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Compression bench

AMD Ryzen 7 PRO 5850U testing with a LENOVO 20X7003WFR (R1KET36W 1.21 BIOS) and AMD Cezanne 1GB on Gentoo 2.8 via the Phoronix Test Suite.

Automated Executive Summary

OpenMandriva zen1 GCC 11.2 had the most wins, coming in first place for 25% of the tests.

Based on the geometric mean of all complete results, the fastest (Gentoo Glibc Edge GCC 12.1 W:clear+lto) was 1.214x the speed of the slowest (W11 native).

Test Systems:

WSL2 Ubuntu

Processor: AMD Ryzen 7 PRO 5850U (8 Cores / 16 Threads), Memory: 8GB, Disk: 2 x 275GB Virtual Disk

OS: Ubuntu 20.04, Kernel: 5.10.16.3-microsoft-standard-WSL2 (x86_64), Display Server: Wayland, OpenGL: 3.3 Mesa

21.2.6, Vulkan: 1.1.182, Compiler: GCC 9.4.0, File-System: ext4, System Layer: wsl

Kernel Notes: Transparent Huge Pages: always
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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-yTrUTS/gcc-9-9.4.0/debian/tmp-nvptx/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: CPU Microcode: 0xffffffff
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: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

W11 native

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Memory: 1 x 16384 MB 3200MHz Hynix HMAA2GS6CJR8N-XN, Disk: 477GB SKHynix_HFS512GDE9X081N, Graphics: AMD Radeon 1GB, Audio: AMD HD Audio Device + Realtek HD Audio, Network: MediaTek Wi-Fi 6 MT7921 Wireless LAN Card + Realtek PCIe GbE

OS: Microsoft Windows 11 Professionnel Build 22000, Kernel: 10.0.22000.556 (x86_64), Display Driver: 30.0.13040.13, OpenCL: OpenCL 2.1 AMD-APP (3302.6), File-System: NTFS, Screen Resolution: 1920x1080

Security Notes: __user pointer sanitization: Disabled + Retpoline: Full + IBPB: Always + IBRS: Enabled + STIBP: Enabled + VBS: Enabled and running + HVCI: Running + MBEC: Available

Ubuntu 21.10

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK Device 7961

OS: Ubuntu 21.10, Kernel: 5.13.0-35-generic (x86_64), Desktop: MATE 1.26.0, Display Server: X Server 1.20.13, OpenGL: 4.6 Mesa 21.2.6 (LLVM 12.0.1), Vulkan: 1.2.182, Compiler: GCC 11.2.0, 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-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/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: 0xa50000c - ACPI Profile: balanced
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 LFENCE IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

VoidLinux Musl GCC 10.2

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir Root Complex, Memory: 16GB, Disk: 512GB SK hynix HFS512GDE9X081N + 4GB USB DISK, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Device 1637, Network: Realtek RTL8111/8168/8411 + MEDIATEK Device 7961

OS: VoidLinux rolling, Kernel: 5.15.28_1 (x86_64), Desktop: Xfce 4.16, Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 21.3.7 (LLVM 12.0.1), Compiler: GCC 10.2.1 20201203 + Clang 12.0.1 + LLVM 12.0.1, File-System: f2fs, Screen

Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-musl --disable-gnu-unique-object --disable-libsanitizer --disable-libstdcxx-pch --disable-multilib --disable-nls --disable-sjlj-exceptions --disable-symvers --disable-target-libiberty --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-default-pie --enable-default-ssp --enable-languages=c,c++,objc,obj-c++,fortran,lto,go,ada --enable-lto --enable-plugins --enable-shared --enable-threads=posix --enable-vtable-verify --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
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 Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

OpenMandriva zen1 GCC 11.2

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SK hynix HFS512GDE9X081N + 4GB USB DISK, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: OpenMandrivaLinux 4.3, Kernel: 5.16.7-desktop-1omv4003 (x86_64), Desktop: KDE Plasma 5.23.5, Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 21.3.7 (LLVM 13.0.0), Vulkan: 1.2.195, Compiler: Clang 13.0.0 + GCC 11.2.0 20210728 + LLVM 13.0.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: dm_mod.use_blk_mq=1 - Transparent Huge Pages: always
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Musl Stable W:znver3-O2

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK Device 7961

OS: Gentoo/Linux, Kernel: 5.15.26-gentoo-x86_64 (x86_64), Display Server: X Server 1.21.1.3, Compiler: GCC 11.2.1 20220115 + Clang 13.0.1 + LLVM 13.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Compiler Notes: --bindir=/usr/x86_64-gentoo-linux-musl/gcc-bin/11.2.1 --build=x86_64-gentoo-linux-musl --datadir=/usr/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1 --disable-cet --disable-esp --disable-fixed-point --disable-libada --disable-libsanitizer --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-libvtv --disable-multilib --disable-nls --disable-systemtap --disable-valgrind-annotations --disable-vtable-verify --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-default-pie --enable-default-ssp --enable-languages=c,c++,fortran --enable-libgomp --enable-libstdcxx-time --enable-lto --enable-obsolete --enable-secureplt --enable-shared --enable-targets=all --enable-threads=posix --host=x86_64-gentoo-linux-musl --includedir=/usr/lib/gcc/x86_64-gentoo-linux-musl/11.2.1/include --mandir=/usr/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1/man --with-multilib-list=m64 --with-python-dir=/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1/python --with-zstd --without-isl
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
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

Gentoo Musl Edge W:znver3-O2

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo Linux 2.8, Kernel: 5.17.1-gentoo-x86_64 (x86_64), Display Server: X Server 1.21.1.3, Compiler: GCC 11.2.1 20220115 + Clang 14.0.0 + LLVM 14.0.0, File-System: btrfs, Screen Resolution: 1920x1080

Compiler Notes: --bindir=/usr/x86_64-gentoo-linux-musl/gcc-bin/11.2.1 --build=x86_64-gentoo-linux-musl --datadir=/usr/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1 --disable-cet --disable-esp --disable-fixed-point --disable-libada --disable-libsanitizer --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-libvtv --disable-multilib --disable-nls --disable-systemtap --disable-valgrind-annotations --disable-vtable-verify --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-default-pie --enable-default-ssp --enable-languages=c,c++,fortran --enable-libgomp --enable-libstdcxx-time --enable-lto --enable-obsolete --enable-secureplt --enable-shared --enable-targets=all --enable-threads=posix --host=x86_64-gentoo-linux-musl --includedir=/usr/lib/gcc/x86_64-gentoo-linux-musl/11.2.1/include --mandir=/usr/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1/man --with-build-config=bootstrap-lto --with-multilib-list=m64 --with-python-dir=/share/gcc-data/x86_64-gentoo-linux-musl/11.2.1/python --with-zstd --without-isl
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Stable W:znver3-O2

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK Device 7961

OS: Gentoo/Linux, Kernel: 5.16.18-gentoo-r1 (x86_64), Desktop: KDE Plasma 5.23.5, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 21.3.7 (LLVM 13.0.1), Compiler: GCC 11.2.1 20220115 + Clang 13.0.1 + LLVM 13.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge W:znver3-O2

Processor: AMD Ryzen 7 PRO 5850U @ 1.90GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.16.18-gentoo-r1 (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.3.204, Compiler: GCC 11.2.1 20220115 + Clang 14.0.1 + LLVM 14.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge W:znver3-O2 k5.17

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.3-gentoo (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.3.204, Compiler: GCC 11.2.1 20220115 + Clang 14.0.1 + LLVM 14.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: RUSTFLAGS="-C target-cpu=native"

Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge Clang 14 W:znver3-O2

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.3-gentoo (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.3.204, Compiler: Clang 14.0.1 + GCC 11.2.1 20220115 + LLVM 14.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: RUSTFLAGS="-C target-cpu=native"
Compiler Notes: Optimized build; Default target: x86_64-pc-linux-gnu; Host CPU: znver3
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge Clang 14 W:znver3-O3

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.3-gentoo (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.3.204, Compiler: GCC 11.3.0 + Clang 14.0.1 + LLVM 14.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: RUSTFLAGS="-C target-cpu=native"
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge Clang 14 F:znver3-clear

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.4-xanmod1-xanmod (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.3.204, Compiler: Clang 14.0.1 + GCC 11.3.0 + LLVM 14.0.1, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: CXXFLAGS="-march=native -O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -fno-semantic-interposition -fno-trapping-math -mtune=native -fvisibility-inlines-hidden" LDFLAGS="-Wl,-z,relro,-z,now,--enable-new-dtags,,--sort-common -fuse-ld=lld -rtlib=compiler-rt -unwindlib=libunwind" RUSTFLAGS="-C target-cpu=native -C link-arg=-fuse-ld=lld -C linker-plugin-lto" CFLAGS="-march=native -O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -fno-semantic-interposition -fno-trapping-math -mtune=native"

Compiler Notes: Optimized build; Default target: x86_64-pc-linux-gnu; Host CPU: znver3
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge GCC 11.3 W:clear+lto

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.5-gentoo-clang (x86_64), Desktop: KDE Plasma 5.24.4, Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 22.1.0-rc3 (LLVM 14.0.3 DRM 3.44), Vulkan: 1.3.211, Compiler: GCC 11.3.0 + Clang 14.0.3 + LLVM 14.0.3, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: FFLAGS="-O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -Wl,--enable-new-dtags" CXXFLAGS="-march=native -O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -Wl,-sort-common -Wl,--enable-new-dtags -mtune=native -flto=auto -fvisibility-inlines-hidden" RUSTFLAGS="-C target-cpu=native" 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 -Wl,-z -Wl,now -Wl,-z -Wl,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -Wl,-sort-common -Wl,--enable-new-dtags" CFLAGS="-march=native -O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -Wl,-sort-common -Wl,--enable-new-dtags -mtune=native -flto=auto" COMMON_FLAGS="-march=native -O3 -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -Wl,-sort-common -Wl,--enable-new-dtags -mtune=native -flto=auto"
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Gentoo Glibc Edge GCC 12.1 W:clear+lto

Processor: AMD Ryzen 7 PRO 5850U @ 4.51GHz (8 Cores / 16 Threads), Motherboard: LENOVO 20X7003WFR (R1KET36W 1.21 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 32GB, Disk: 512GB SK hynix HFS512GDE9X081N, Graphics: AMD Cezanne 1GB (2000/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Gentoo 2.8, Kernel: 5.17.7-gentoo (x86_64), Desktop: KDE Plasma 5.24.5, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.1.0 (LLVM 14.0.3 DRM 3.44), Vulkan: 1.3.211, Compiler: GCC 12.1.0 + Clang 14.0.3 + LLVM 14.0.3, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: RUSTFLAGS="-C target-cpu=native"
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa50000c
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 + srbds: Not affected + tsx_async_abort: Not affected

Compression bench

	WSL2 Ubuntu	W11 native	Ubuntu 21.10	VoidLinux Musl GCC 10.2	Open Mandriva zen1 GCC 11.2	Gentoo Musl Stable W:znver3-O2	Gentoo Musl Edge W:znver3-O2	Gentoo Glibc Stable W:znver3-O2	Gentoo Glibc Edge W:znver3-O2	Gentoo Glibc Edge W:znver3-O2 k5.17	Gentoo Glibc Edge Clang 14 W:znver3-O2	Gentoo Glibc Edge Clang 14 W:znver3-O3	Gentoo Glibc Edge Clang 14 F:znver3-clear	Gentoo Glibc Edge GCC 11.3 W:clear+lto	Gentoo Glibc Edge GCC 12.1 W:clear+lto
7-Zip Compression - Compression Rating	36334	39491	**35239**		40459			55992	55268	**57137**		57031		56305	
Normalized	63.59%	69.12%	61.67%		70.81%			98%	96.73%	100%		99.81%		98.54%	
Standard Deviation	1.5%	0.6%	0.5%		0.2%			0.2%	0.1%	0.1%		0.4%		0.3%	
7-Zip Compression - D.R	**40183**	45799	43951		45434			46118	44893	**47784**		47493		46018	
Normalized	84.09%	95.85%	91.98%		95.08%			96.51%	93.95%	100%		99.39%		96.3%	
Standard Deviation	1.3%	1.7%	0.6%		0.4%			0.6%	0.4%	0.6%		0.4%		0.6%	
lzbench - XZ 0 - Compression (MB/s)	47	**44**	48	47	**50**	46	49	48	48	48	45	49	46	49	48
Normalized	94%	88%	96%	94%	100%	92%	98%	96%	96%	96%	90%	98%	92%	98%	96%
Standard Deviation			0%		0%	0%	1.2%	0%	1.2%	1.2%	2.2%	0%	0%	0%	0%
lzbench - XZ 0 - Decompression (MB/s)	153	151	**154**	134	153	**133**	**133**	**154**	152	153	148	152	150	151	**154**
Normalized	99.35%	98.05%	100%	87.01%	99.35%	86.36%	86.36%	100%	98.7%	99.35%	96.1%	98.7%	97.4%	98.05%	100%
Standard Deviation			0.4%		1.5%	0%	0.4%	0%	0%	0.4%	0.4%	0%	0%	0.4%	0%
lzbench - Zstd 1 - Compression (MB/s)	**618**	**573**	605	595	611	601	615	614	609	607	595	608	599	607	608
Normalized	100%	92.72%	97.9%	96.28%	98.87%	97.25%	99.51%	99.35%	98.54%	98.22%	96.28%	98.38%	96.93%	98.22%	98.38%
Standard Deviation	0.3%		2.3%	5.2%	2.4%	0.3%	0.9%	0.1%	0.3%	0.7%	0.6%	0.1%	0.4%	0.4%	0.2%
lzbench - Zstd 1 - Decompression (MB/s)	2040	**956**	2003	1966	**2098**	1988	2089	2084	2076	2069	1877	2066	1860	2067	2053
Normalized	97.24%	45.57%	95.47%	93.71%	100%	94.76%	99.57%	99.33%	98.95%	98.62%	89.47%	98.47%	88.66%	98.52%	97.86%
Standard Deviation	0.2%		0.5%	0.7%	0.3%	0.2%	0%	0.3%	0.4%	0.3%	0.4%	0.2%	0.3%	0.1%	0.4%

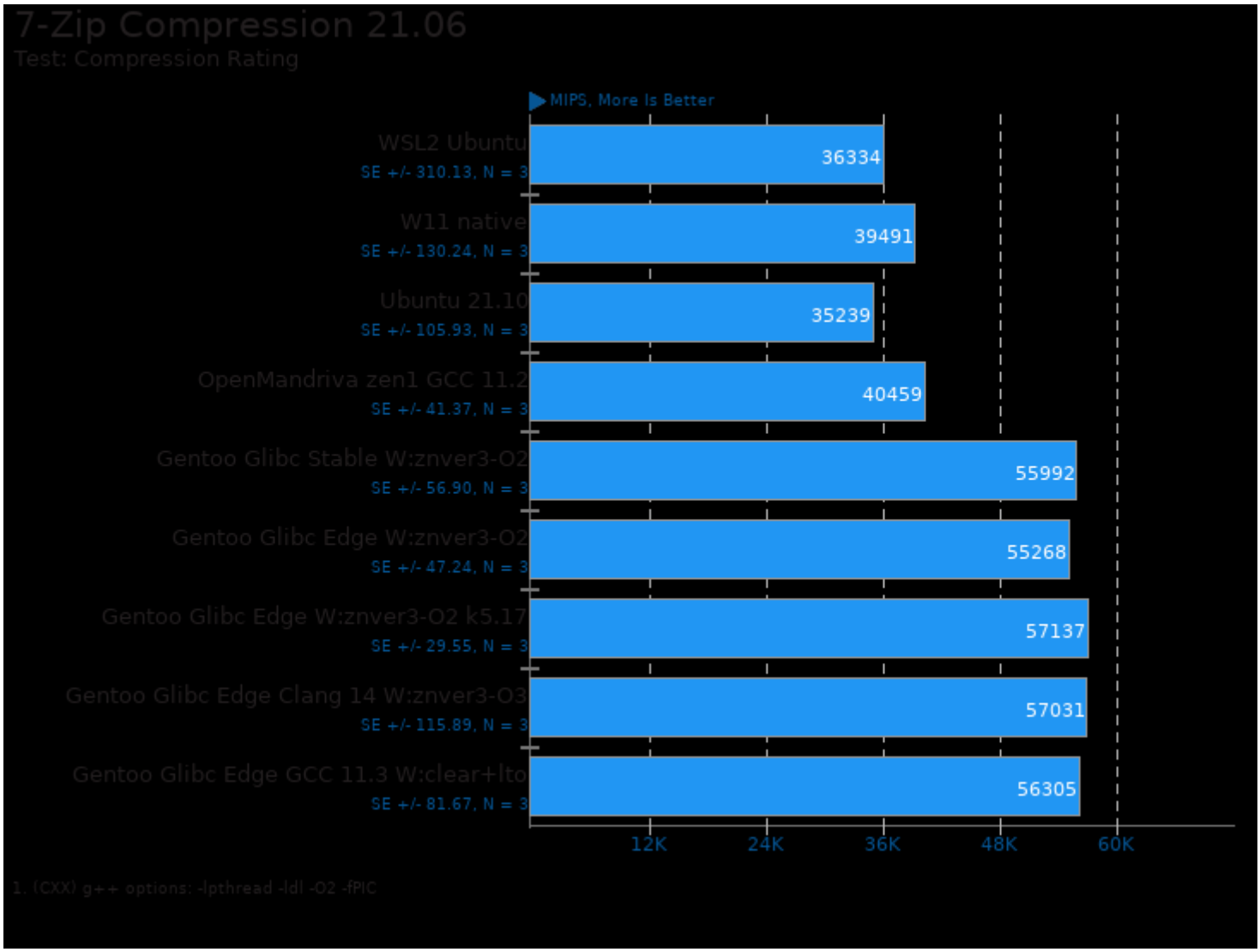
Compression bench

lzbench - Zstd 8 - Compression (MB/s)	115	111	83	89	114	87	114	116	119	118	113	119	109	117	119
Normalized	96.64%	93.28%	69.75%	74.79%	95.8%	73.11%	95.8%	97.48%	100%	99.16%	94.96%	100%	91.6%	98.32%	100%
Standard Deviation			1.4%	17.6%	0.9%	0%	0.9%	2.3%	1.8%	0%	0.9%	1.7%	0.5%	1.3%	1.8%
lzbench - Zstd 8 - Decompression (MB/s)	2234	983	2102	2061	2323	2148	2322	2306	2340	2308	2067	2339	2058	2323	2278
Normalized	95.47%	42.01%	89.83%	88.08%	99.27%	91.79%	99.23%	98.55%	100%	98.63%	88.33%	99.96%	87.95%	99.27%	97.35%
Standard Deviation	0.4%	0.4%	0.6%	3.4%	0.2%	0.3%	0.2%	1.8%	0.7%	0.8%	2.3%	0.1%	0.1%	0.2%	0.3%
lzbench - Crush 0 - Compression (MB/s)	131	122	102	109	150	104	132	143	148	153	147	147	136	149	149
Normalized	85.62%	79.74%	66.67%	71.24%	98.04%	67.97%	86.27%	93.46%	96.73%	100%	96.08%	96.08%	88.89%	97.39%	97.39%
Standard Deviation	0.9%	2.9%	0.6%	0.9%	1.7%	0%	1.5%	1.8%	2.3%	2.1%	3.4%	0.4%	0.4%	1.9%	1.8%
lzbench - Crush 0 - Decompression (MB/s)	593	570	593	593	624	596	622	621	610	617	626	621	623	621	612
Normalized	94.73%	91.05%	94.73%	94.73%	99.68%	95.21%	99.36%	99.2%	97.44%	98.56%	100%	99.2%	99.52%	99.2%	97.76%
Standard Deviation		0.1%	0.1%		0%	0.1%	0%	0%	1.5%	0.1%	0.1%	0%	0%	0.1%	0.3%
lzbench - Brotli 0 - Compression (MB/s)	565	466	542	550	542	552	568	578	571	570	605	567	600	569	579
Normalized	93.39%	77.02%	89.59%	90.91%	89.59%	91.24%	93.88%	95.54%	94.38%	94.21%	100%	93.72%	99.17%	94.05%	95.7%
Standard Deviation	0.2%		0.3%	0.3%	0.4%	0.7%	1.8%	0.6%	0.9%	0.5%	0.2%	0.8%	0.7%	0.4%	0.4%
lzbench - Brotli 0 - Decompression (MB/s)	686	712	691	639	688	645	665	699	728	735	726	720	715	719	742
Normalized	92.45%	95.96%	93.13%	86.12%	92.72%	86.93%	89.62%	94.2%	98.11%	99.06%	97.84%	97.04%	96.36%	96.9%	100%
Standard Deviation	0.4%		0.2%	2.7%	0.1%	0.2%	0.5%	0.3%	2.9%	0.2%	0.2%	0.2%	0.2%	0.4%	0.2%
lzbench - Brotli 2 - Compression (MB/s)	235	222	211	223	242	213	235	242	237	239	238	236	231	236	241
Normalized	97.11%	91.74%	87.19%	92.15%	100%	88.02%	97.11%	100%	97.93%	98.76%	98.35%	97.52%	95.45%	97.52%	99.59%
Standard Deviation			0.3%	2.5%	0.2%	0.5%	0.2%	0.6%	1.4%	0%	0.6%	0.2%	1.2%	0.2%	0.2%

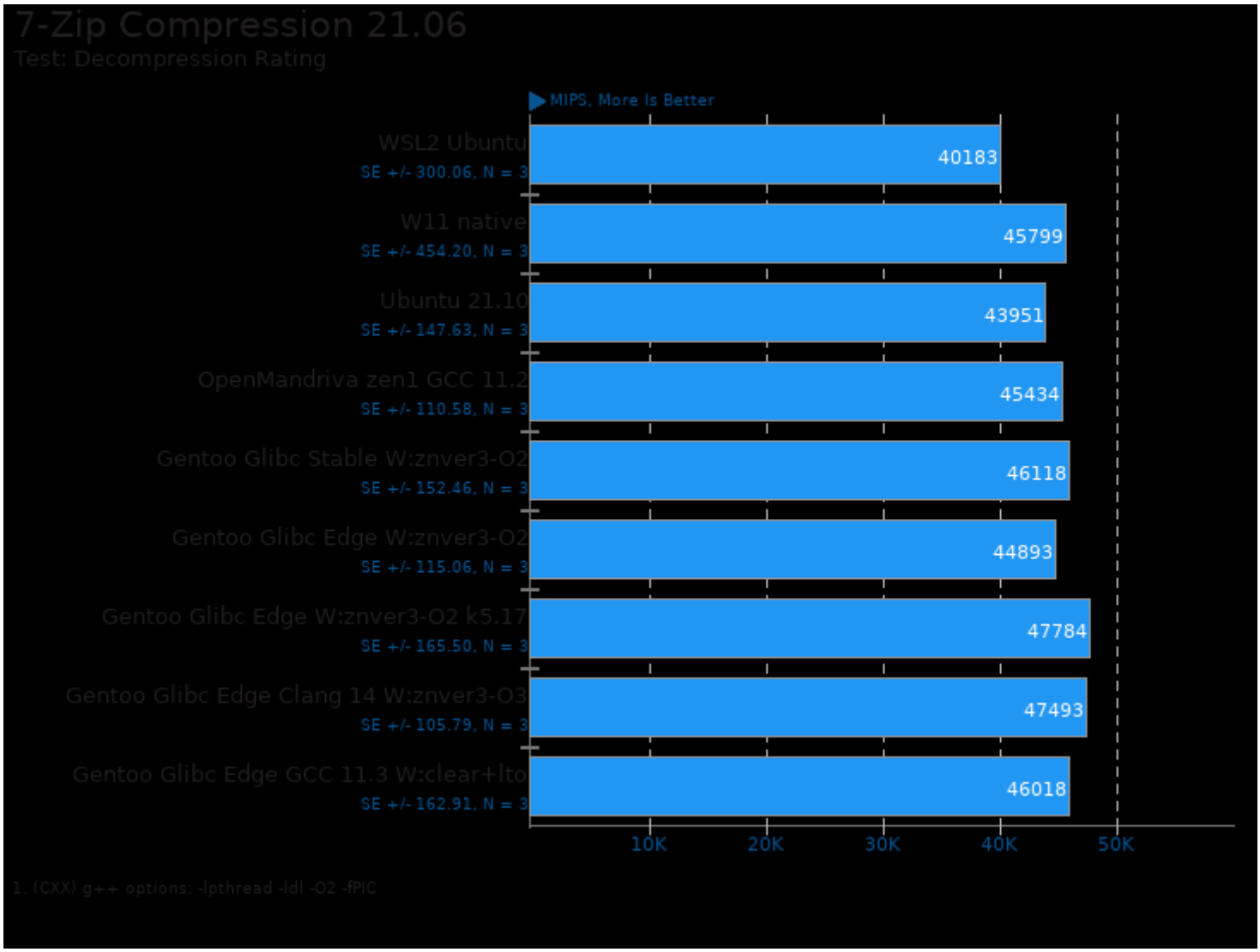
Compression bench

lzbench - Brotli 2 - Decompression (MB/s)	810	845	791	735	807	**722**	777	830	863	880	870	865	854	863	**885**
Normalized	91.53%	95.48%	89.38%	83.05%	91.19%	81.58%	87.8%	93.79%	97.51%	99.44%	98.31%	97.74%	96.5%	97.51%	100%
Standard Deviation	0.3%	0.1%	0.4%	1.8%	0.3%	0.6%	0.6%	0.3%	1.8%	0.1%	0.1%	0.1%	0.2%	0.1%	0.4%
lzbench - Libdeflate 1 - Compression (MB/s)	295	291	291	300	291	295	299	293	**290**	292	311	**290**	**312**	293	298
Normalized	94.55%	93.27%	93.27%	96.15%	93.27%	94.55%	95.83%	93.91%	92.95%	93.59%	99.68%	92.95%	100%	93.91%	95.51%
Standard Deviation	0.3%	0.8%	1.4%	0.3%	0.3%	0%	0%	0.2%	0.7%	0.3%	0.2%	0.5%	0%	0%	0.4%
lzbench - Libdeflate 1 - Decompression (MB/s)	1399	1462	1430		**1468**	1378	1434	1438	1422	1448	1372	1441	**1316**	1438	1373
Normalized	95.3%	99.59%	97.41%		100%	93.87%	97.68%	97.96%	96.87%	98.64%	93.46%	98.16%	89.65%	97.96%	93.53%
Standard Deviation	0.1%	0.1%	0.1%		0.1%	0.1%	0.1%	0.1%	1.7%	0.1%	0%	0%	0.3%	0.1%	0%

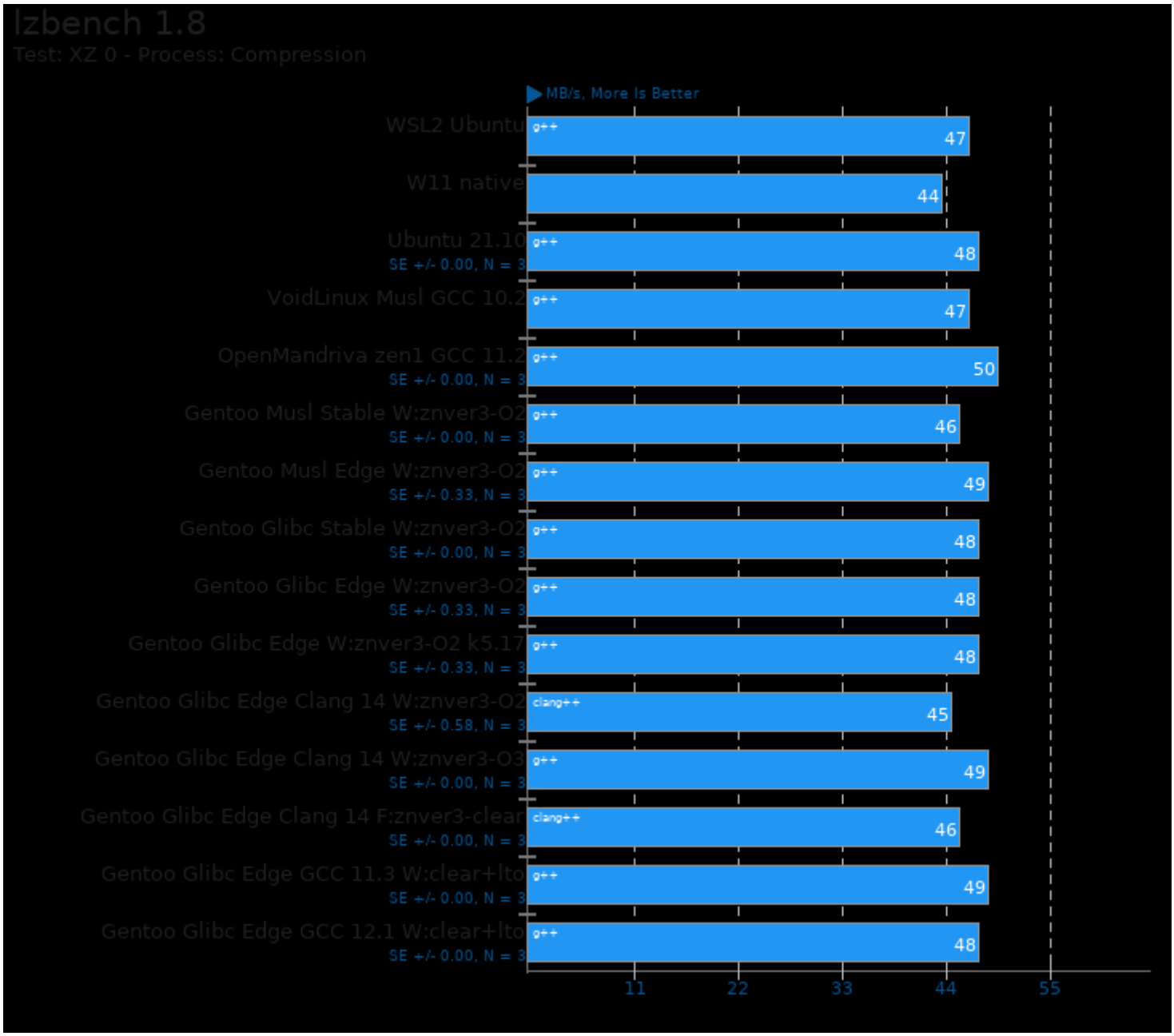
Compression bench



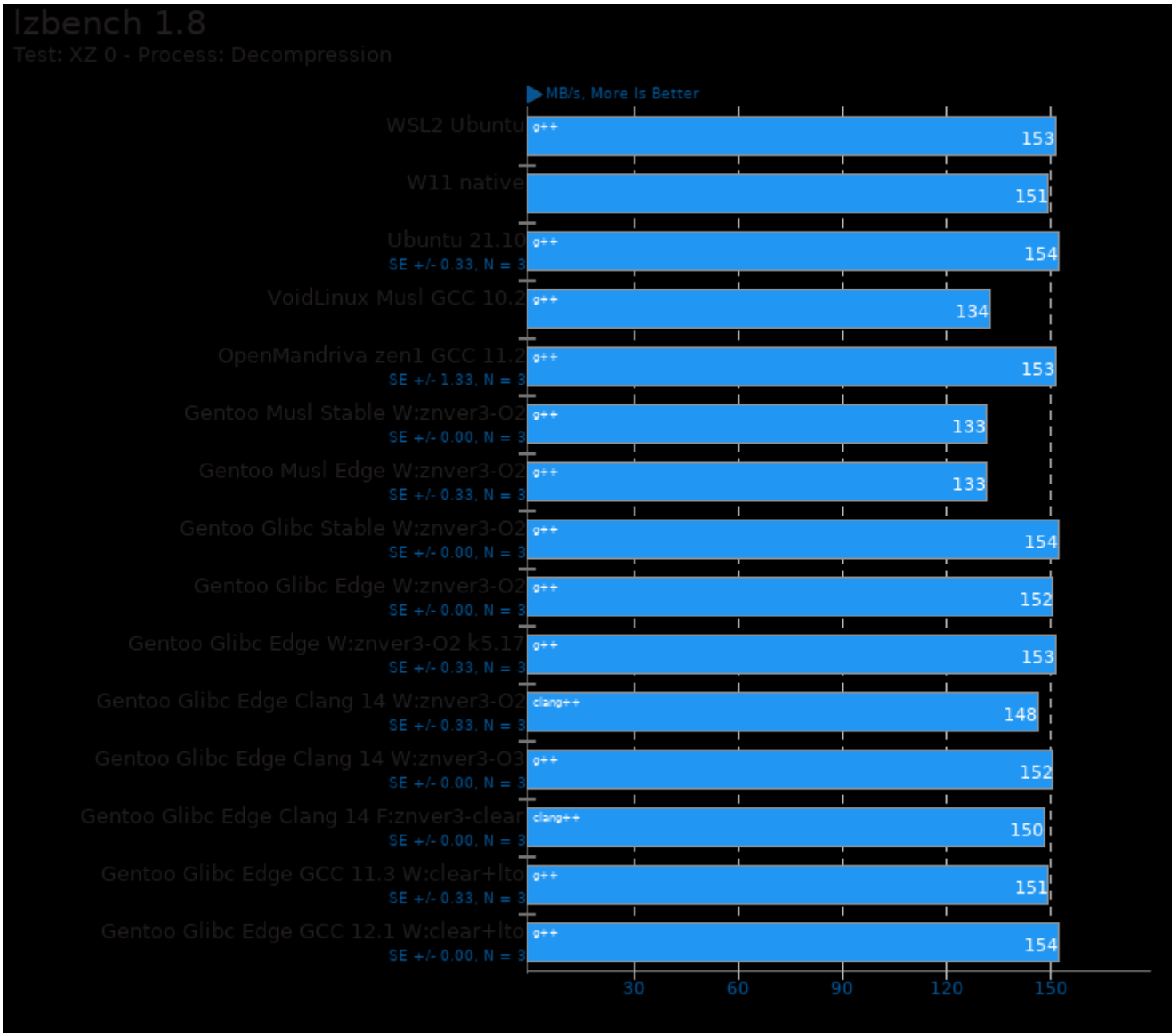
Compression bench



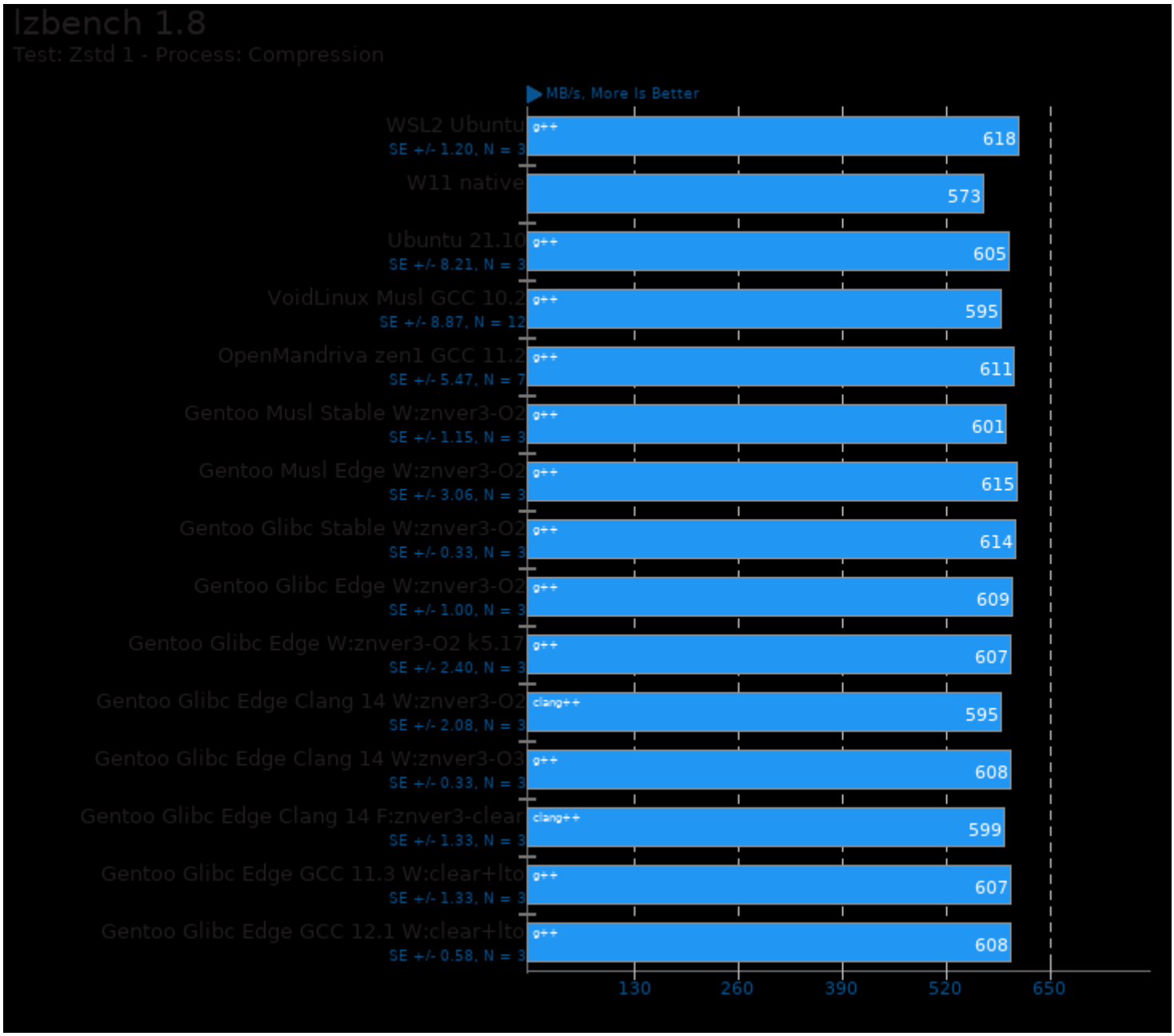
Compression bench



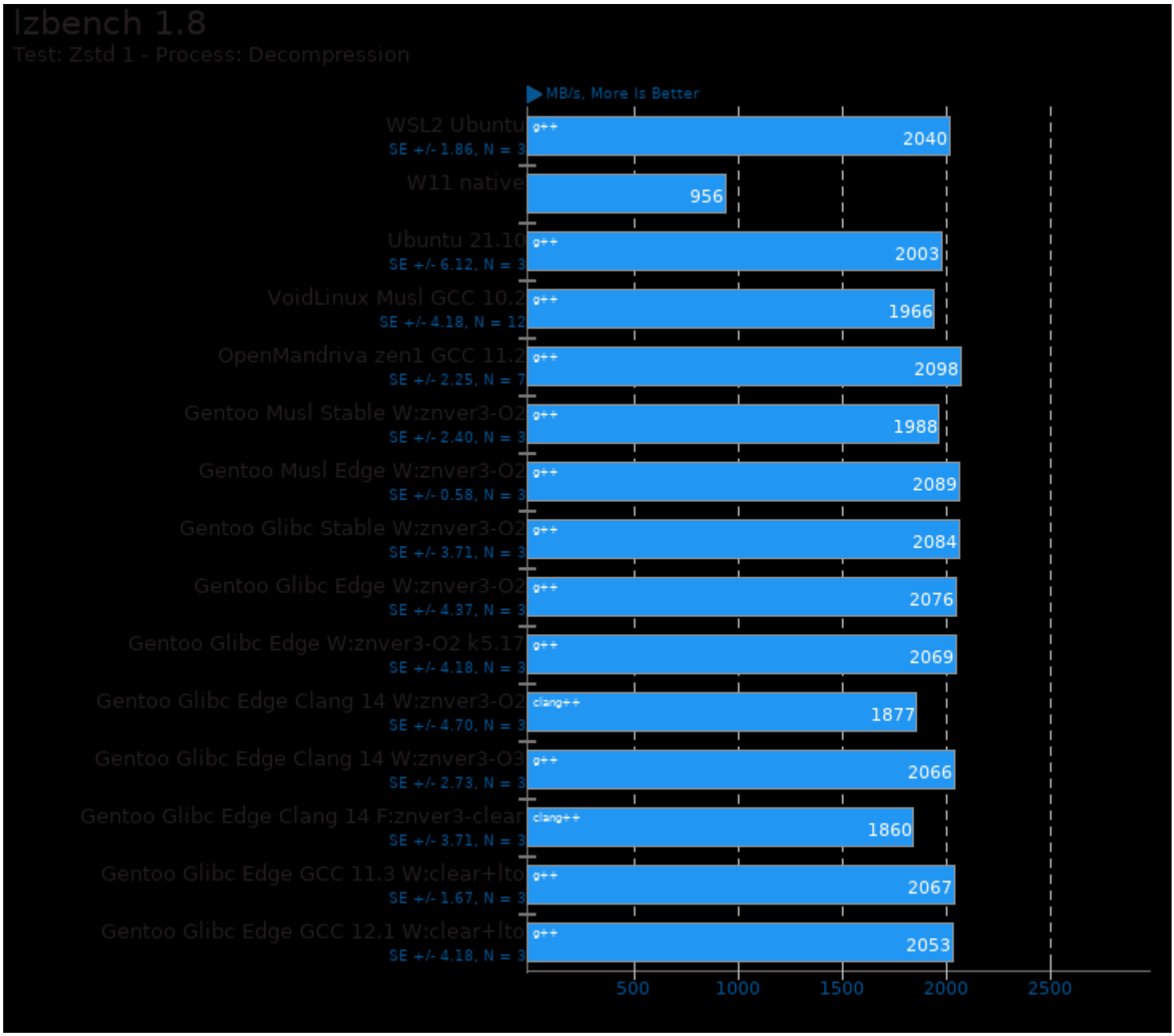
Compression bench



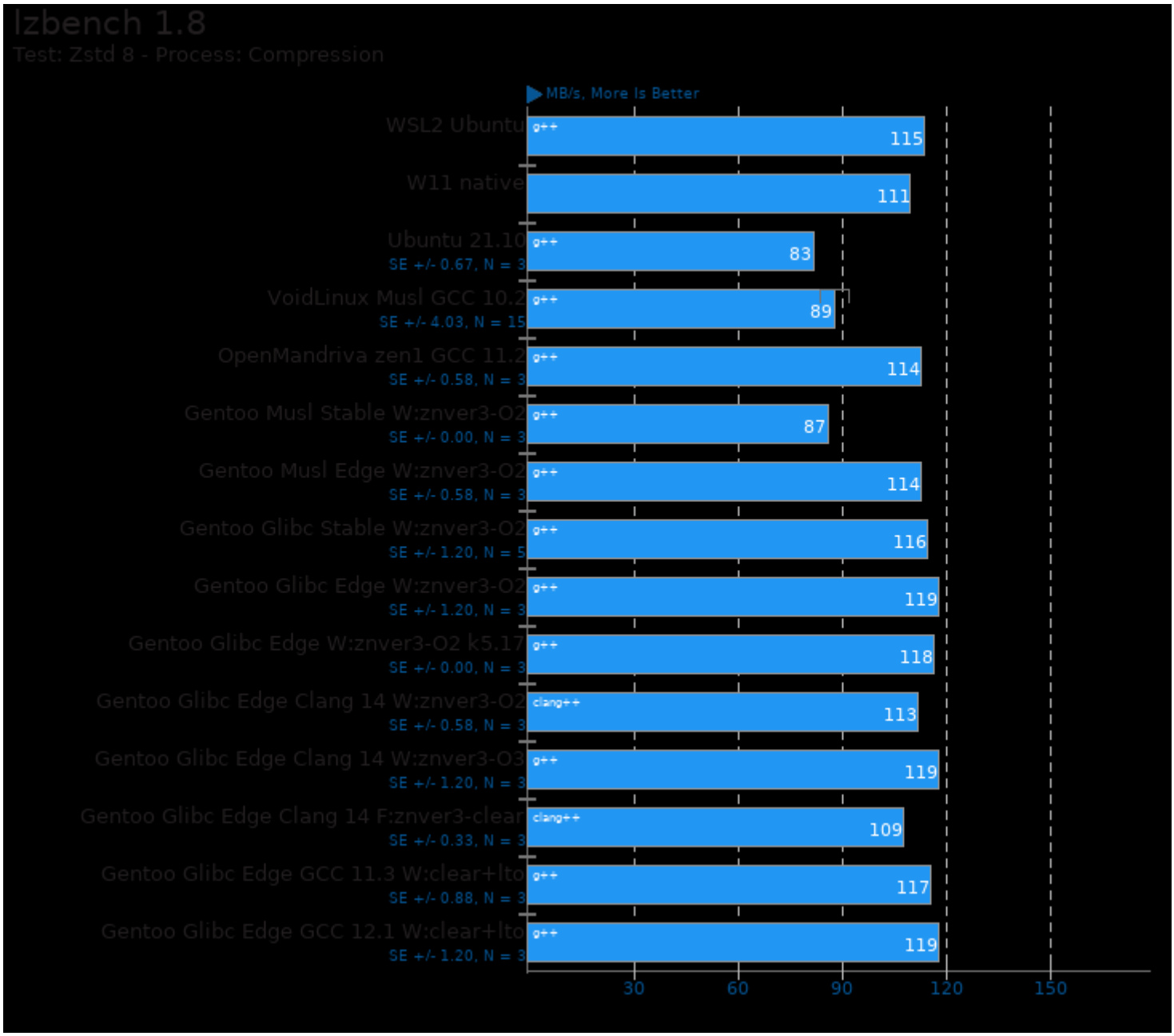
Compression bench



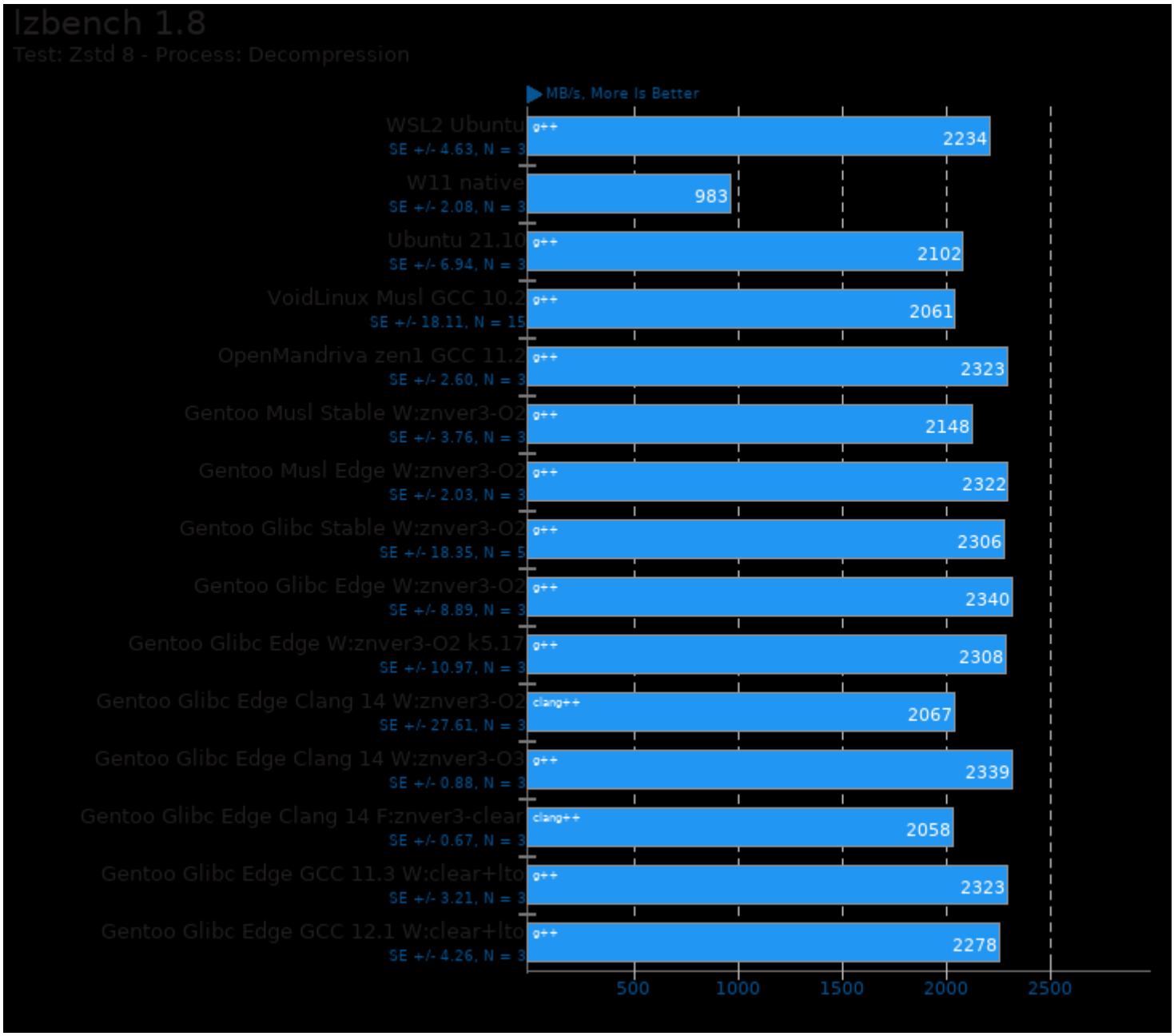
Compression bench



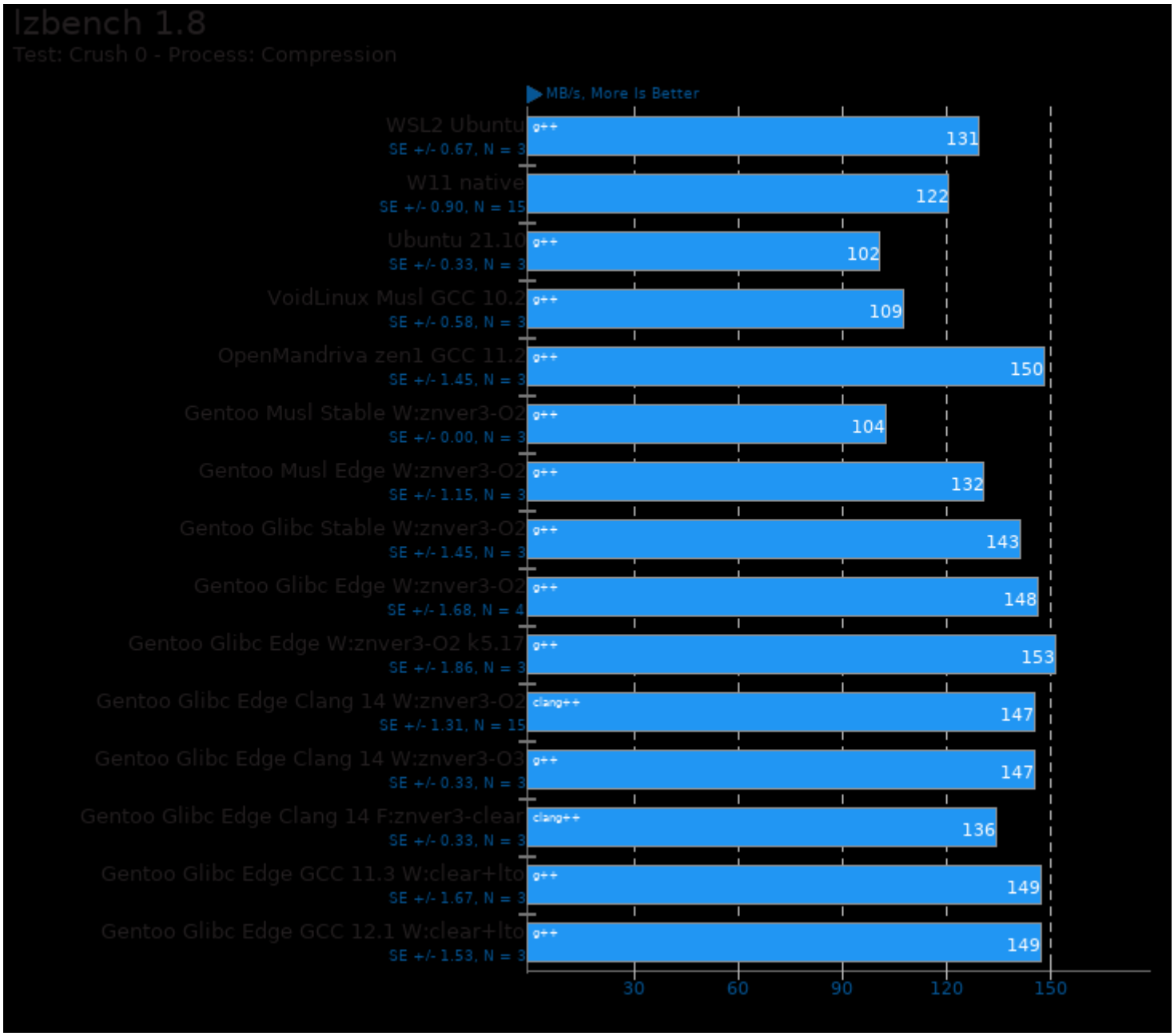
Compression bench



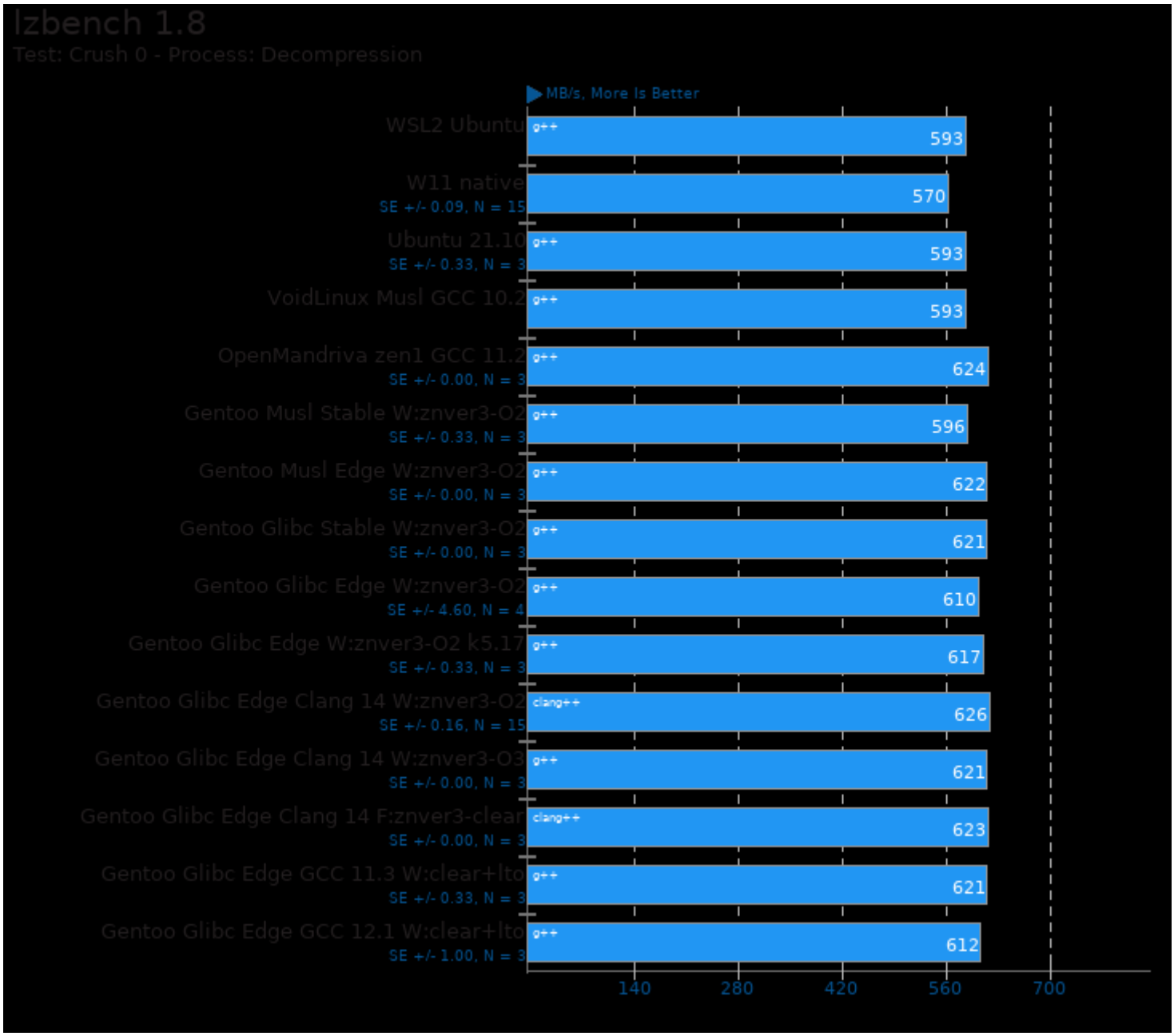
Compression bench



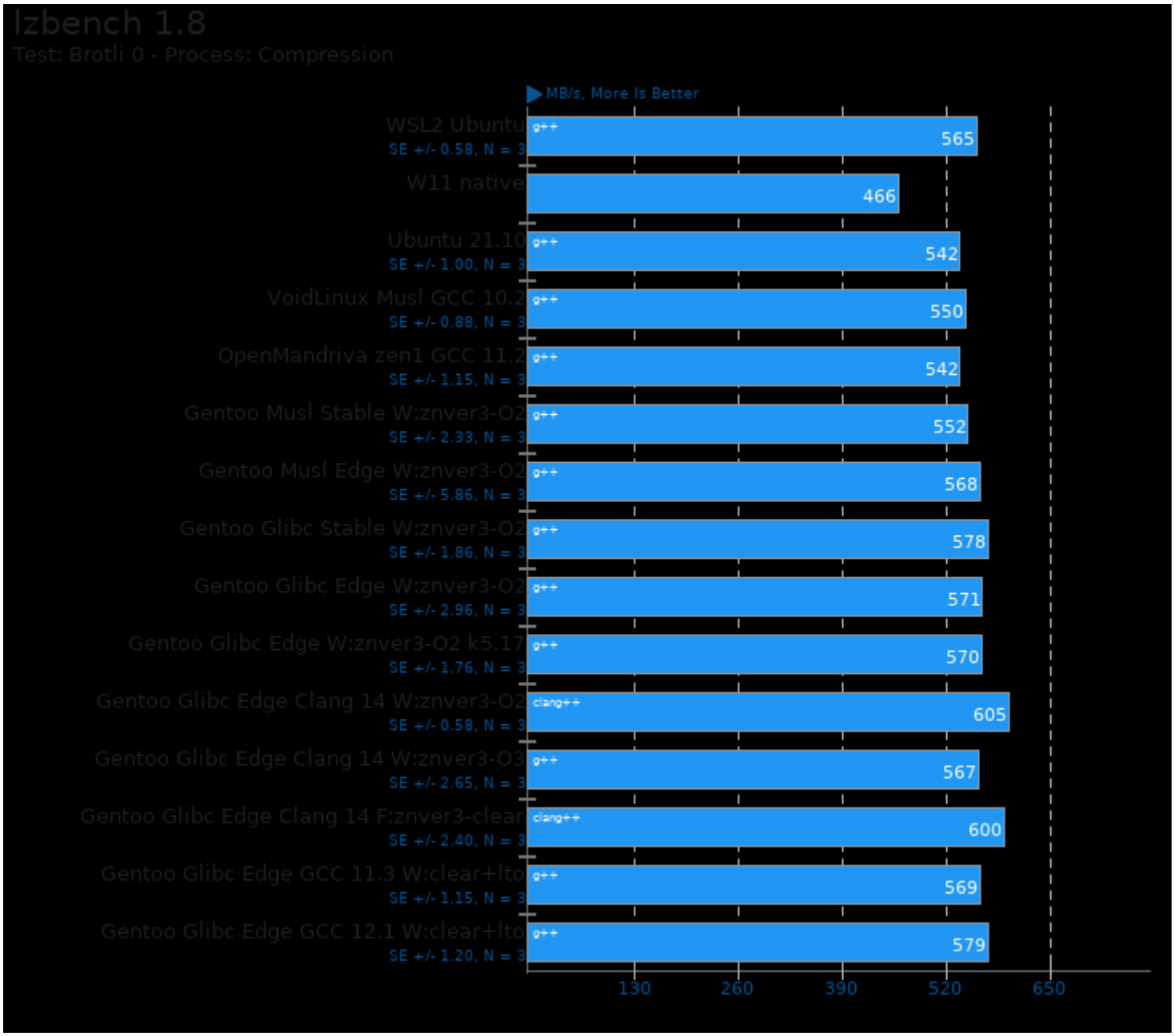
Compression bench



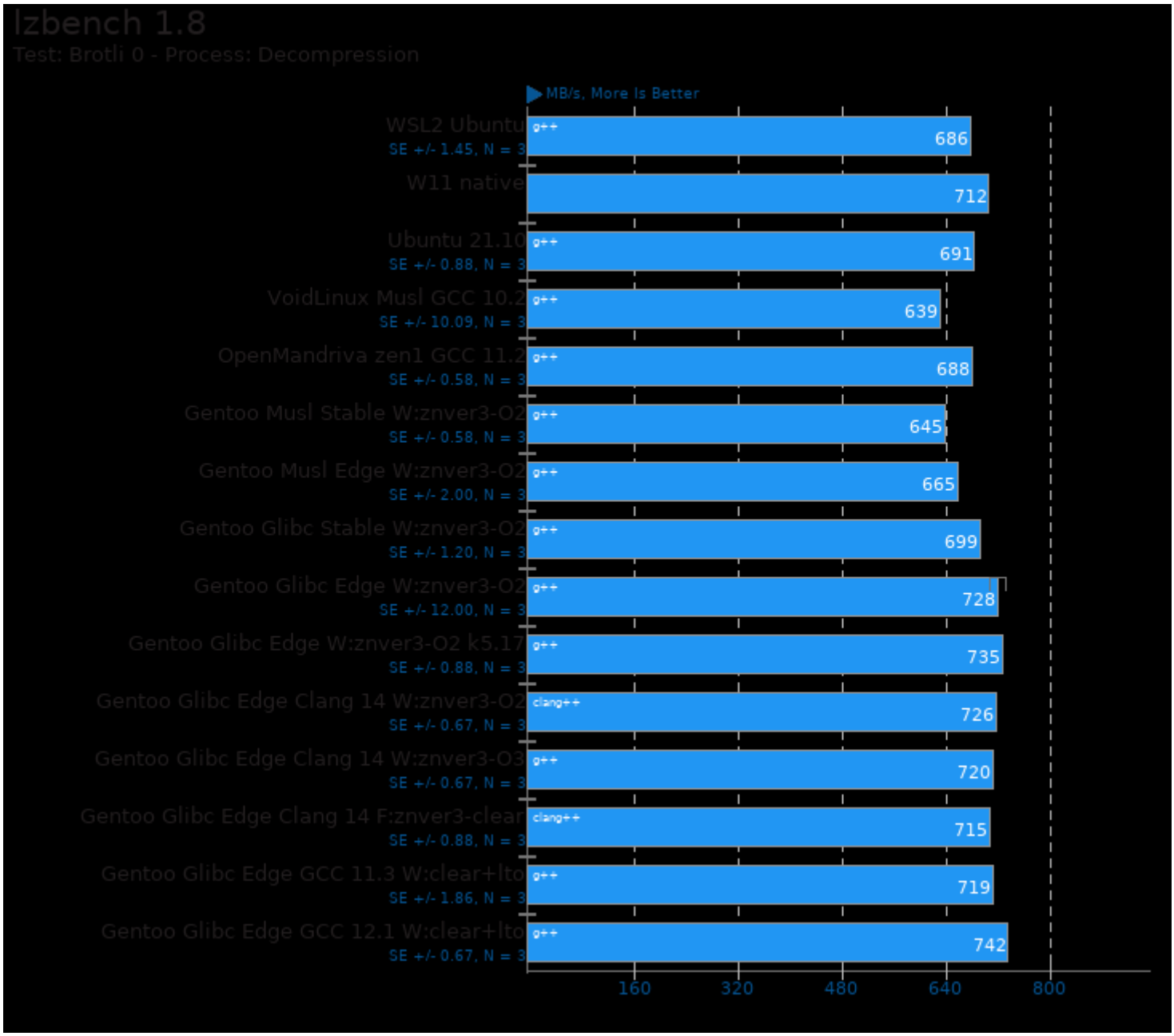
Compression bench



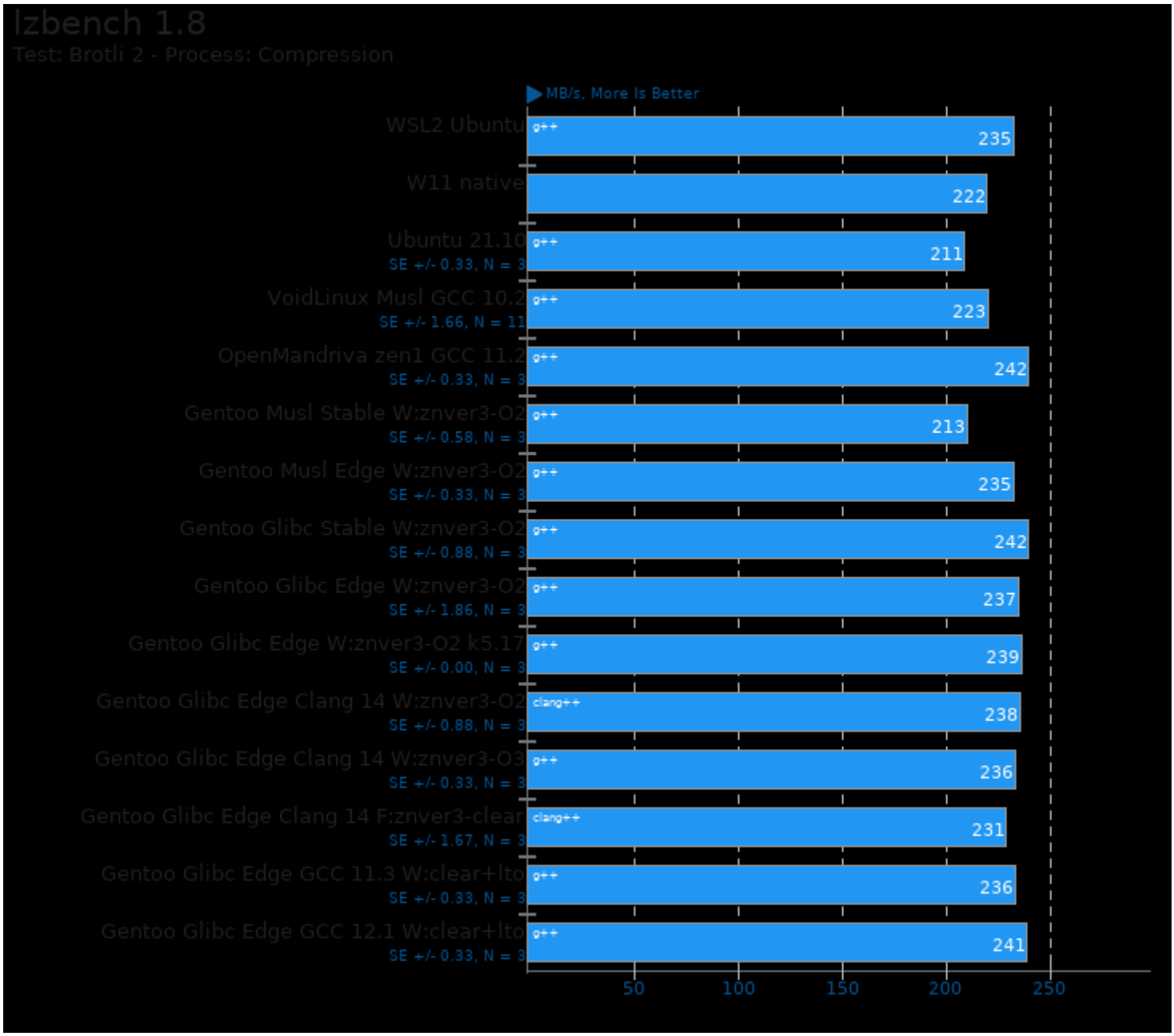
Compression bench



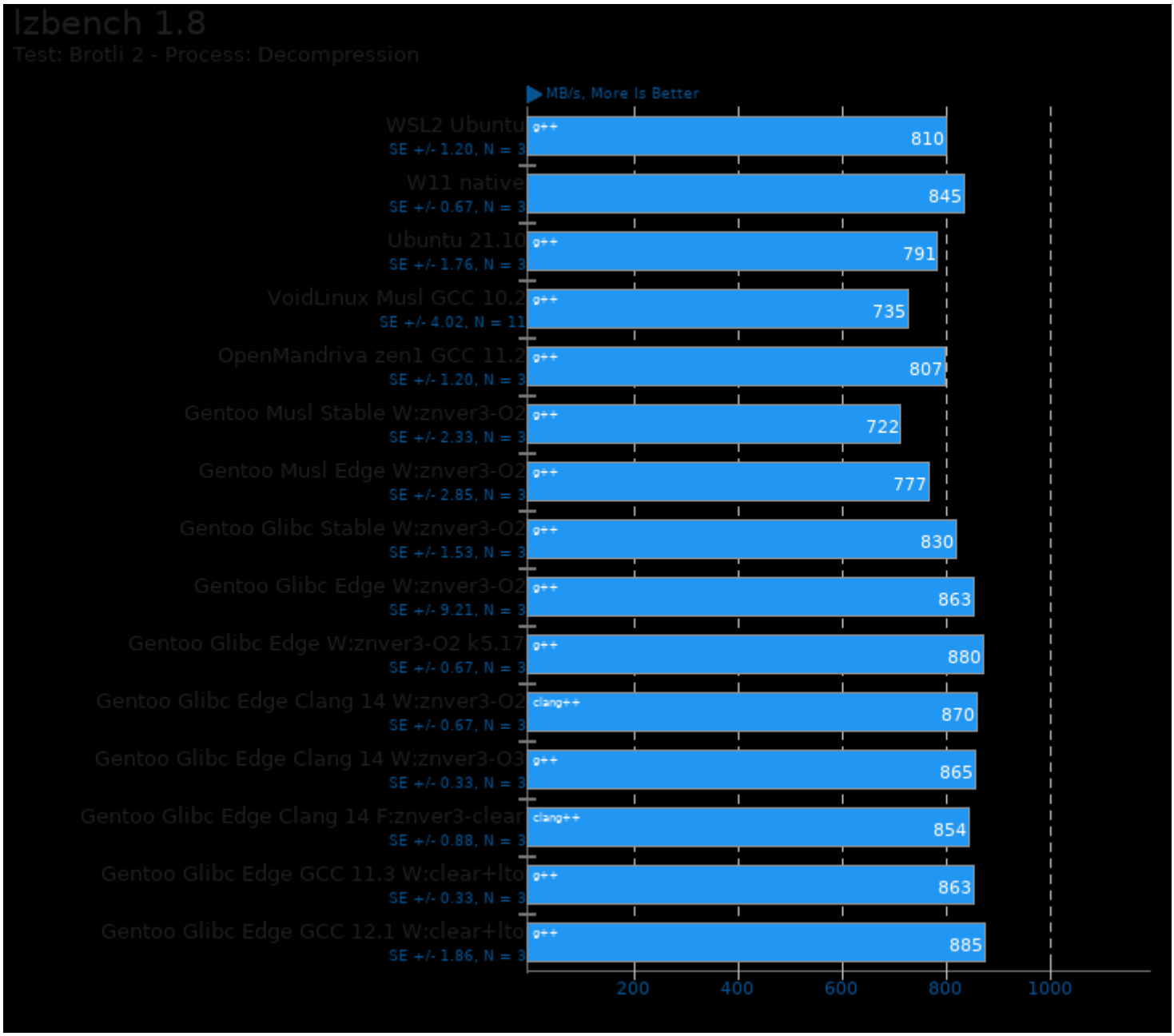
Compression bench



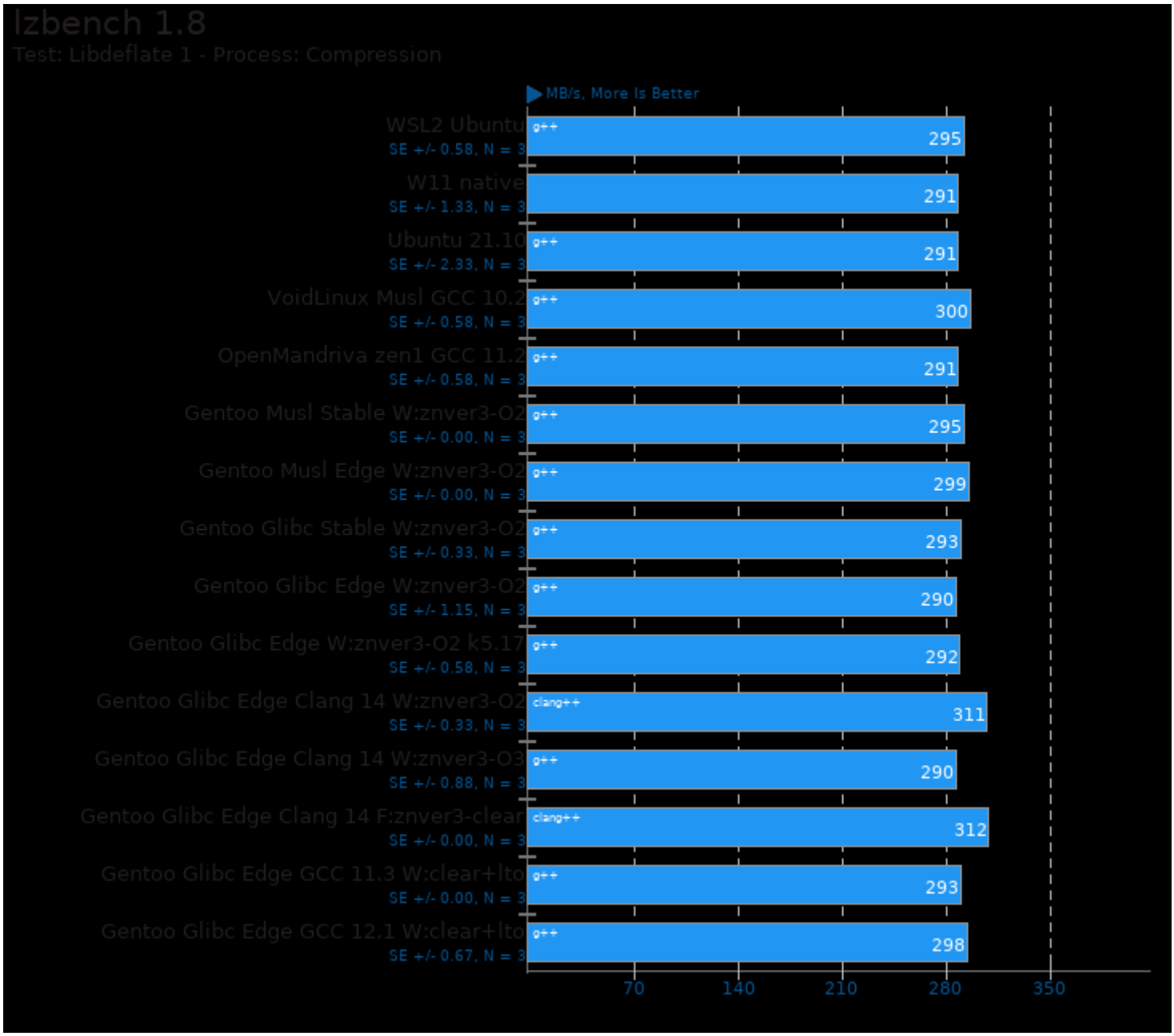
Compression bench



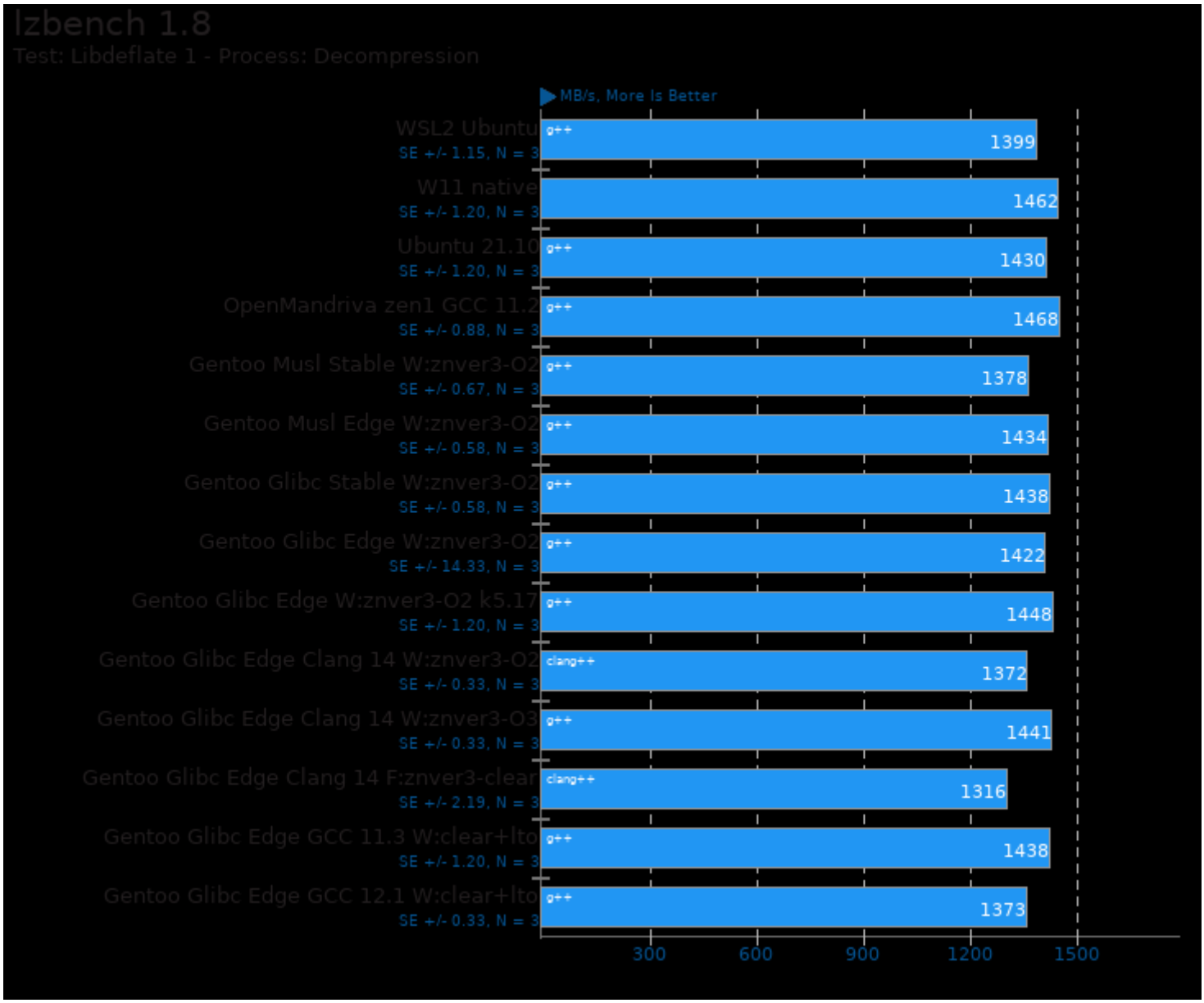
Compression bench



Compression bench

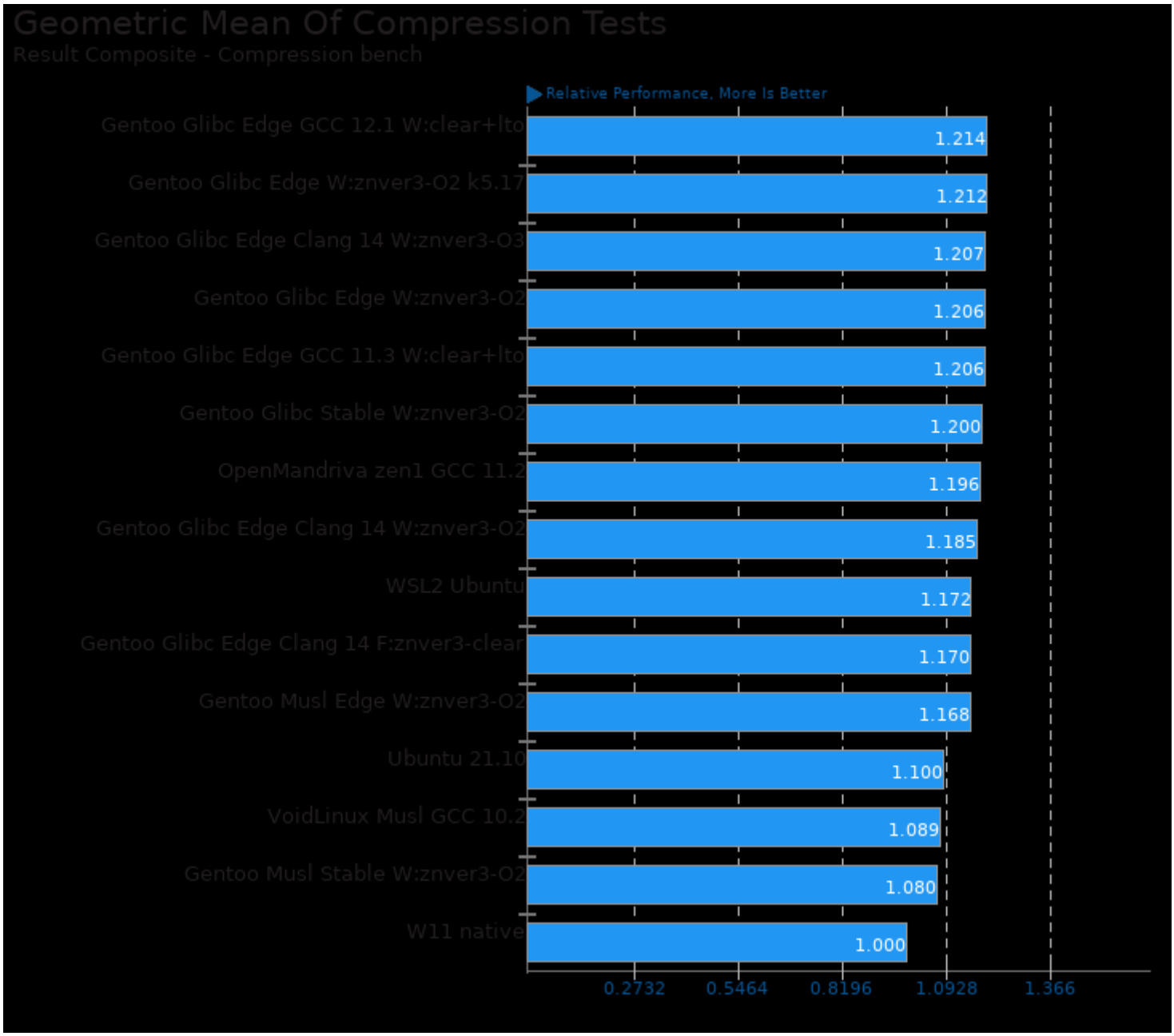


Compression bench



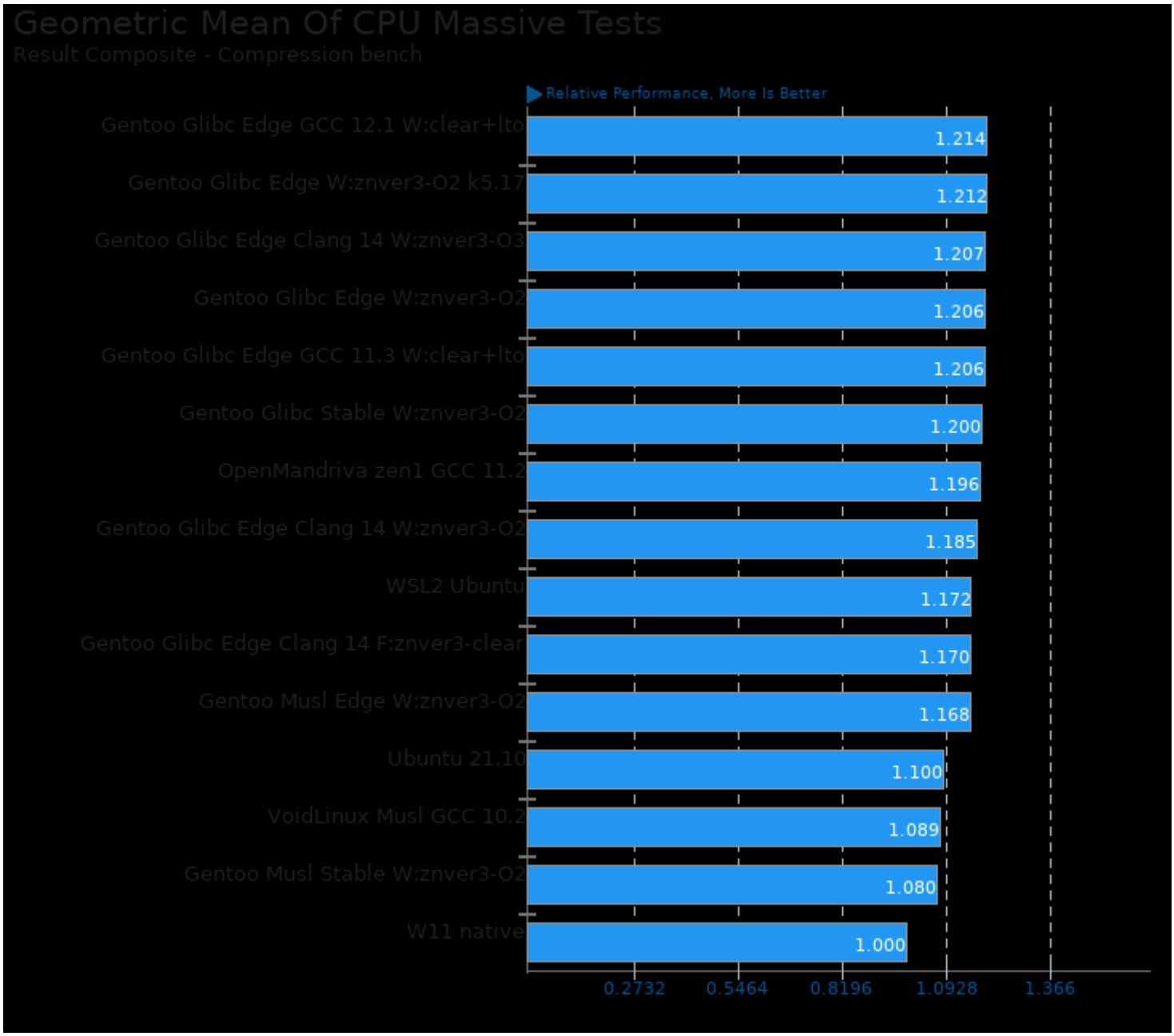
Compression bench

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



Geometric mean based upon tests: pts/compress-7zip and pts/lzbench

Compression bench



Geometric mean based upon tests: pts/compress-7zip and pts/lzbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:23.