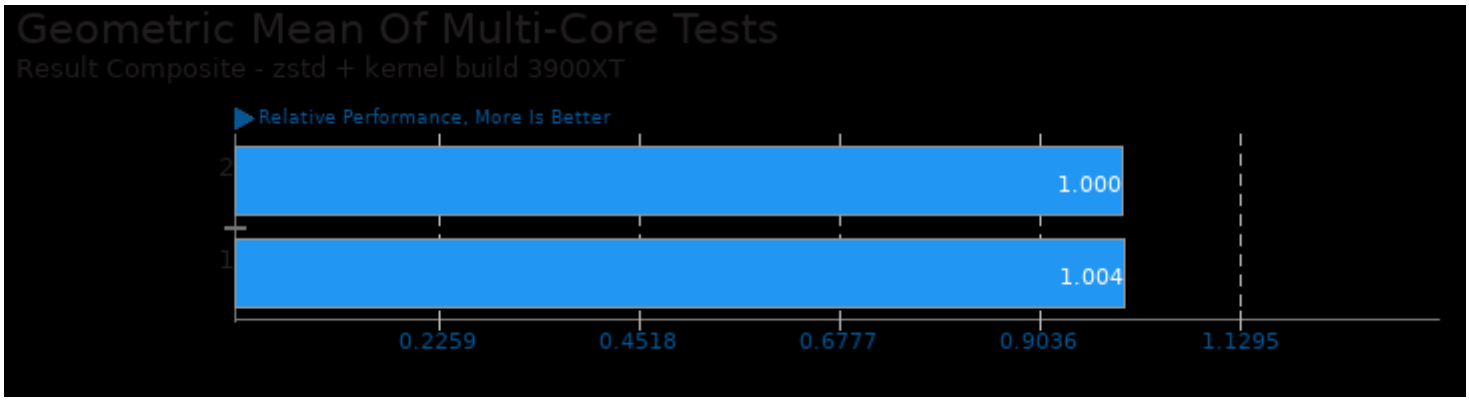


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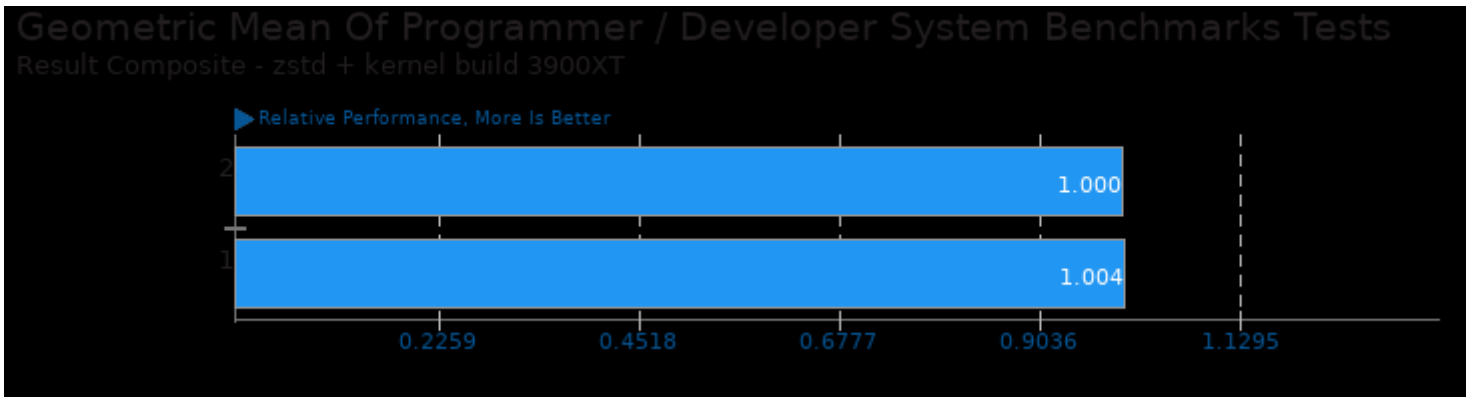
These geometric means are based upon test groupings / test suites for this result file.



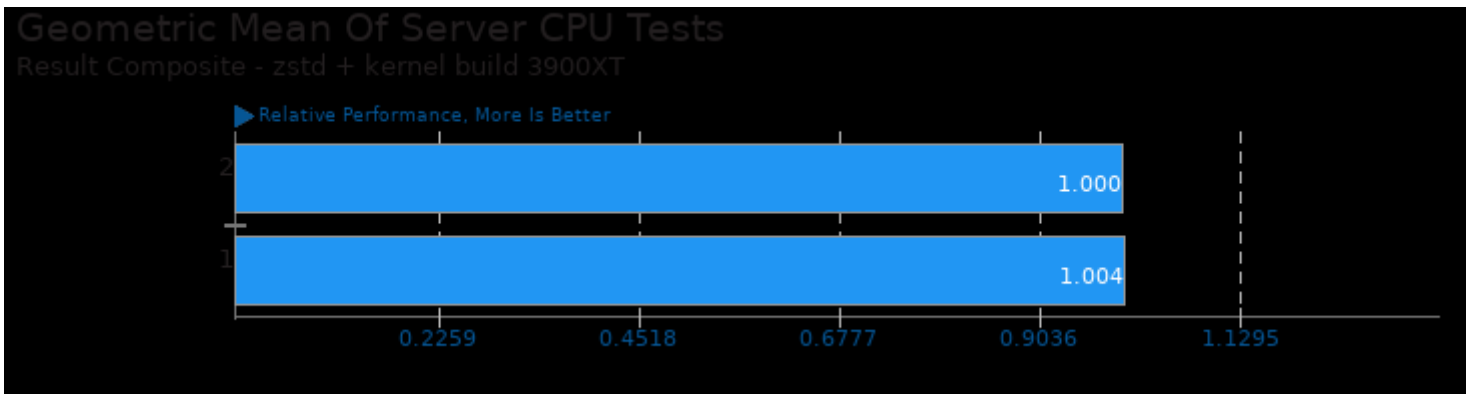
Geometric mean based upon tests: pts/build-linux-kernel and pts/compress-zstd



Geometric mean based upon tests: pts/compress-zstd and pts/build-linux-kernel



Geometric mean based upon tests: pts/compress-zstd and pts/build-linux-kernel



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Geometric mean based upon tests: pts/build-linux-kernel and pts/compress-zstd

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 10:57.