



[www.phoronix-test-suite.com](http://www.phoronix-test-suite.com)

## testzstd

AMD Ryzen 9 5950X 16-Core testing with a ASUS ROG STRIX X570-E GAMING (4602 BIOS) and NVIDIA GeForce GTX 1050 Ti on Clear Linux OS 38590 via the Phoronix Test Suite.

### Automated Executive Summary

*4602 Auto FansTurbo had the most wins, coming in first place for 25% of the tests.*

*Based on the geometric mean of all complete results, the fastest (4602 Auto FansTurbo) was 1.115x the speed of the slowest (4602 PBO VRM+ PPT). 4602 was 0.996x the speed of 4602 Auto FansTurbo, 4602 Auto was 0.997x the speed of 4602, 4602 PBO VRM+ was 0.999x the speed of 4602 Auto, 4602 PBO 2 was 0.998x the speed of 4602 PBO VRM+, 4602 PBO was 0.997x the speed of 4602 PBO 2, AMD Ryzen 9 5950X 16-Core was 0.995x the speed of 4602 PBO, 4602 PBO VRM+ PPT AMD\_PBO\_PPT\_50 was 0.994x the speed of AMD Ryzen 9 5950X 16-Core, 4602 Auto Offset was 0.95x the speed of 4602 PBO VRM+ PPT AMD\_PBO\_PPT\_50, 4602 PBO VRM+ PPT was 0.966x the speed of 4602 Auto Offset.*

### Test Systems:

## AMD Ryzen 9 5950X 16-Core

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG STRIX X570-E GAMING (4408 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 2 x 1000GB Corsair Force MP600 + 1000GB Western Digital WD Green 2.5 100, Graphics: NVIDIA GeForce GTX 1050 Ti, Audio: NVIDIA GP107GL HD Audio, Monitor: L767, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Clear Linux OS 38590, Kernel: 6.2.6-1290.native (x86\_64), Display Server: X Server 1.20.8, Compiler: GCC 12.2.1 20230316 releases/gcc-12.2.0-570-g29deac4ca7 + Clang 15.0.7 + LLVM 15.0.7, File-System: f2fs, Screen Resolution: 5568x1668

Kernel Notes: Transparent Huge Pages: always  
 Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,-enable-new-dtags -std-gnu++17" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-sort-common -WI,-enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ffree-vectorize -mavx"  
 Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only --with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=sapphirerapids --with-zstd  
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a  
 Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Vulnerable: \_\_user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre\_v2: Vulnerable IBPB: disabled STIBP: disabled PBRSB-eIBRS: Not affected + srbs: Not affected + tsx\_async\_abort: Not affected

## 4602

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG STRIX X570-E GAMING (4602 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 2 x 1000GB Corsair Force MP600 + 1000GB Western Digital WD Green 2.5 100 + 32GB USB3.0 CRW-SD + 0GB USB3.0 CRW-SD, Graphics: NVIDIA GeForce GTX 1050 Ti, Audio: NVIDIA GP107GL HD Audio, Monitor: L767, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Clear Linux OS 38590, Kernel: 6.2.6-1290.native (x86\_64), Display Server: X Server 1.20.8, Compiler: GCC 12.2.1 20230316 releases/gcc-12.2.0-570-g29deac4ca7 + Clang 15.0.7 + LLVM 15.0.7, File-System: f2fs, Screen Resolution: 4616x1936

Kernel Notes: Transparent Huge Pages: always  
 Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,-enable-new-dtags -std-gnu++17" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-sort-common -WI,-enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ffree-vectorize -mavx"  
 Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only --with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=sapphirerapids --with-zstd  
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a  
 Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Vulnerable: \_\_user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre\_v2: Vulnerable IBPB: disabled STIBP: disabled PBRSB-eIBRS: Not affected + srbs: Not affected + tsx\_async\_abort: Not affected

## 4602 PBO

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG STRIX X570-E GAMING (4602 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 2 x 1000GB Corsair Force MP600 + 1000GB Western Digital WD Green 2.5 100 + 0GB USB3.0 CRW-SD + 16GB USB3.0 CRW-SD, Graphics: NVIDIA GeForce GTX 1050 Ti, Audio: NVIDIA GP107GL HD Audio, Monitor: L767, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Clear Linux OS 38590, Kernel: 6.2.6-1290.native (x86\_64), Display Server: X Server 1.20.8, Compiler: GCC 12.2.1 20230316 releases/gcc-12.2.0-570-g29deac4ca7 + Clang 15.0.7 + LLVM 15.0.7, File-System: f2fs, Screen Resolution: 4616x1936

Kernel Notes: Transparent Huge Pages: always  
 Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,-enable-new-dtags -std-gnu++17" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-sort-common -WI,-enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ffree-vectorize -mavx"  
 Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only --with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=sapphirerapids --with-zstd  
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a  
 Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Vulnerable: \_\_user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre\_v2: Vulnerable IBPB: disabled STIBP: disabled PBRSB-eIBRS: Not affected + srbs: Not affected + tsx\_async\_abort: Not affected

## 4602 PBO 2

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG STRIX X570-E GAMING (4602 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 2 x 1000GB Corsair Force MP600 + 1000GB Western Digital WD Green 2.5 100 + 0GB USB3.0 CRW-SD + 16GB USB3.0 CRW-SD, Graphics: NVIDIA GeForce GTX 1050 Ti, Audio: NVIDIA GP107GL HD Audio, Monitor: L767, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Clear Linux OS 38590, Kernel: 6.2.6-1290.native (x86\_64), Display Server: X Server 1.20.8, Compiler: GCC 12.2.1 20230316 releases/gcc-12.2.0-570-g29deac4ca7 + Clang 15.0.7 + LLVM 15.0.7, File-System: f2fs, Screen Resolution: 4616x1917

Kernel Notes: Transparent Huge Pages: always  
 Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,-enable-new-dtags -std-gnu++17" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-sort-common -WI,-enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,-enable-new-dtags -mrelax-cmpxchg-loop" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ffree-vectorize -mavx"  
 Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only --with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=sapphirerapids --with-zstd  
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a  
 Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Vulnerable: \_\_user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre\_v2: Vulnerable IBPB: disabled STIBP: disabled PBRSB-eIBRS: Not affected + srbs: Not affected + tsx\_async\_abort: Not affected

## 4602 PBO VRM+

## 4602 PBO VRM+ PPT

### 4602 PBO VRM+ PPT AMD\_PBO\_PPT\_50

#### 4602 Auto

#### 4602 Auto Offset

#### 4602 Auto FansTurbo

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG STRIX X570-E GAMING (4602 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 2 x 1000GB Corsair Force MP600 + 1000GB Western Digital WD Green 2.5 100, Graphics: NVIDIA GeForce GTX 1050 Ti, Audio: NVIDIA GP107GL HD Audio, Monitor: L767, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Clear Linux OS 38590, Kernel: 6.2.6-1290.native (x86\_64), Display Server: X Server 1.20.8, Compiler: GCC 12.2.1 20230316 releases/gcc-12.2.0-570-g29deac4ca7 + Clang 15.0.7 + LLVM 15.0.7, File-System: f2fs, Screen Resolution: 4616x1917

Kernel Notes: Transparent Huge Pages: always

Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ftree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -WI,--enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ftree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,--enable-new-dtags -std=gnu++17" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ftree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -WI,-sort-common -WI,--enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ftree-loop-distribute-patterns -WI,-z,now -WI,-z,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mrelax-cmpxchg-loop" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ftree-vectorize -mavx"

Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function

--enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin

--enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only

--with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=sapphirerapids --with-zstd

Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a

Security Notes: itlb\_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + rebleed: Not affected +

spec\_store\_bypass: Vulnerable + spectre\_v1: Vulnerable: \_\_user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre\_v2: Vulnerable IBPB: disabled STIBP: disabled PBRSB-eI布RS: Not affected + srbds: Not affected + tsx\_async\_abort: Not affected

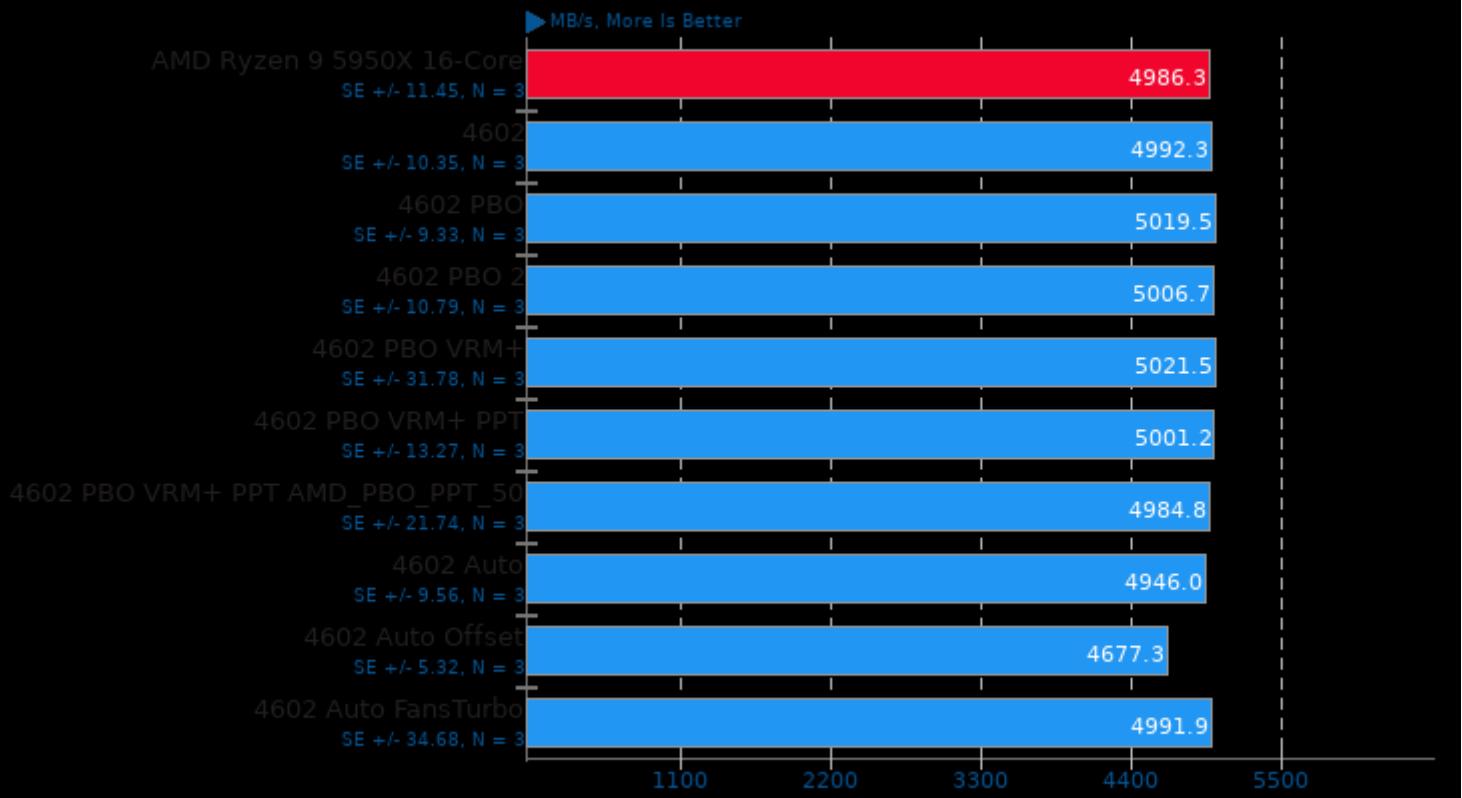
	AMD Ryzen 9 5950X 16-Core	4602 PBO	4602 PBO 2	4602 PBO	4602 VRM+	4602 VRM+	4602 Auto	4602 Auto	4602 Offset	4602 FansTur bo
Zstd Compression - 3 - Compression Speed (MB/s)	4986	4992	5020	5007	5022	5001	4985	4946	4677	4997
Normalized	99.3%	99.42%	99.96%	99.71%	100%	99.6%	99.27%	98.5%	93.15%	99.51%
Standard Deviation	0.4%	0.4%	0.3%	0.4%	1.1%	0.5%	0.8%	0.3%	0.2%	1.1%

<b>Zstd Compression -</b>	4770	4894	4709	4736	4731		4755	<b>4927</b>	<b>4405</b>	4897
<b>3 - D.S (MB/s)</b>										
Normalized	96.8%	99.32%	95.58%	96.12%	96.02%		96.5%	100%	89.4%	99.38%
Standard Deviation	0.6%	0.8%		1.2%			0.2%	0.2%	0.8%	0.3%
<b>Zstd Compression -</b>										
1478	1441	<b>1478</b>	1451	1463	1459	1453	1455	<b>1356</b>	1460	
<b>8 - Compression</b>										
<b>Speed (MB/s)</b>										
Normalized	99.96%	97.5%	100%	98.14%	98.99%	98.68%	98.3%	98.45%	91.71%	98.76%
Standard Deviation	2.4%	1%	2.5%	2.2%	2.4%	3.5%	1.7%	1.4%	2.1%	1%
<b>Zstd Compression -</b>										
4812	5091	4947	4952	4911	4874	4840	5086	<b>4603</b>	<b>5094</b>	
<b>8 - D.S (MB/s)</b>										
Normalized	94.47%	99.94%	97.11%	97.21%	96.41%	95.68%	95.01%	99.85%	90.36%	100%
Standard Deviation	3%	0.4%	0.5%	0.6%	0.8%	0.4%	0.6%	0.4%	1%	0.5%
<b>Zstd Compression -</b>										
70.5	70.3	70.5	71.2	<b>73.0</b>	71.9	71.1	71.2	<b>69.9</b>	71.3	
<b>19 - Compression</b>										
<b>Speed (MB/s)</b>										
Normalized	96.58%	96.3%	96.58%	97.53%	100%	98.49%	97.4%	97.53%	95.75%	97.67%
Standard Deviation	2.1%	1.5%	1.8%	1.8%	1%	0.3%	0.8%	1.5%	2.3%	0.6%
<b>Zstd Compression -</b>										
4198	<b>4518</b>	4354	4347	4361	4273	4120	4459	<b>3978</b>	4514	
<b>19 - D.S (MB/s)</b>										
Normalized	92.92%	100%	96.38%	96.21%	96.53%	94.58%	91.18%	98.7%	88.05%	99.91%
Standard Deviation	2.7%	0.2%	0.5%	0.4%	0.3%	1.6%	0.3%	1.4%	2.5%	0.4%
<b>Zstd Compression -</b>										
1486	1396	1518	<b>1522</b>	1512	1509	1518	1390	<b>1384</b>	1405	
<b>3, Long Mode -</b>										
<b>Compression</b>										
<b>Speed (MB/s)</b>										
Normalized	97.64%	91.68%	99.73%	100%	99.32%	99.13%	99.73%	91.3%	90.94%	92.29%
Standard Deviation	1.1%	0.5%	0.4%	0.8%	0.6%	0.1%	0.2%	0.1%	1.2%	0.6%
<b>Zstd Compression -</b>										
5065	<b>5261</b>	4999	5064	5049	5027	4867	5220	<b>4746</b>	5234	
<b>3, Long Mode - D.S</b>										
<b>(MB/s)</b>										
Normalized	96.27%	100%	95.01%	96.25%	95.97%	95.55%	92.5%	99.23%	90.21%	99.48%
Standard Deviation	3.2%	0.6%	2.3%	2.2%	2.7%	2%	0.6%	1.5%	0.3%	2.3%
<b>Zstd Compression -</b>										
1322	1328	1339	1356	1340	1338	<b>1358</b>	1308	<b>1242</b>	1320	
<b>8, Long Mode -</b>										
<b>Compression</b>										
<b>Speed (MB/s)</b>										
Normalized	97.35%	97.78%	98.59%	99.85%	98.7%	98.54%	100%	96.31%	91.46%	97.23%
Standard Deviation	0.8%	0.9%	1.2%	1.1%	0.5%	0.7%	0.2%	0.6%	0.9%	1.4%
<b>Zstd Compression -</b>										
5247	5404	5260	5314	5329	5240	5179	5348	<b>4992</b>	<b>5440</b>	
<b>8, Long Mode - D.S</b>										
<b>(MB/s)</b>										
Normalized	96.46%	99.35%	96.71%	97.68%	97.96%	96.32%	95.21%	98.31%	91.77%	100%
Standard Deviation	3.5%	1.6%	0.4%	0.2%	0.3%	0.6%	2.1%	1.6%	0.3%	2%
<b>Zstd Compression -</b>										
47.5	<b>48.2</b>	47.4	47.7	48.0	47.8	47.9	48.1	<b>47.3</b>	48.1	
<b>19, Long Mode -</b>										
<b>Compression</b>										
<b>Speed (MB/s)</b>										
Normalized	98.55%	100%	98.34%	98.96%	99.59%	99.17%	99.38%	99.79%	98.13%	99.79%
Standard Deviation	0.3%	0.2%	0%	0.2%	0.6%	0.1%	0.2%	0.1%	0.5%	0.2%

Zstd Compression - 19, Long Mode - D.S (MB/s)	4402	4504	4327	4300	4333	4290	4206	4468	4033	4573
Normalized	96.27%	98.49%	94.62%	94.02%	94.75%	93.82%	91.97%	97.71%	88.19%	100%
Standard Deviation	0.7%	2.1%	2%	2.6%	2.2%	2%	0.8%	1%	2.6%	0.2%

## Zstd Compression 1.5.0

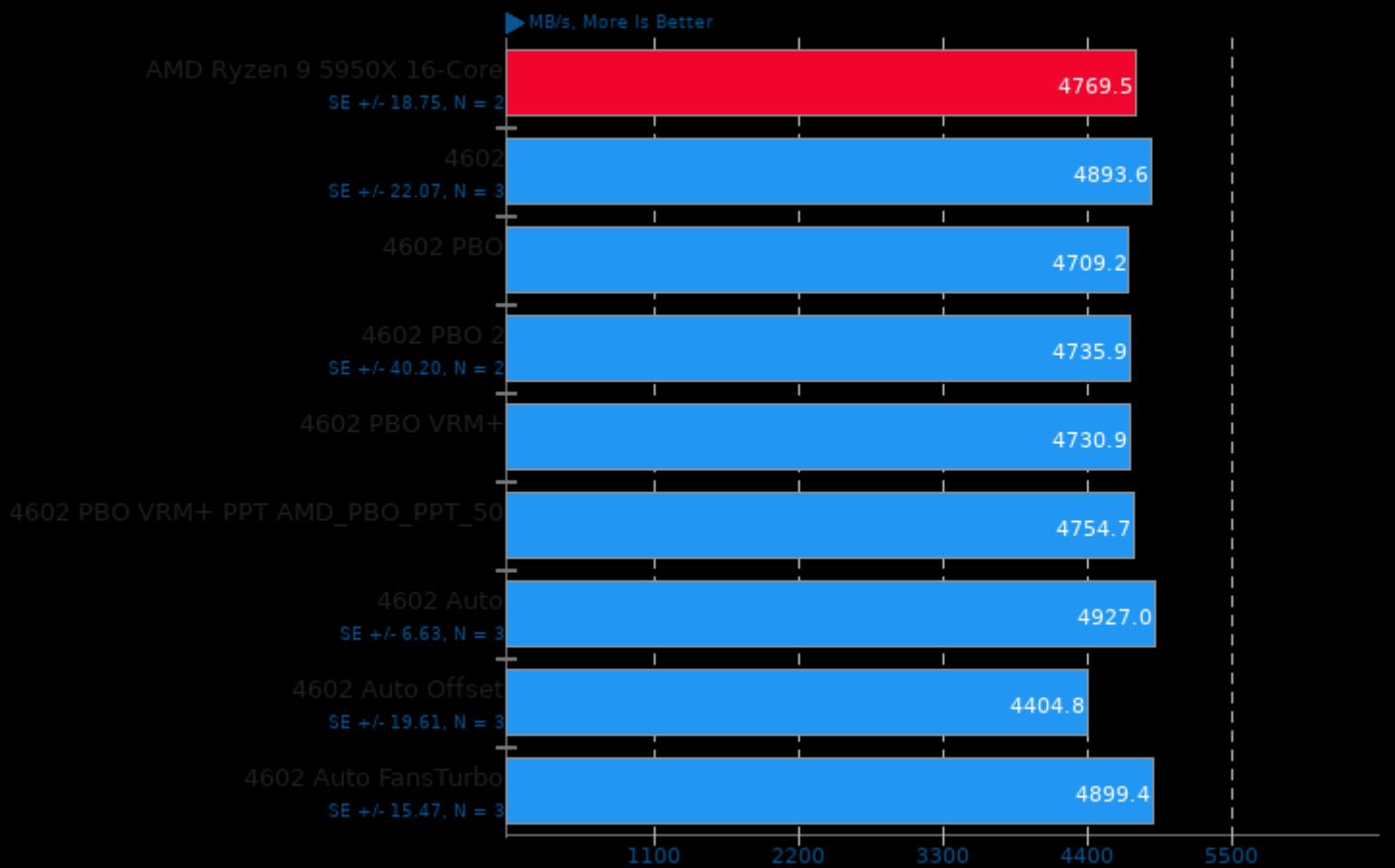
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

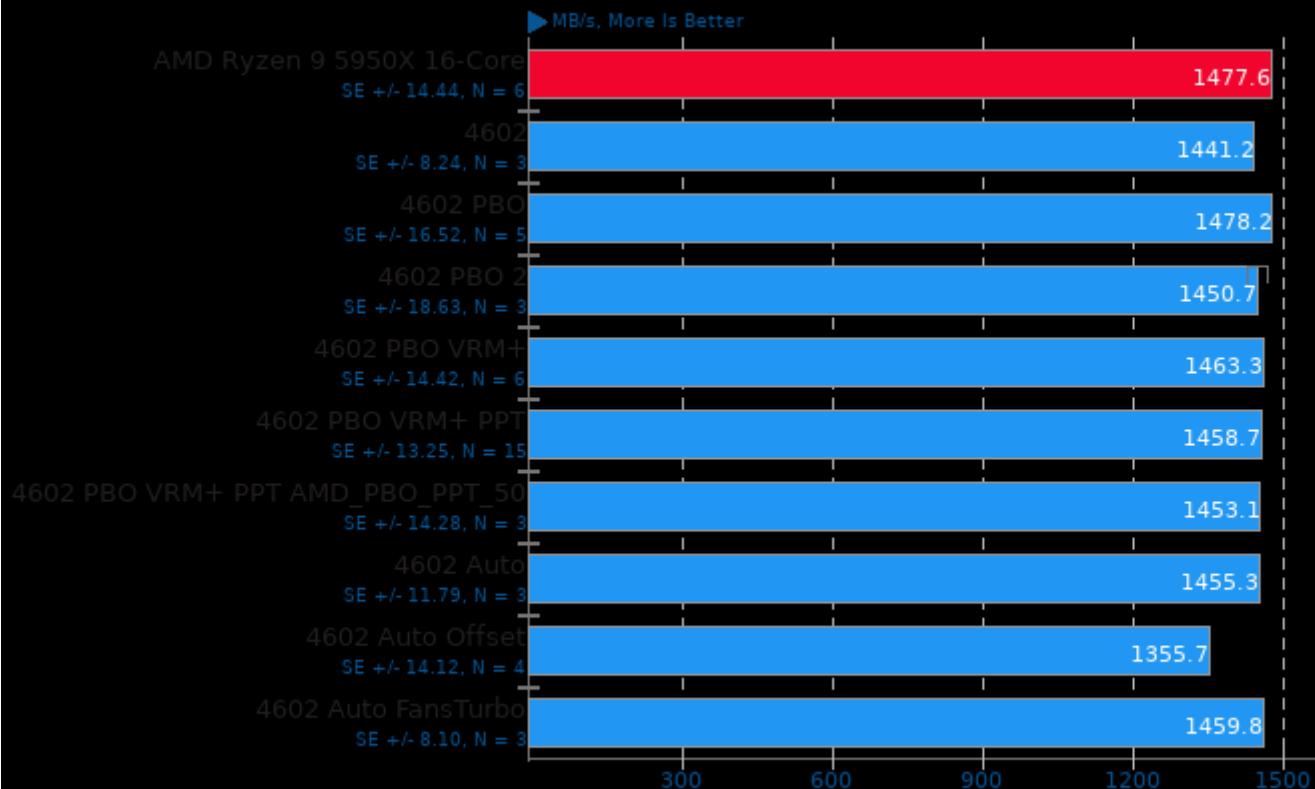
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

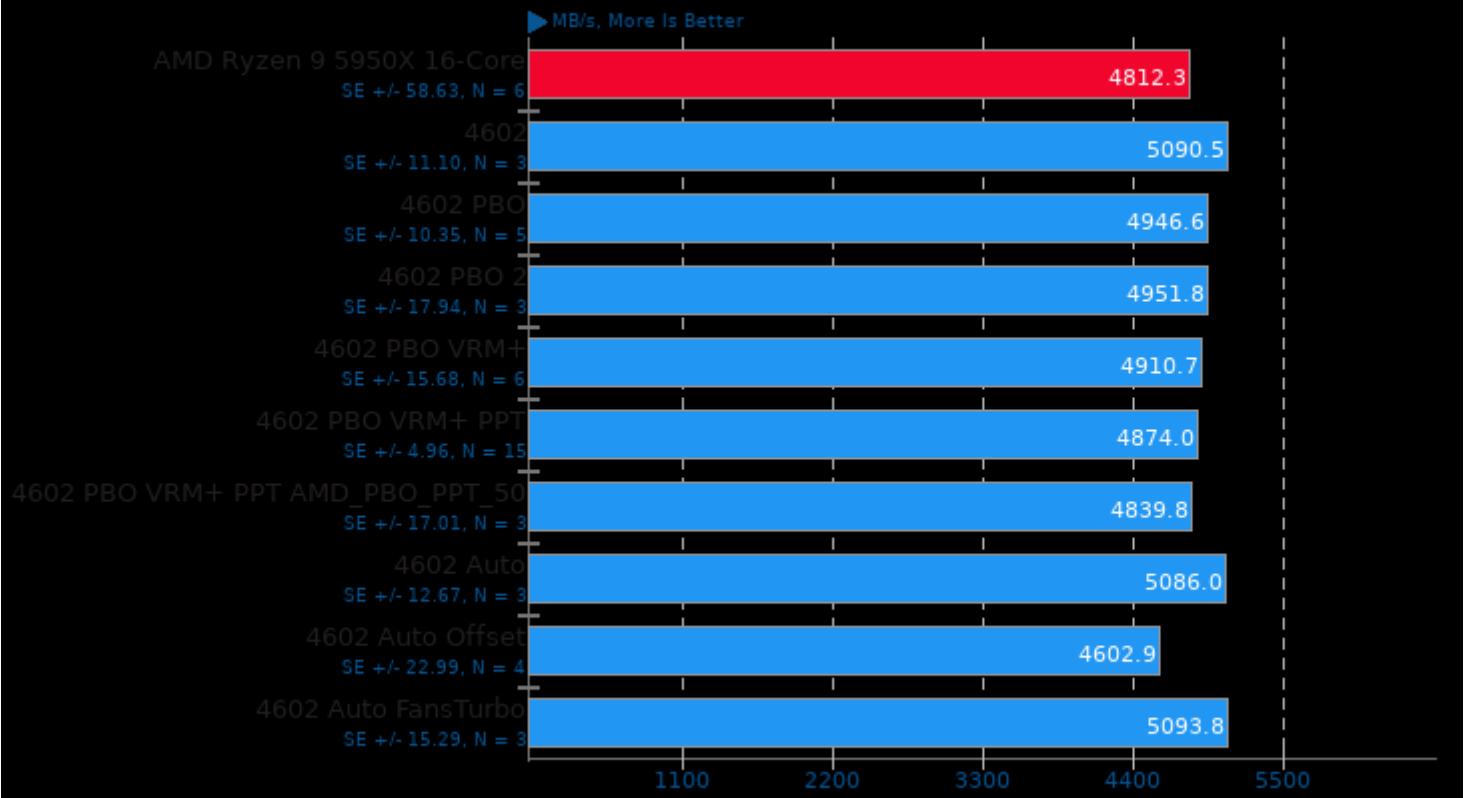
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

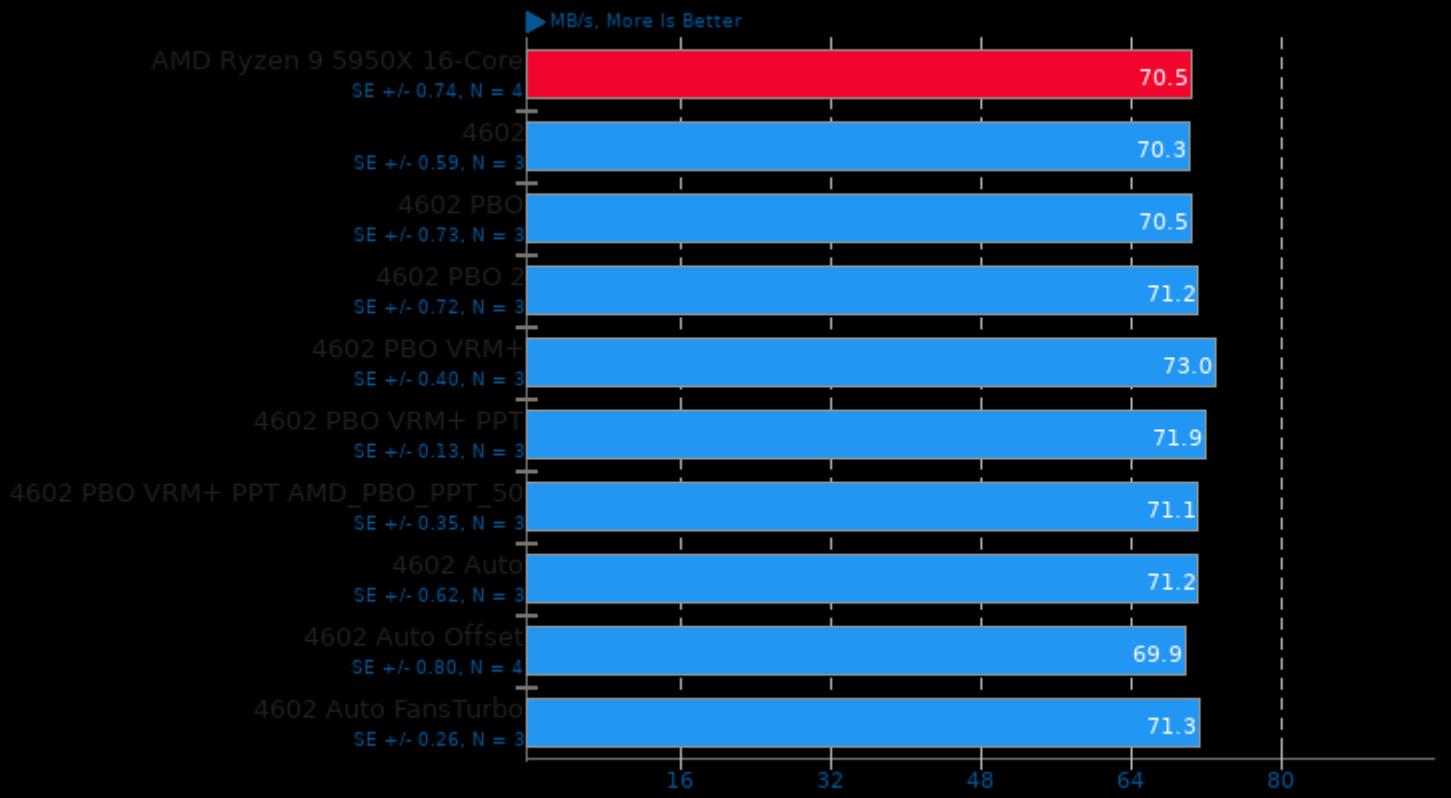
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

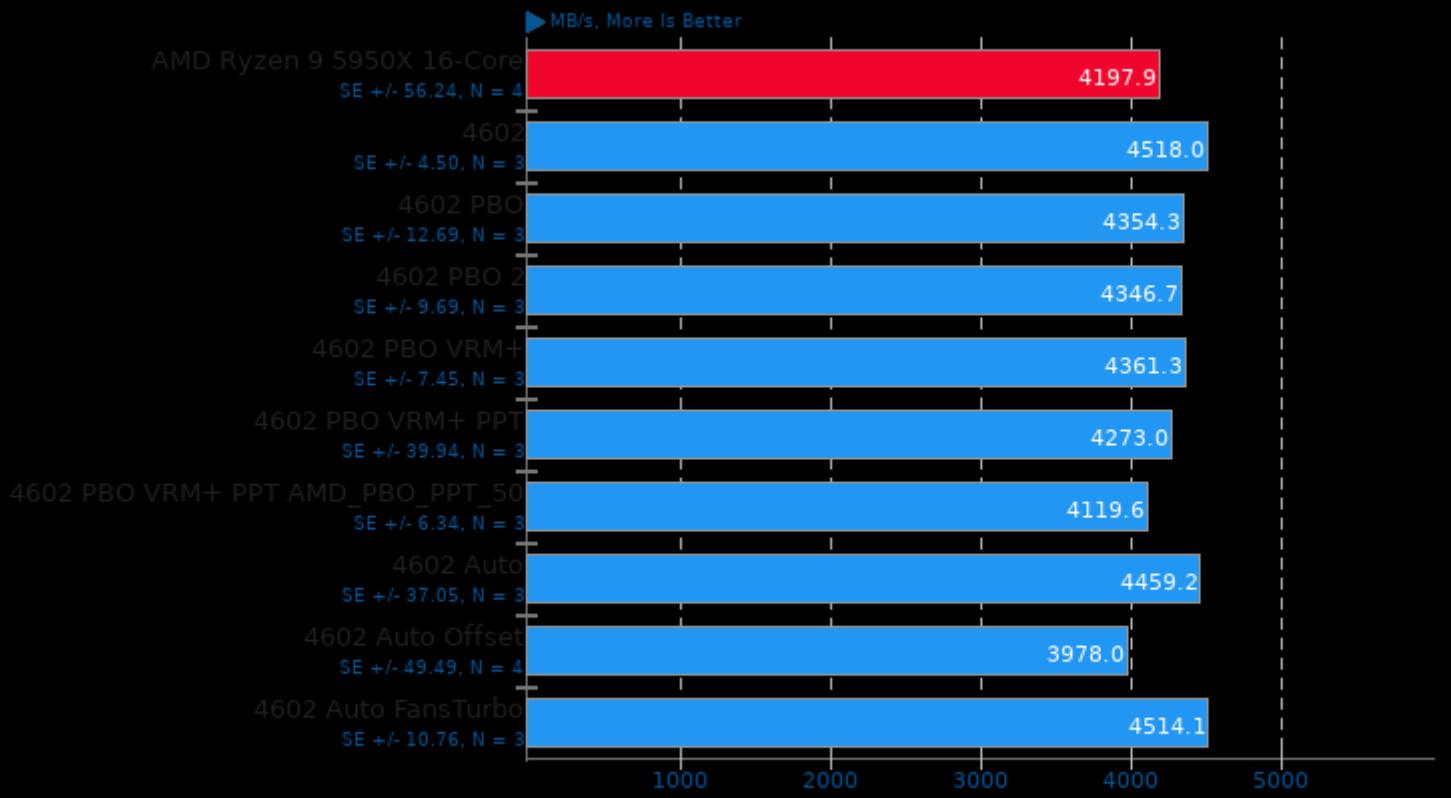
Compression Level: 19 - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

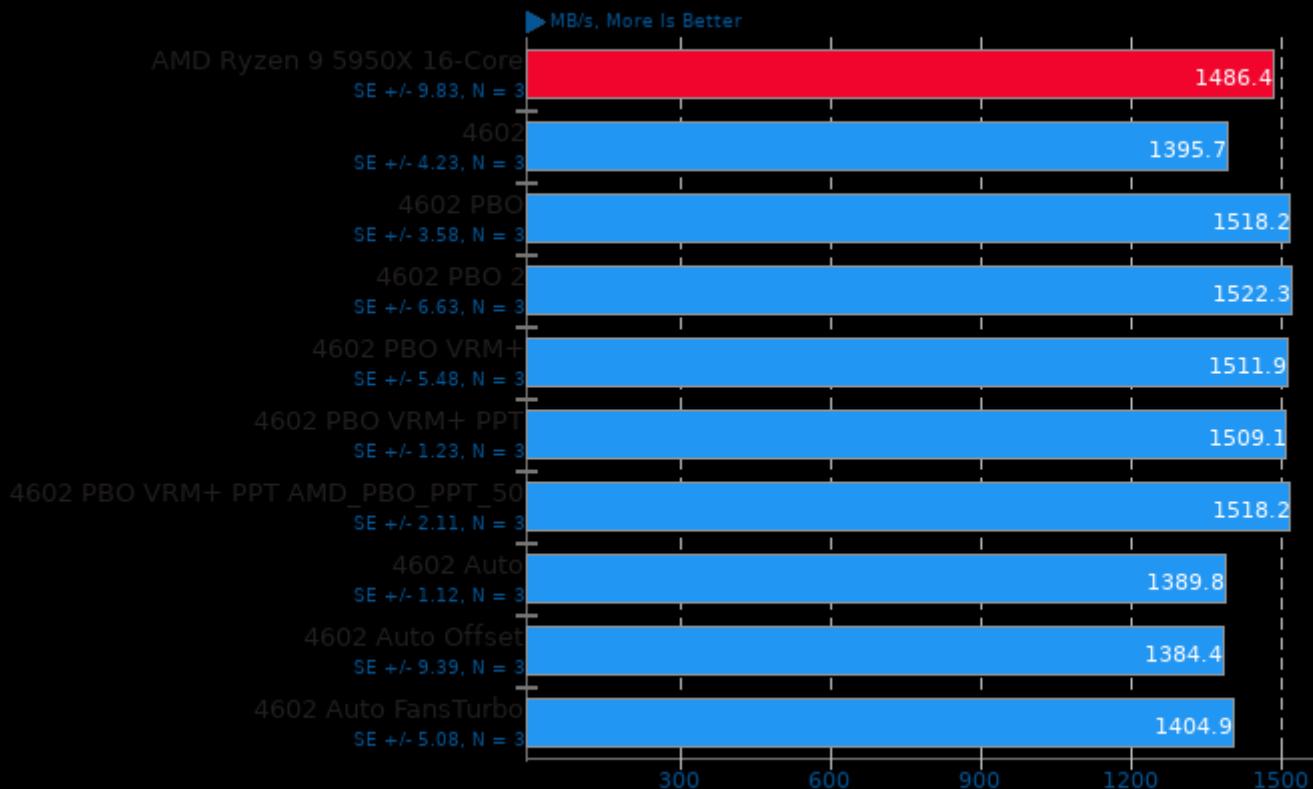
Compression Level: 19 - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

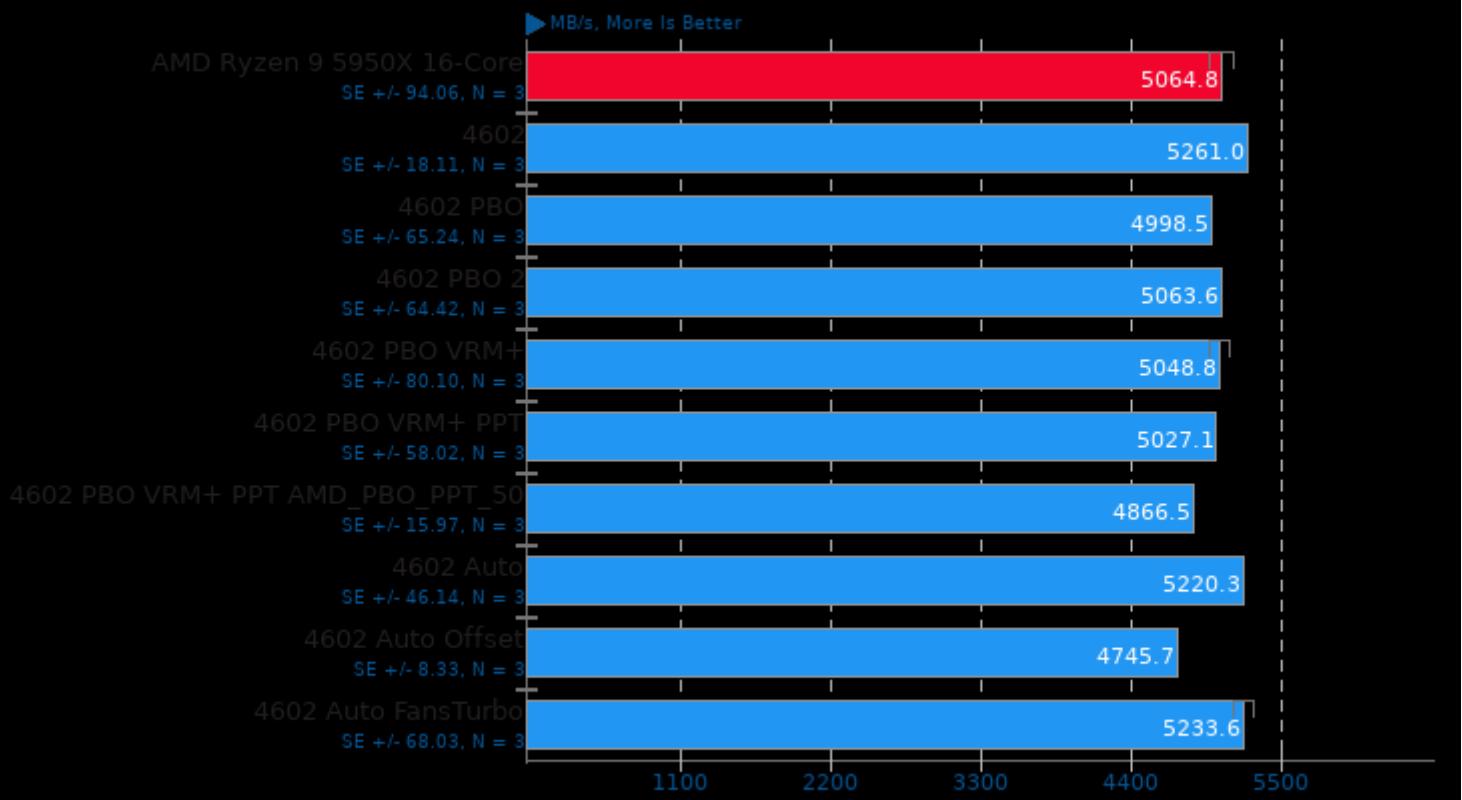
Compression Level: 3, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

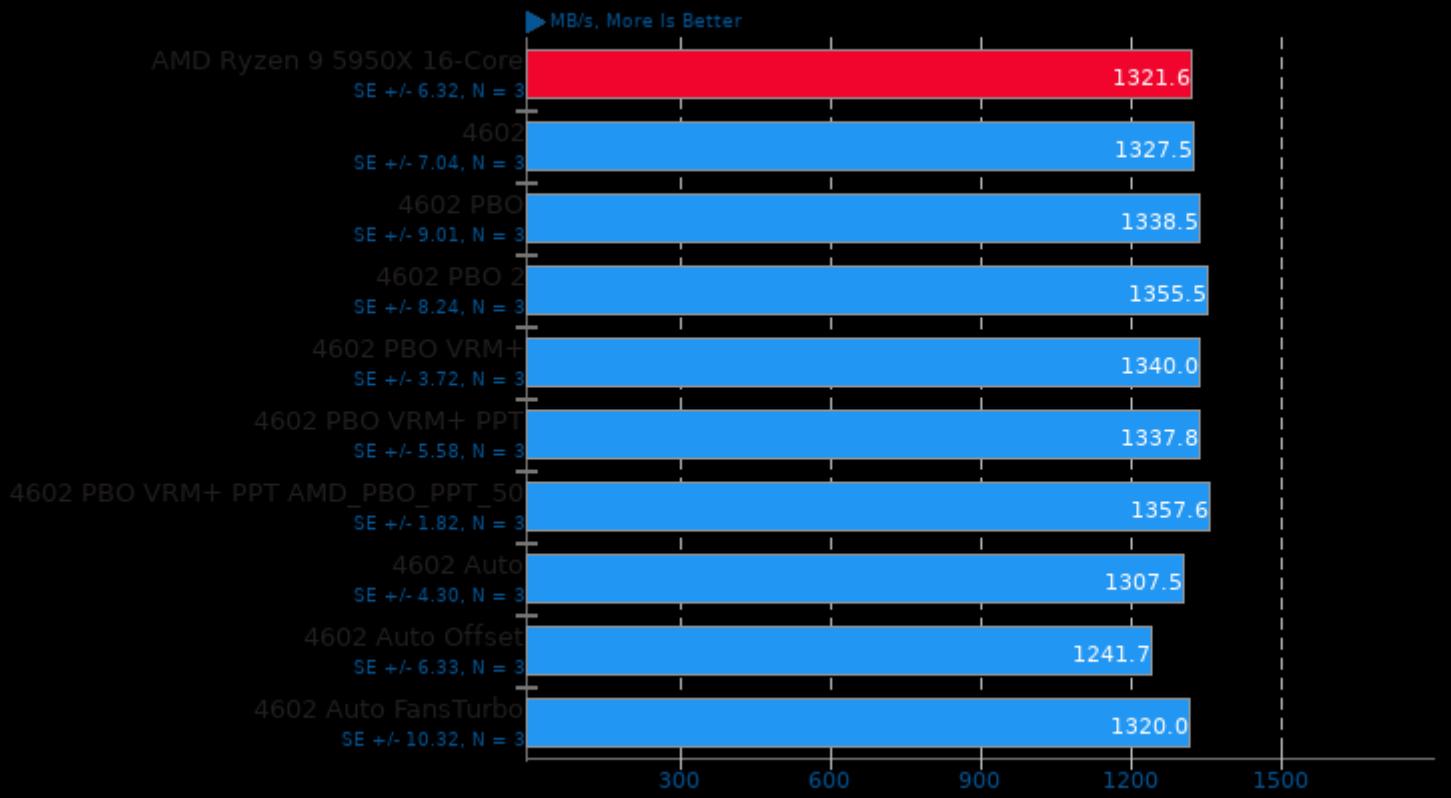
Compression Level: 3, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

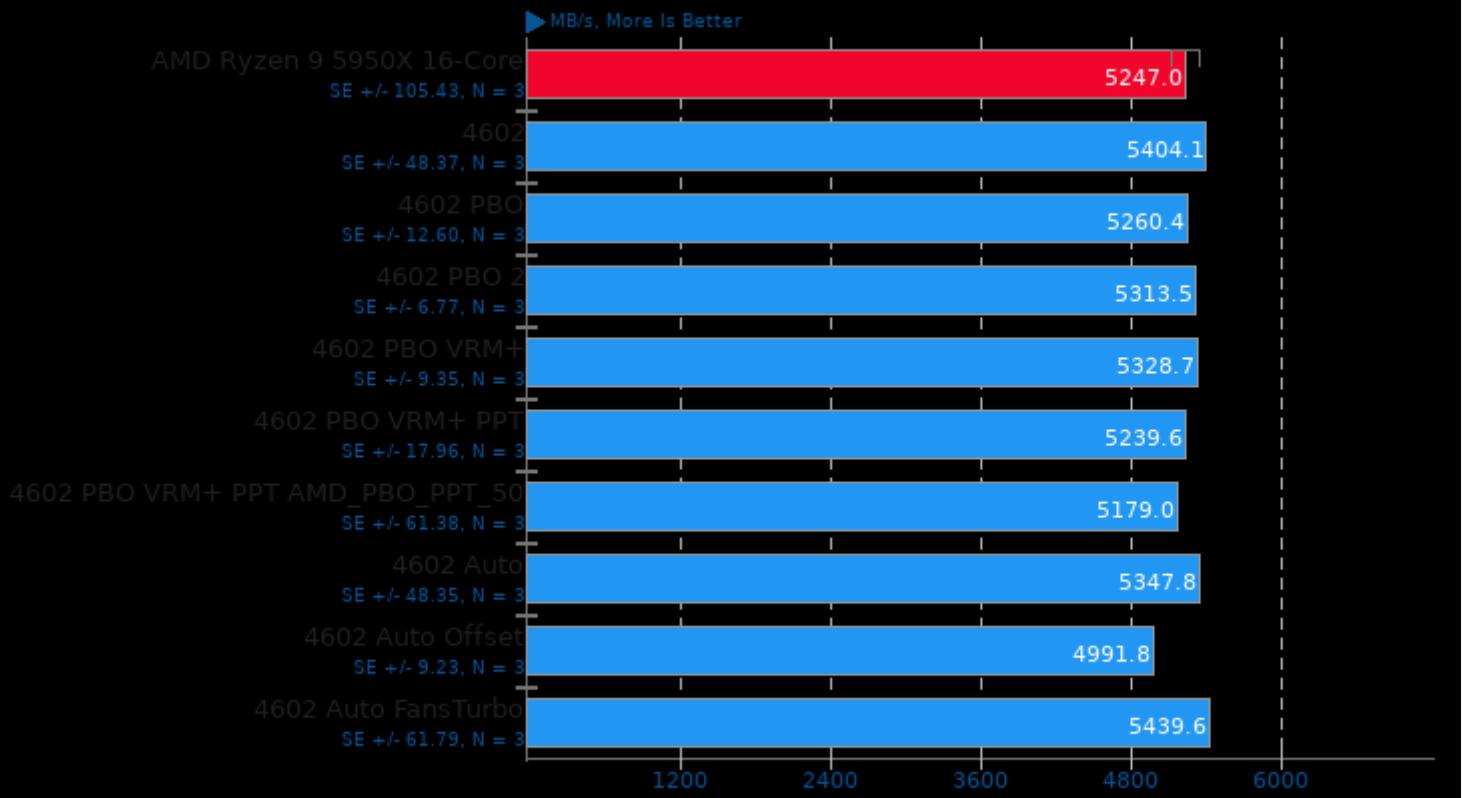
Compression Level: 8, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

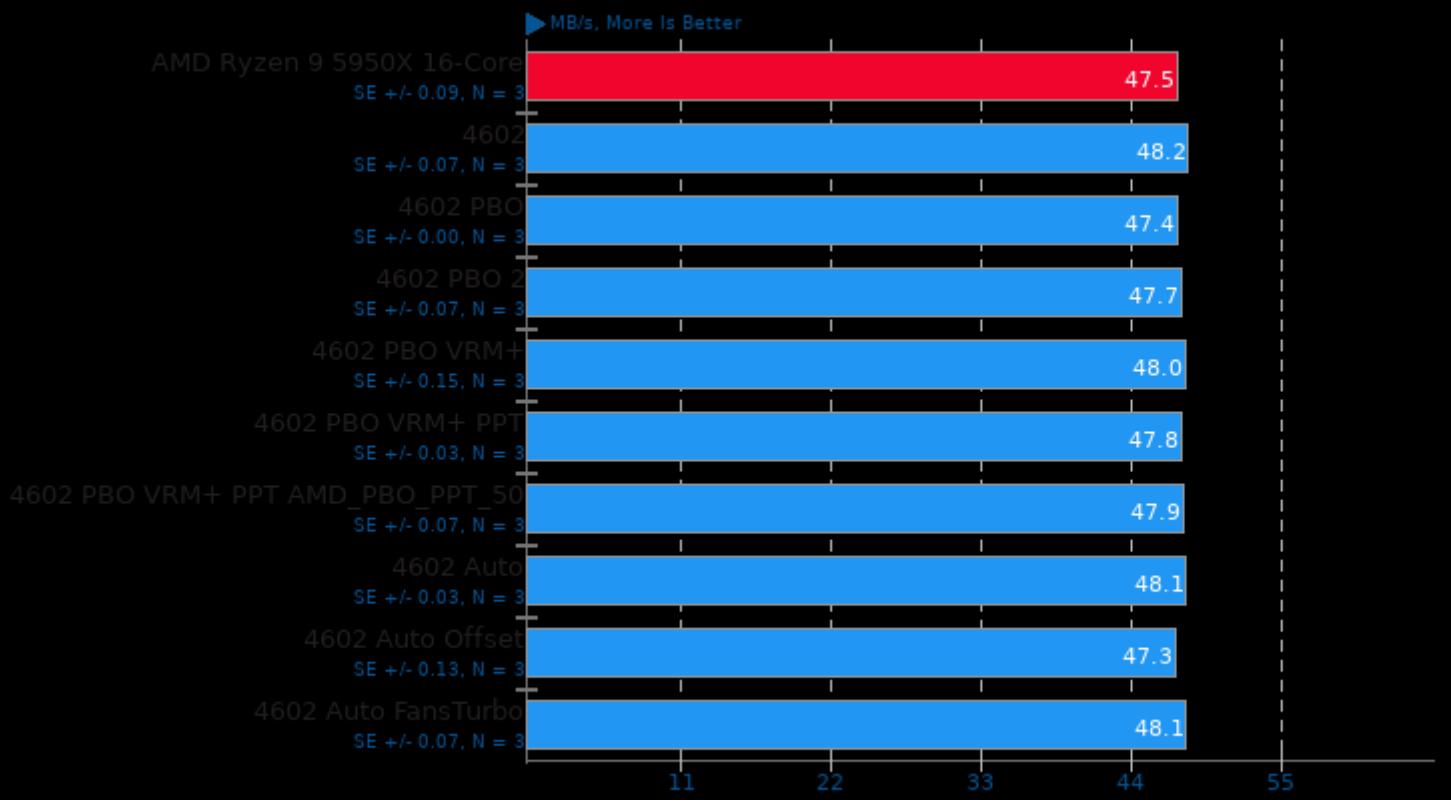
Compression Level: 8, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

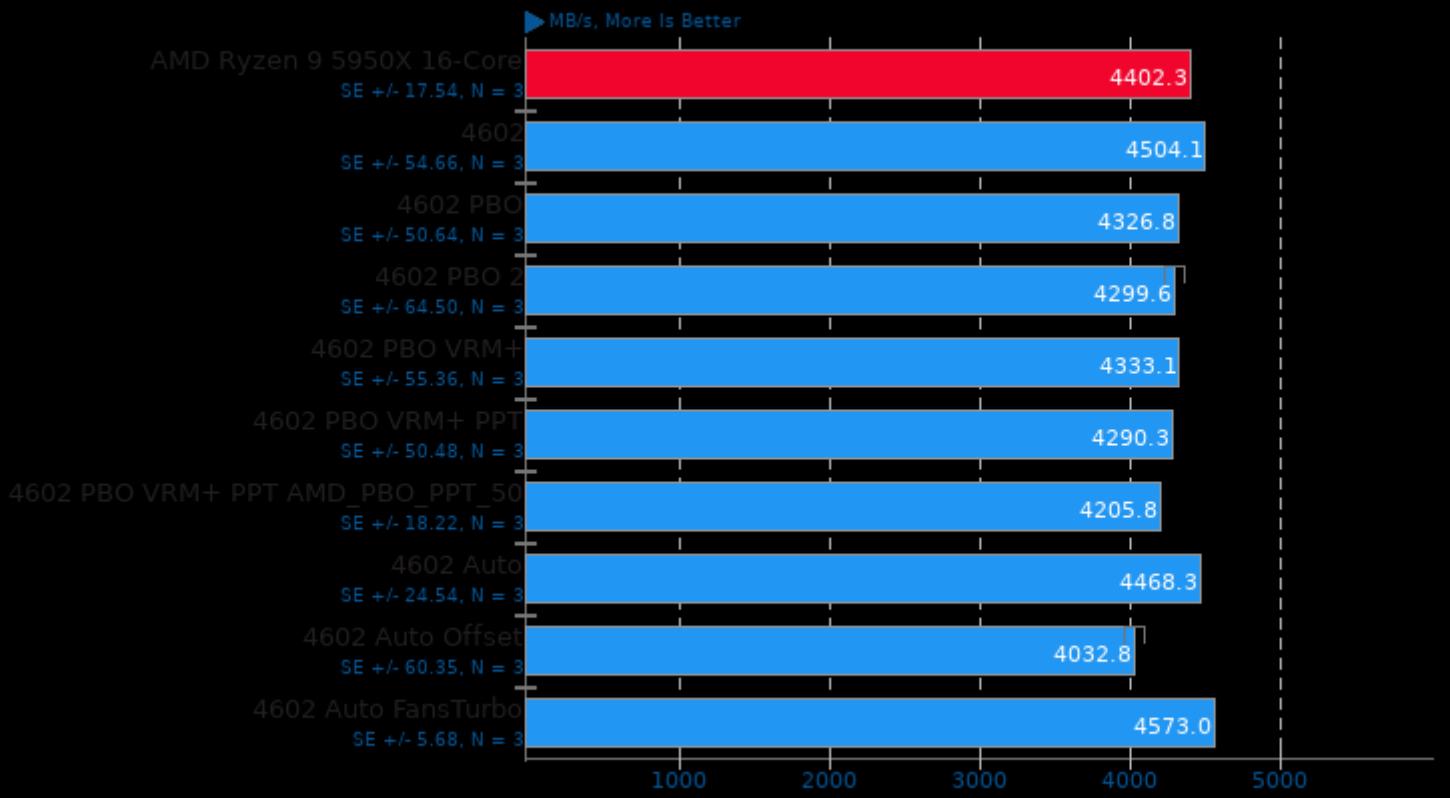
Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

## Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pipe -fexceptions -m64 -ffat-lto-objects -fno-trapping-math -mrelax-cmpxchg-loop -pthread -lz

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:13.