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BenchMarxAsusk555lb

Intel Core i5-5200U testing with a ASUS X555LB v1.0 (X555LB.505 BIOS) and Intel HD 5500 3GB on Fedora 34 via the Phoronix Test Suite.

Automated Executive Summary

Arch-5.12.0-xanmod1-2 had the most wins, coming in first place for 25% of the tests.

Based on the geometric mean of all complete results, the fastest (Arch-5.12.0-xanmod1-2) was 1.077x the speed of the slowest (Arch-5.11.17-lqx1-1-lqx). fedora34-5.11.17-300.fc34.x86_64 was 0.989x the speed of Arch-5.12.0-xanmod1-2, Arch-5.12.0-xanmod1-2-march=native was 1x the speed of fedora34-5.11.17-300.fc34.x86_64, fedora34-5.12.0-xanmod1.1.fc34 was 1x the speed of Arch-5.12.0-xanmod1-2-march=native, Arch-5.11.16-zen1-1-zen was 0.988x the speed of fedora34-5.12.0-xanmod1.1.fc34, Arch-5.11.16-arch1-1 was 0.996x the speed of Arch-5.11.16-zen1-1-zen, Arch-5.10.33-1-clear was 0.991x the speed of Arch-5.11.16-arch1-1, Clear-5.10.33-1036.native was 0.974x the speed of Arch-5.10.33-1-clear, fedora34-5.12.0-xanmod1_cacule.1.fc34 was 0.991x the speed of Clear-5.10.33-1036.native, Arch-5.11.17-lqx1-1-lqx was 0.998x the speed of fedora34-5.12.0-xanmod1_cacule.1.fc34.

Test Systems:

Arch-5.11.16-arch1-1

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.11.16-arch1-1 (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,ito,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Mitigation of Microcode + tsx_async_abort: Not affected

Arch-5.11.16-zn1-1-zn

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.11.16-zn1-1-zn (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,ito,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Mitigation of Microcode + tsx_async_abort: Not affected

Arch-5.10.33-1-clear

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.10.33-1-clear (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"

-mtune=native"
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-liberty --enable-languages=c,c++,ada,fortran,go,ito,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style-gnu
Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + I1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbd: Mitigation of Microcode + tsx_async_abort: Not affected

Arch-5.12.0-xanmod1-2

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.12.0-xanmod1-2 (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-liberty --enable-languages=c,c++,ada,fortran,go,ito,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style-gnu
Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + I1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbd: Mitigation of Microcode + tsx_async_abort: Not affected

Arch-5.11.17-lqx1-1-lqx

Processor: Intel Core i5-5200U @ 2.20GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.11.17-lqx1-1-lqx (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-liberty --enable-languages=c,c++,ada,fortran,go,ito,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style-gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0x2f
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + I1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbd: Mitigation of Microcode + tsx_async_abort: Not affected

Arch-5.12.0-xanmod1-2-march=native

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: EndeavourOS rolling, Kernel: 5.12.0-xanmod1-2 (x86_64), Desktop: GNOME Shell 40.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
 Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
 Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
 Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f
 Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Mitigation of Microcode + tsx_async_abort: Not affected

Clear-5.10.33-1036.native

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12GB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: ASUS Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: Clear Linux OS 34560, Kernel: 5.10.33-1036.native (x86_64), Desktop: GNOME Shell 40.0, Display Server: X Server 1.20.11, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 11.1.1 20210428 releases/gcc-11.1.0-24-g6f60fd21fd + Clang 11.1.0 + LLVM 11.1.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
 Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" MESA_GLSL_CACHE_DISABLE=0
 CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -fno-tree-loop-vectorize -WI,-sort-common -WI,--enable-new-dtags" CFLAGS="-O3 -LTO -march=native -mtune=native"
 THEANO_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-fno-tree-vectorize -fno-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-languages=c,c++,fortran,go --enable-ld=default --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-gcc-major-version-only --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
 Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f - Thermal 2.4.4
 Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Mitigation of Microcode + tsx_async_abort: Not affected

fedora34-5.11.17-300.fc34.x86_64

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12288MB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: Intel HD 5500 3GB, Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: Fedora 34, Kernel: 5.11.17-300.fc34.x86_64 (x86_64), Desktop: GNOME Shell 40.0, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 11.1.1 20210428, File-System: btrfs, Screen Resolution: 1920x1080

Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"
 Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
 Processor Notes: Scaling Governor: intel_cpufreq performance
 Security Notes: SELinux + itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Mitigation of Microcode + tsx_async_abort: Not affected

fedora34-5.12.0-xanmod1.1.fc34

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12288MB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: Intel HD 5500 3GB, Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: Fedora 34, Kernel: 5.12.0-xanmod1.1.fc34 (x86_64), Desktop: GNOME Shell 40.0, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 11.1.1 20210428, File-System: btrfs, Screen Resolution: 1920x1080

Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-_cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

Processor Notes: Scaling Governor: intel_cpufreq performance

Security Notes: SELinux + itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

fedora34-5.12.0-xanmod1_cacule.1.fc34

Processor: Intel Core i5-5200U @ 2.70GHz (2 Cores / 4 Threads), Motherboard: ASUS X555LB v1.0 (X555LB.505 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 12288MB, Disk: 240GB KINGSTON SA400S3 + 1000GB TOSHIBA MQ01ABD1, Graphics: Intel HD 5500 3GB (900MHz), Audio: Intel Broadwell-U Audio, Network: Realtek RTL8111/8168/8411 + Intel 7265

OS: Fedora 34, Kernel: 5.12.0-xanmod1_cacule.1.fc34 (x86_64), Desktop: GNOME Shell 40.0, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.0.3, Compiler: GCC 11.1.1 20210428, File-System: btrfs, Screen Resolution: 1920x1080

Environment Notes: FFLAGS="-O3 -LTO -march=native -mtune=native" CXXFLAGS="-O3 -LTO -march=native -mtune=native" CFLAGS="-O3 -LTO -march=native -mtune=native"

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-_cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

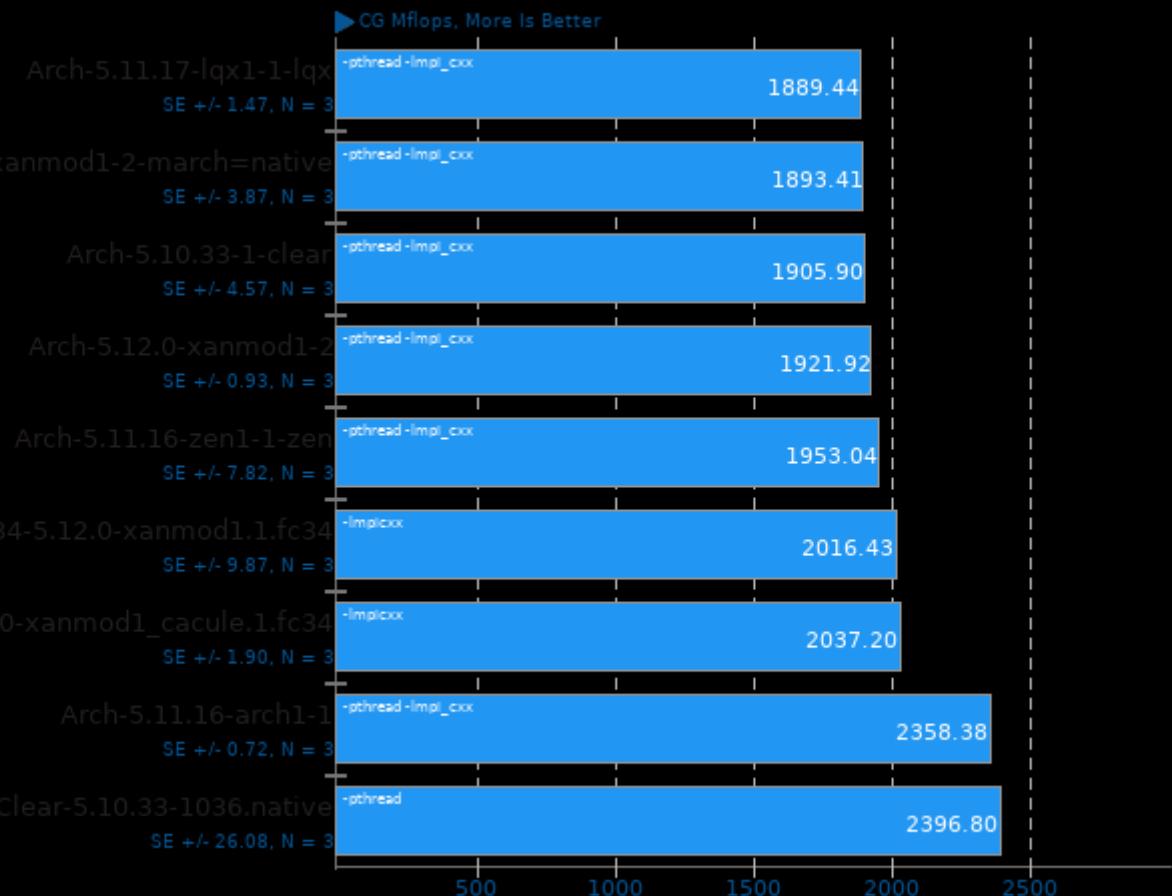
Processor Notes: Scaling Governor: intel_cpufreq performance

Security Notes: SELinux + itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

| | Arch-5.1 1.16-arch 1-1 | Arch-5.1 1.16-zen 1-1-zen | Arch-5.1 0.33-1-cl ear | Arch-5.1 2.0-xanm od1-2 | Arch-5.1 1.17-lqx1 -1-lqx | Arch-5.1 2.0-xanm od1-2-m | Clear-5.1 6.native arch=nat | fedor34 -5.11.17- ive x86_64 | fedor34 -5.12.0-x 1.fc34 | fedor34 -5.12.0-x anmod1. cacule.1. fc34 |
|-------------------------------------|------------------------------|---------------------------------|------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------------------|--------------------------------|--|
| miniFE - Small (CG Mflops) | 2358 | 1953 | 1906 | 1922 | 1889 | 1893 | 2397 | | 2016 | 2037 |
| Normalized | 98.4% | 81.49% | 79.52% | 80.19% | 78.83% | 79% | 100% | | 84.13% | 85% |
| Standard Deviation | 0.1% | 0.7% | 0.4% | 0.1% | 0.1% | 0.4% | 1.9% | | 0.8% | 0.2% |
| Dolfyn - C.F.D (sec) | 34.487 | 33.124 | 34.774 | 33.029 | 32.962 | 33.305 | 32.971 | 32.59 | 32.29 | 32.39 |
| Normalized | 93.63% | 97.48% | 92.86% | 97.76% | 97.96% | 96.95% | 97.93% | 99.08% | 100% | 99.69% |
| Standard Deviation | 1.5% | 0.7% | 1% | 0.7% | 0.5% | 0.9% | 0.6% | 0.3% | 0.1% | 0.3% |
| Algebraic | 8802995 | 1032344 | 1079553 | 1119641 | 1055662 | 1117609 | 1031294 | | | |
| Multi-Grid | 3 | 33 | 67 | 67 | 67 | 33 | 00 | | | |
| Benchmark (Figure) | | | | | | | | | | |
| Normalized | 78.62% | 92.2% | 96.42% | 100% | 94.29% | 99.82% | 92.11% | | | |
| Standard Deviation | 0.4% | 0.5% | 0.2% | 0.2% | 1% | 0.4% | 1.1% | | | |
| SciMark - | 1239 | 1243 | 1215 | 1257 | 1174 | 1250 | 1184 | 1248 | 1254 | 1226 |
| Composite (Mflops) | | | | | | | | | | |
| Normalized | 98.57% | 98.84% | 96.68% | 100% | 93.39% | 99.45% | 94.2% | 99.3% | 99.74% | 97.5% |
| Standard Deviation | 0.4% | 0.9% | 0.5% | 0.5% | 0.1% | 1% | 2.2% | 1.1% | 1.2% | 1.6% |
| SciMark - Monte | 548.68 | 548.29 | 524.34 | 550.18 | 514.21 | 544.33 | 547.91 | 515.69 | 553.79 | 558.13 |
| Carlo (Mflops) | | | | | | | | | | |
| Normalized | 98.31% | 98.24% | 93.95% | 98.58% | 92.13% | 97.53% | 98.17% | 92.4% | 99.22% | 100% |
| Standard Deviation | 0.6% | 0.4% | 0% | 0.3% | 0% | 0.6% | 0.2% | 13.4% | 0.1% | 0.2% |
| SciMark - F.F.T (Mflops) | 235.64 | 180.29 | 184.17 | 218.20 | 204.58 | 226.37 | 168.54 | 229.12 | 211.31 | 195.81 |
| Normalized | 100% | 76.51% | 78.16% | 92.6% | 86.82% | 96.07% | 71.52% | 97.23% | 89.67% | 83.1% |
| Standard Deviation | 0.1% | 0.7% | 1.6% | 0.2% | 1.7% | 1.4% | 0.9% | 0.3% | 0.7% | 2.8% |
| SciMark - S.M.M (Mflops) | 1599 | 1570 | 1518 | 1592 | 1466 | 1556 | 1555 | 1557 | 1625 | 1593 |
| Normalized | 98.39% | 96.6% | 93.38% | 97.96% | 90.22% | 95.72% | 95.65% | 95.8% | 100% | 97.99% |
| Standard Deviation | 4.3% | 0.4% | 0.4% | 0.6% | 1.2% | 1.2% | 0.4% | 0.2% | 0.4% | 1.4% |
| SciMark - D.L.M.F (Mflops) | 2347 | 2453 | 2445 | 2468 | 2326 | 2470 | 2195 | 2480 | 2420 | 2322 |
| Normalized | 94.64% | 98.9% | 98.58% | 99.48% | 93.76% | 99.56% | 88.48% | 100% | 97.55% | 93.61% |
| Standard Deviation | 2.5% | 2.5% | 0.2% | 1.3% | 0.7% | 1.6% | 5.6% | 0.2% | 3.4% | 5% |
| SciMark - J.S.O.R (Mflops) | 1465 | 1461 | 1406 | 1458 | 1360 | 1455 | 1456 | 1460 | 1460 | 1460 |
| Normalized | 100% | 99.76% | 95.96% | 99.51% | 92.83% | 99.33% | 99.39% | 99.65% | 99.67% | 99.68% |
| Standard Deviation | 0.3% | 0.3% | 1.4% | 0.1% | 0.1% | 0.1% | 0.3% | 0.1% | 0% | 0% |
| ArrayFire - BLAS CPU (GFLOPS) | 135.631 | 140.090 | 139.811 | 140.222 | 139.715 | 140.576 | 139.694 | 138.12 | 140.36 | 137.41 |
| Normalized | 96.48% | 99.65% | 99.46% | 99.75% | 99.39% | 100% | 99.37% | 98.25% | 99.85% | 97.75% |
| Standard Deviation | 0.2% | 0.2% | 0.4% | 0.4% | 0.4% | 0% | 0.6% | 0.8% | 0.1% | 0.2% |
| ArrayFire - C.G.C (ms) | 45.46 | 42.39 | 41.04 | 40.35 | 46.56 | 44.78 | 47.90 | 41.72 | 43.99 | 67.86 |
| Normalized | 88.76% | 95.19% | 98.32% | 100% | 86.66% | 90.11% | 84.24% | 96.72% | 91.73% | 59.46% |
| Standard Deviation | 0.3% | 0.7% | 2.7% | 1.1% | 2.1% | 2.3% | 0.3% | 1.1% | 0.5% | 2.1% |
| 7-Zip Compression - C.S.T (MIPS) | 7768 | 8894 | 9011 | 8539 | 7094 | 8544 | 8662 | 8244 | 8313 | 8386 |
| Normalized | 86.21% | 98.7% | 100% | 94.76% | 78.73% | 94.82% | 96.13% | 91.49% | 92.25% | 93.06% |
| Standard Deviation | 1.7% | 1.1% | 0.5% | 1.4% | 0.8% | 1.1% | 1.9% | 0.6% | 1.9% | 0.5% |

miniFE 2.2

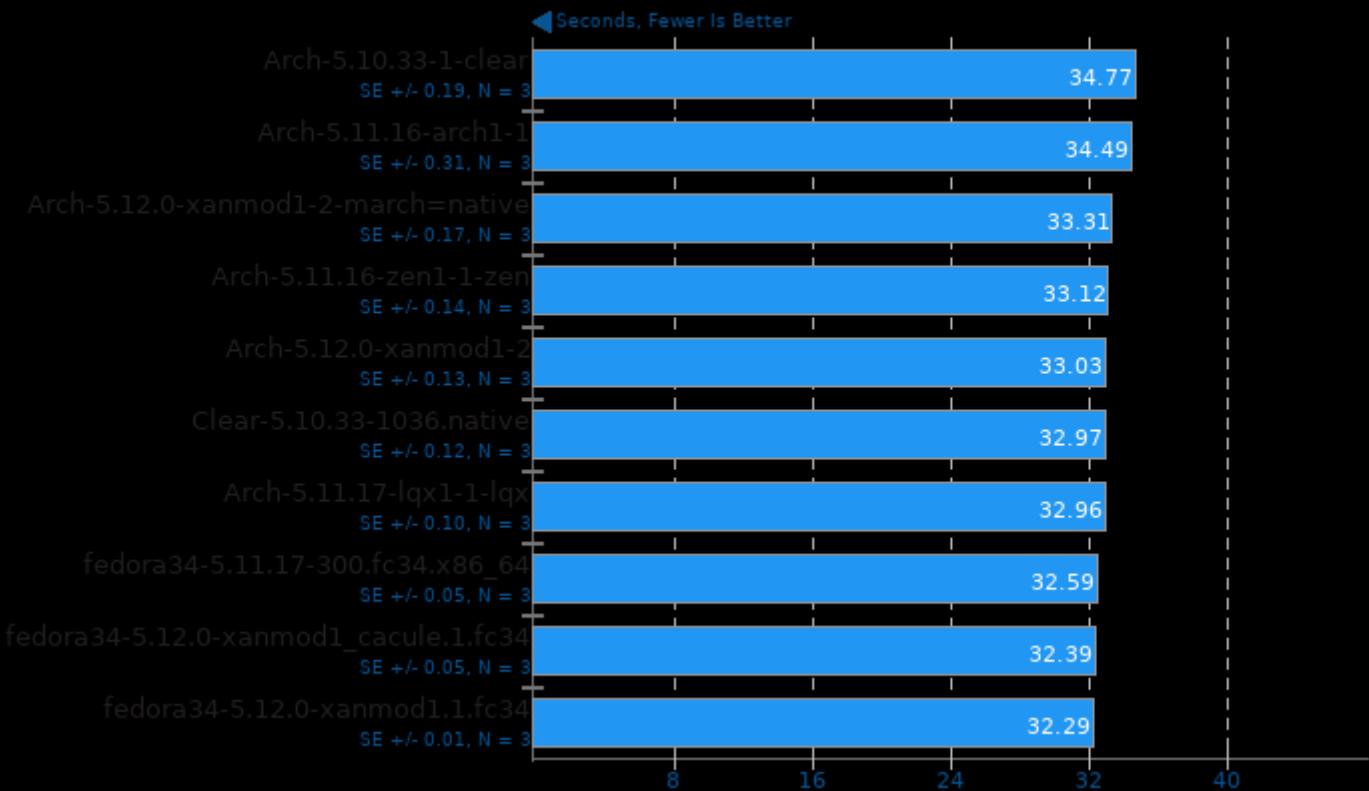
Problem Size: Small



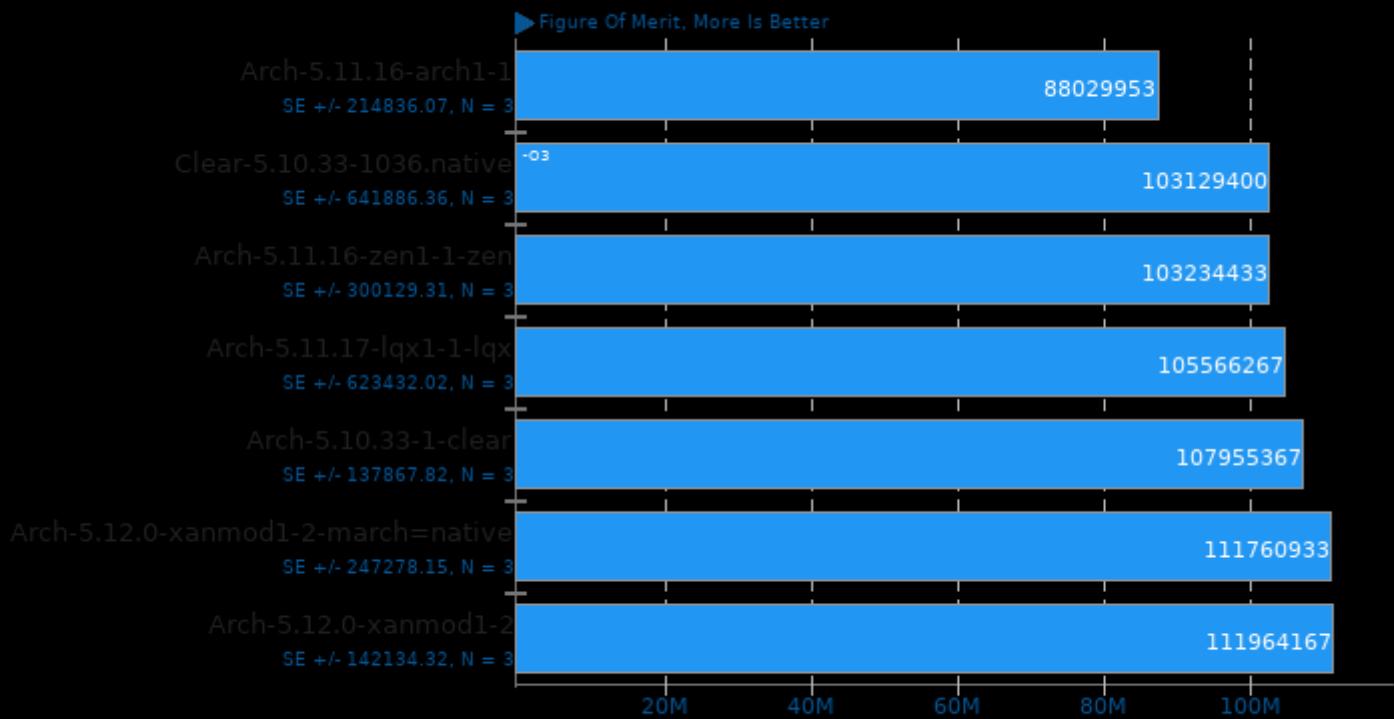
1. (CXX) g++ options: -O3 -fopenmp -lmpi

Dolfyn 0.527

Computational Fluid Dynamics



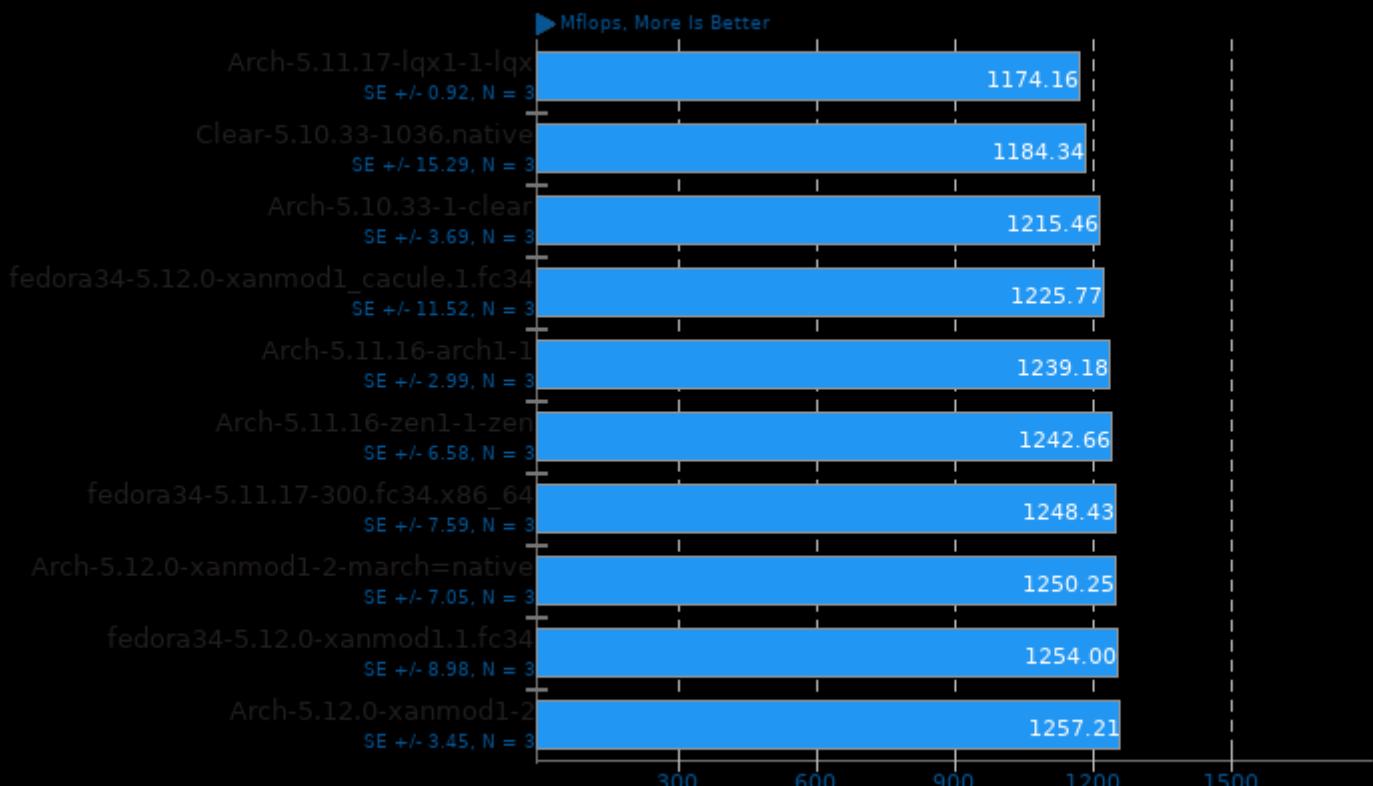
Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -fparcsr_ls -fparcsr_mv -fseq_mv -fij_mv -fkrylov -fHYPRE_utilities -fopenmp -fthread -fmpi

SciMark 2.0

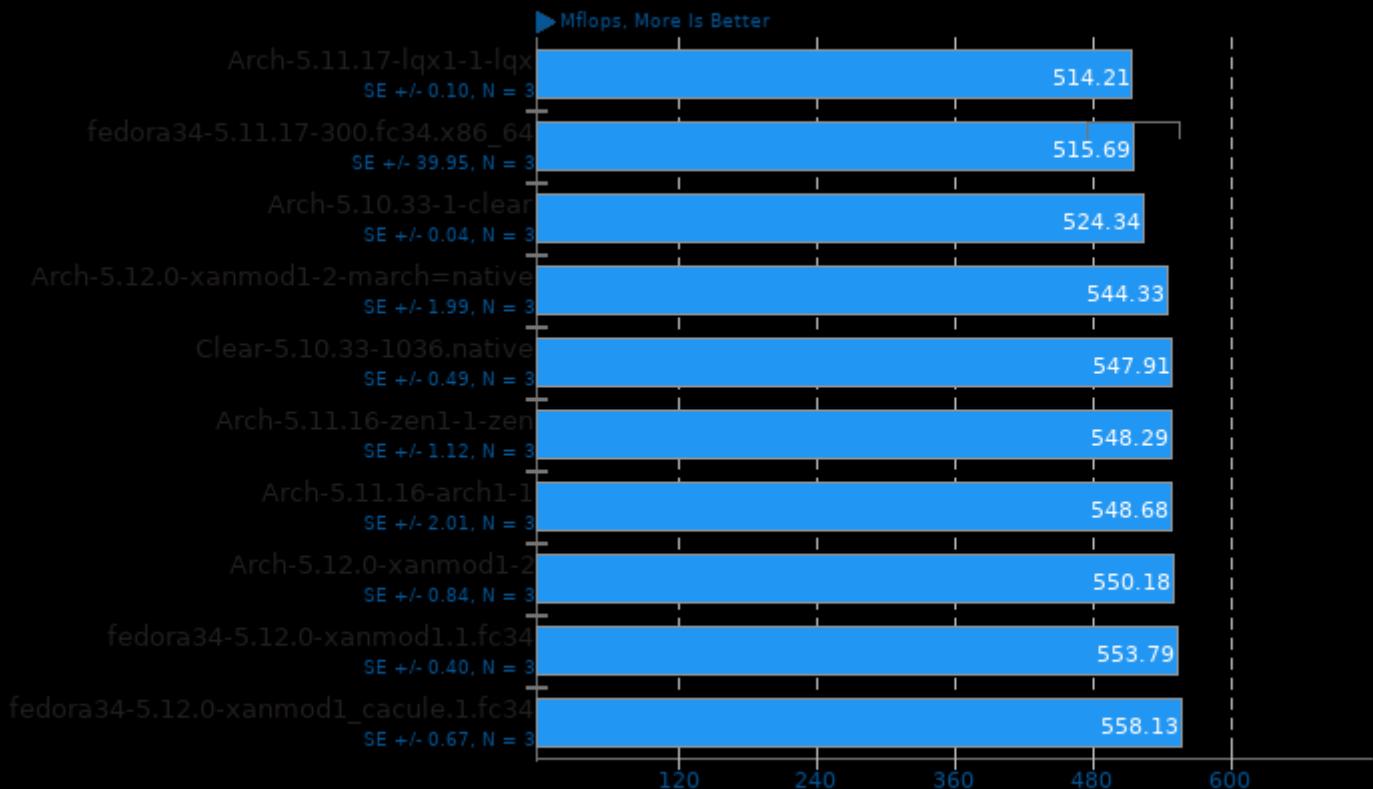
Computational Test: Composite



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

SciMark 2.0

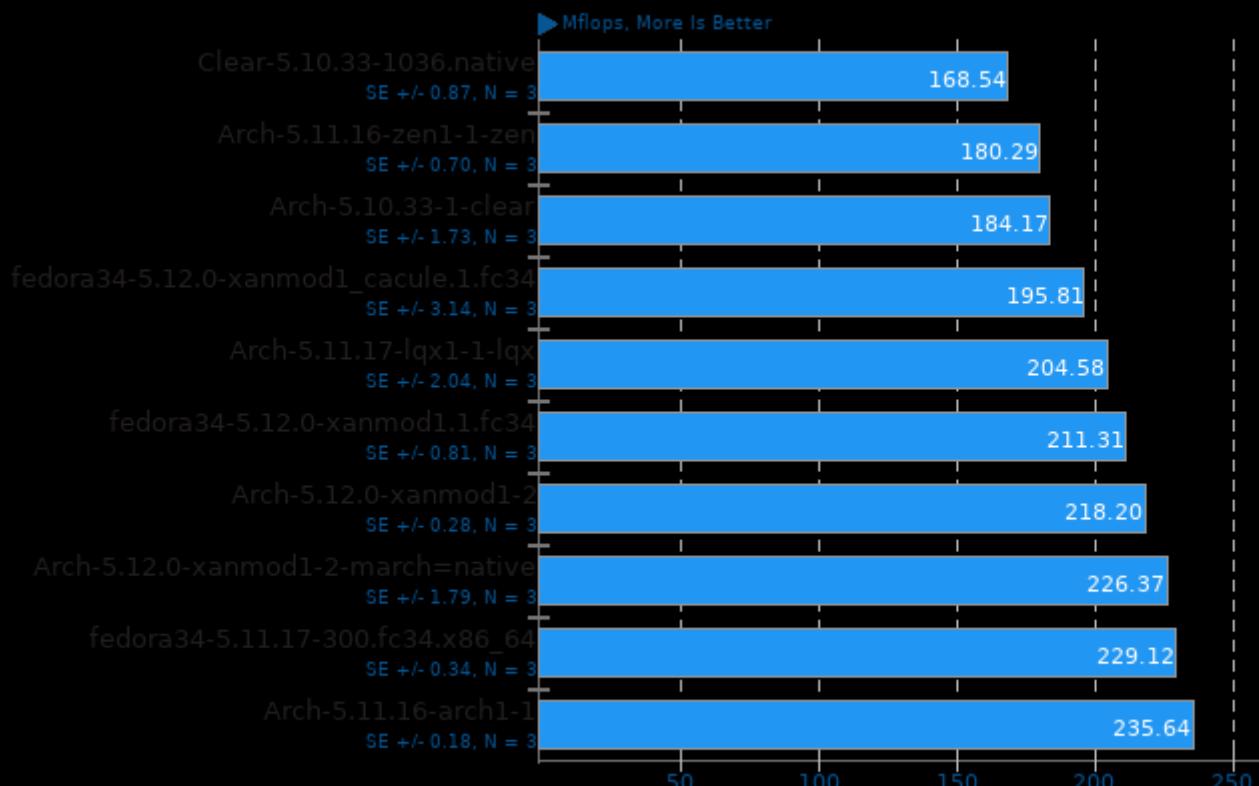
Computational Test: Monte Carlo



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

SciMark 2.0

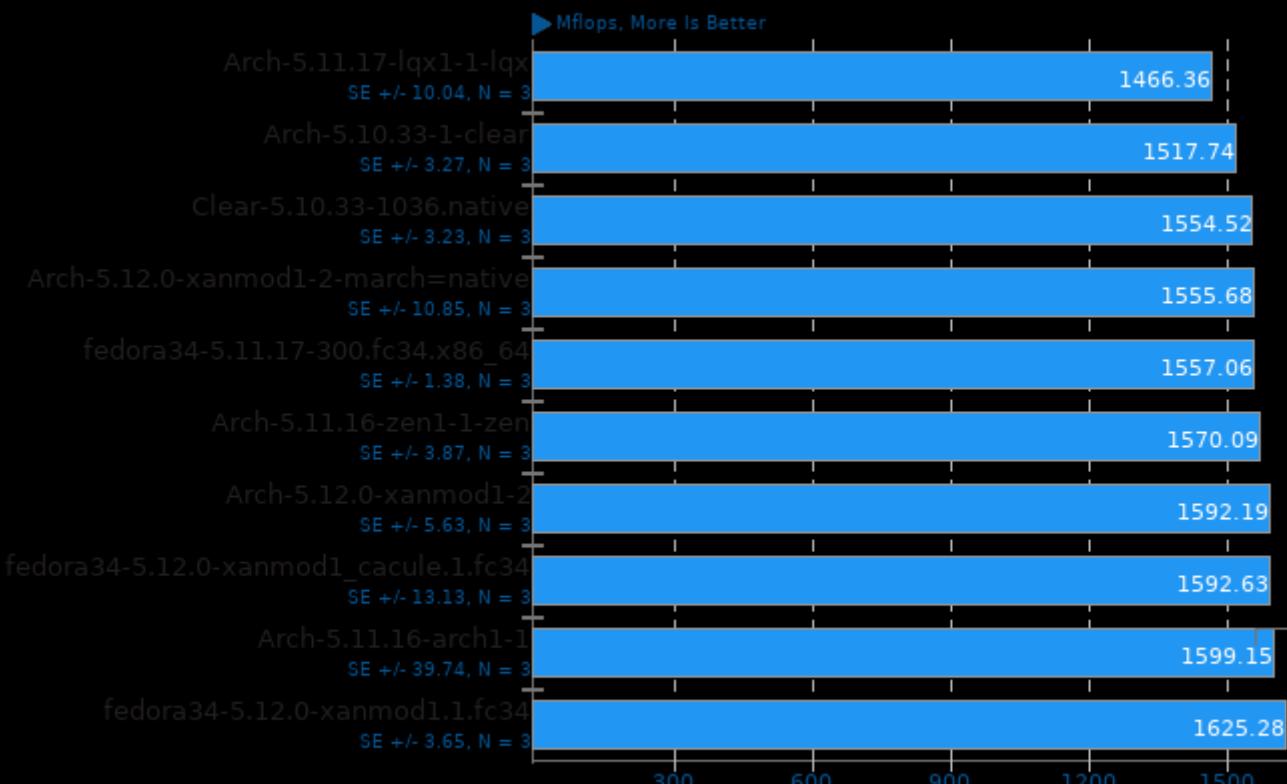
Computational Test: Fast Fourier Transform



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

SciMark 2.0

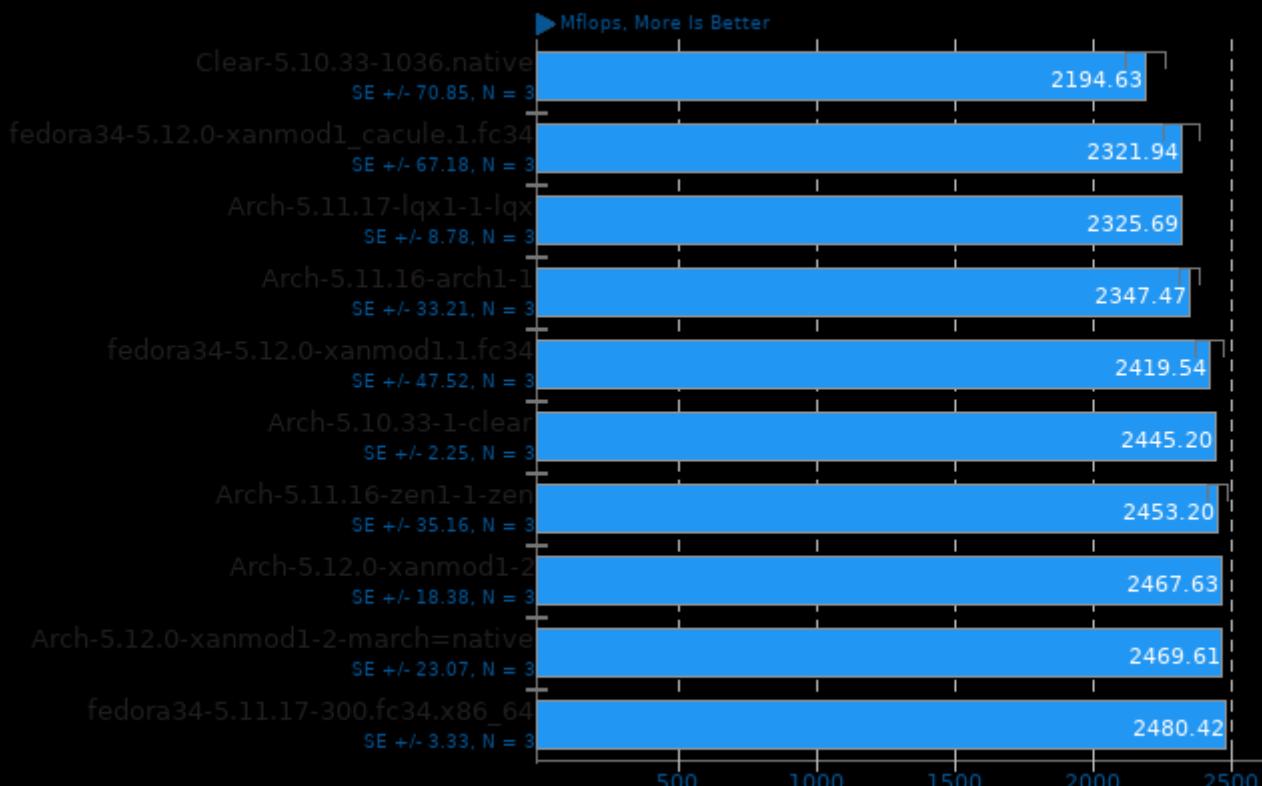
Computational Test: Sparse Matrix Multiply



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

SciMark 2.0

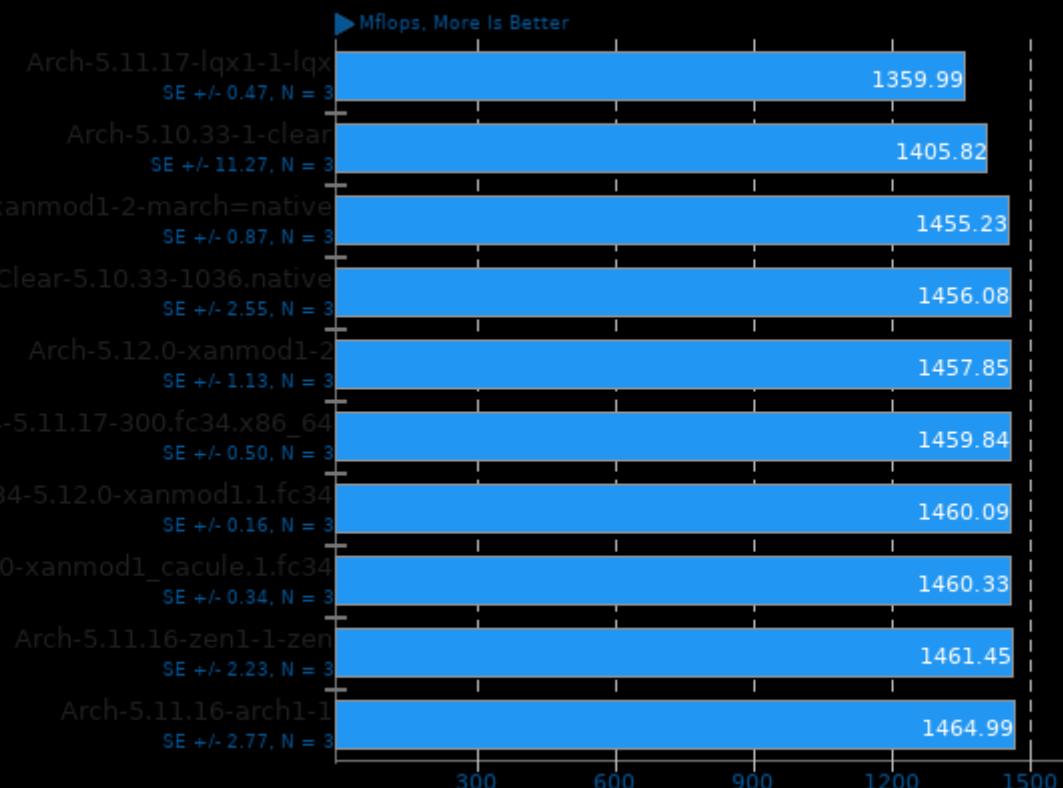
Computational Test: Dense LU Matrix Factorization



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

SciMark 2.0

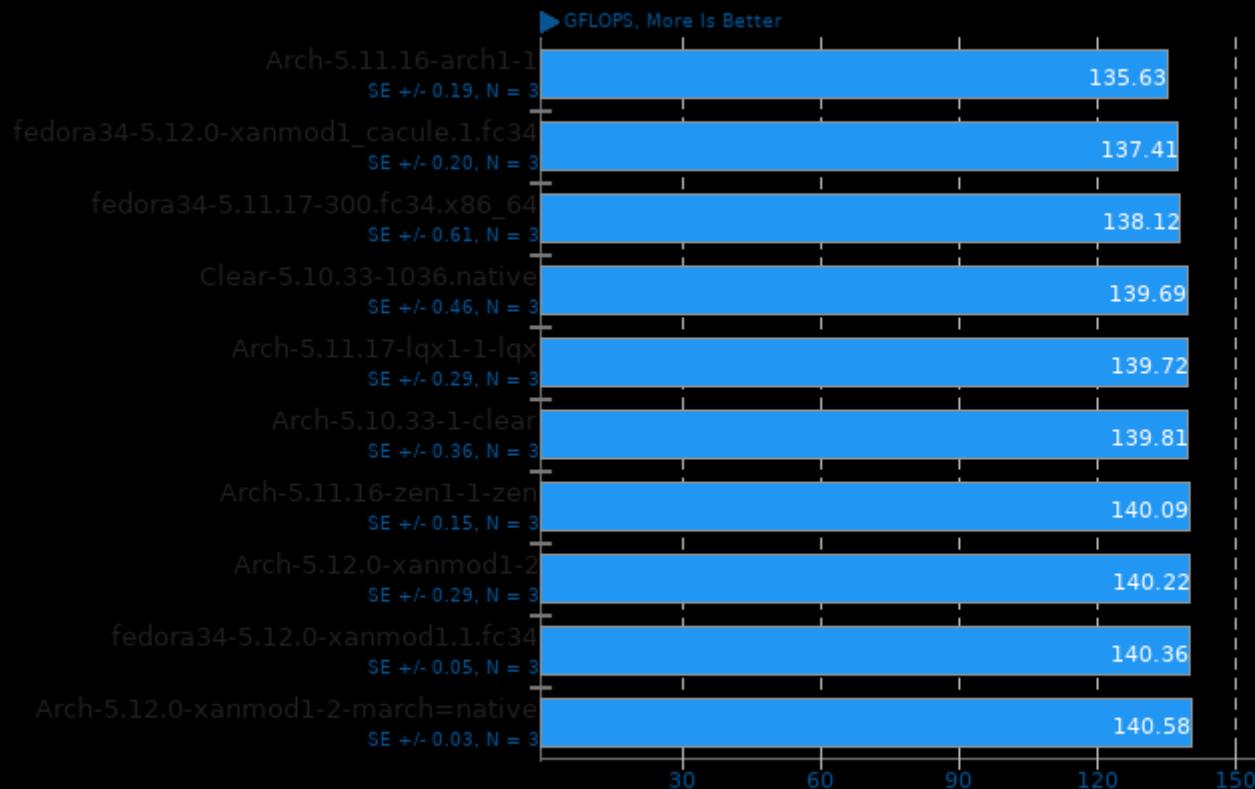
Computational Test: Jacobi Successive Over-Relaxation



1. (CC) gcc options: -O3 -march=native -mtune=native -lm

ArrayFire 3.7

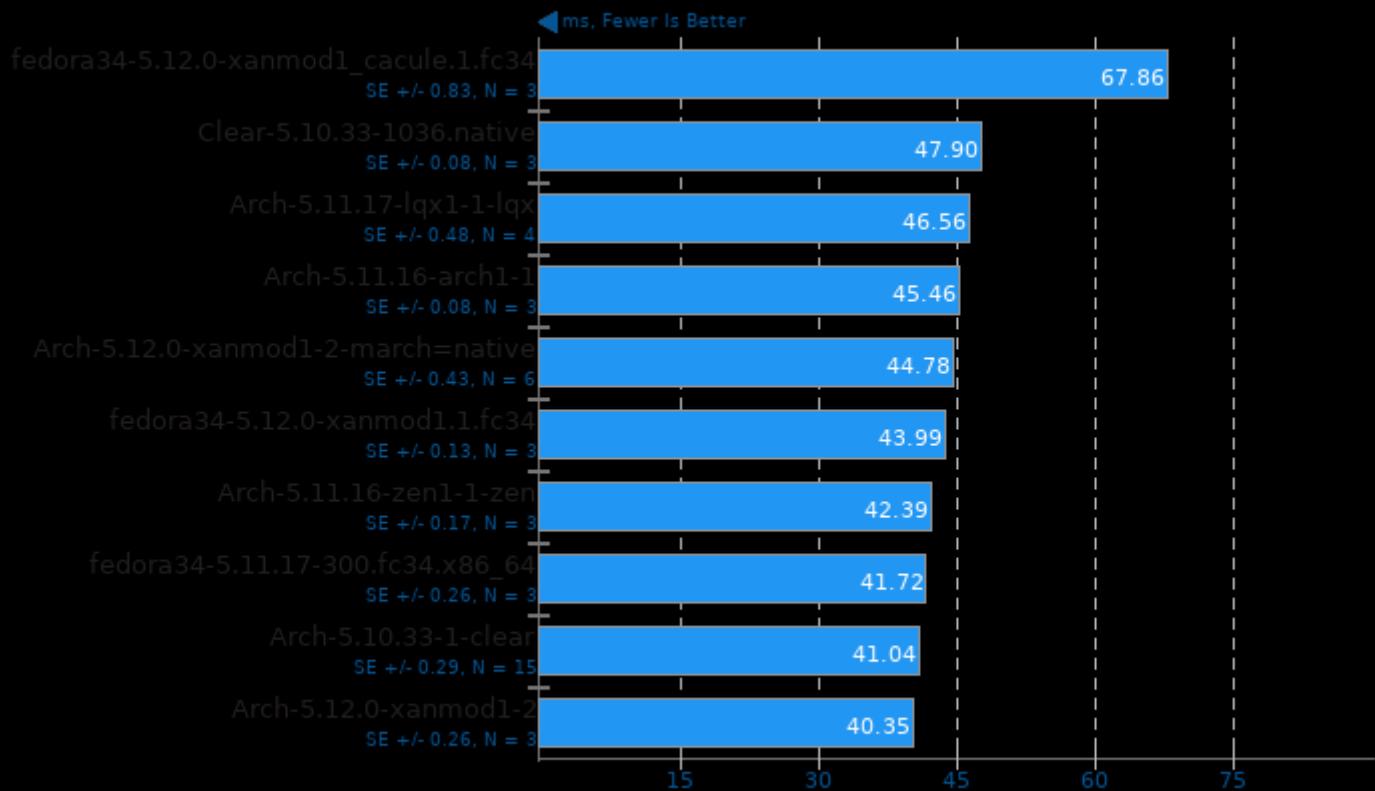
Test: BLAS CPU



1. (CXX) g++ options: -O3 -march=native -mtune=native -rdynamic

ArrayFire 3.7

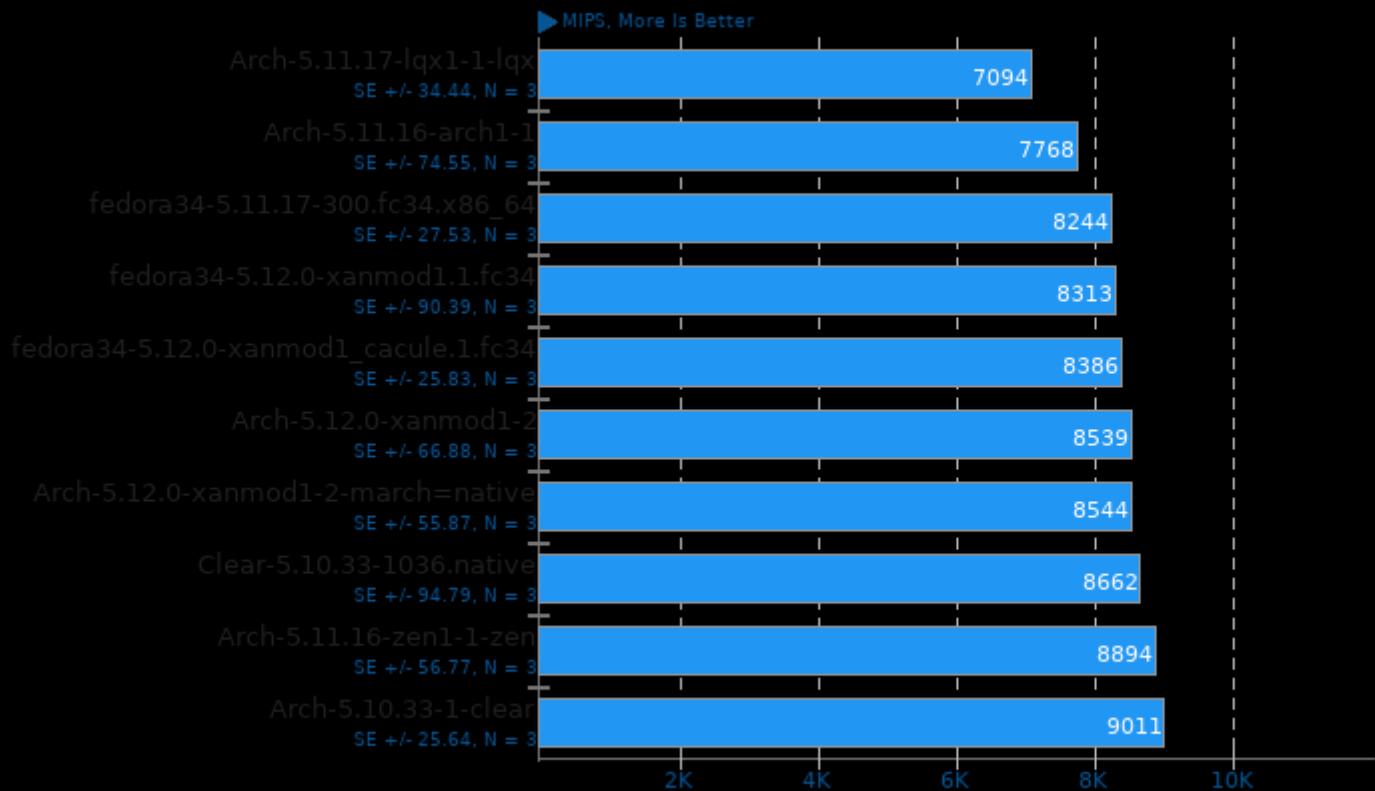
Test: Conjugate Gradient CPU



1. (CXX) g++ options: -O3 -march=native -mtune=native -rdynamic

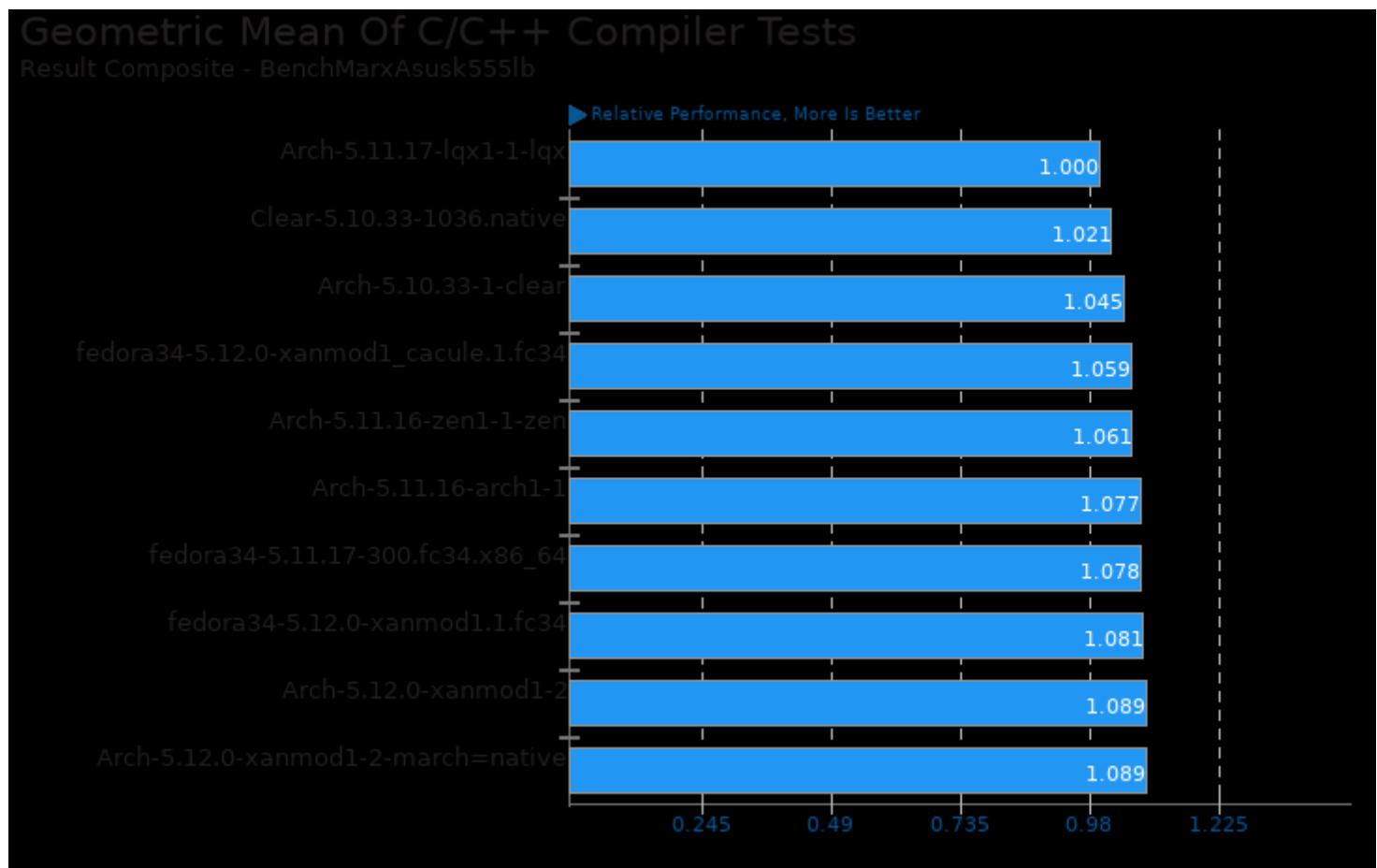
7-Zip Compression 16.02

Compress Speed Test



1. (CXX) g++ options: -pipe -lpthread

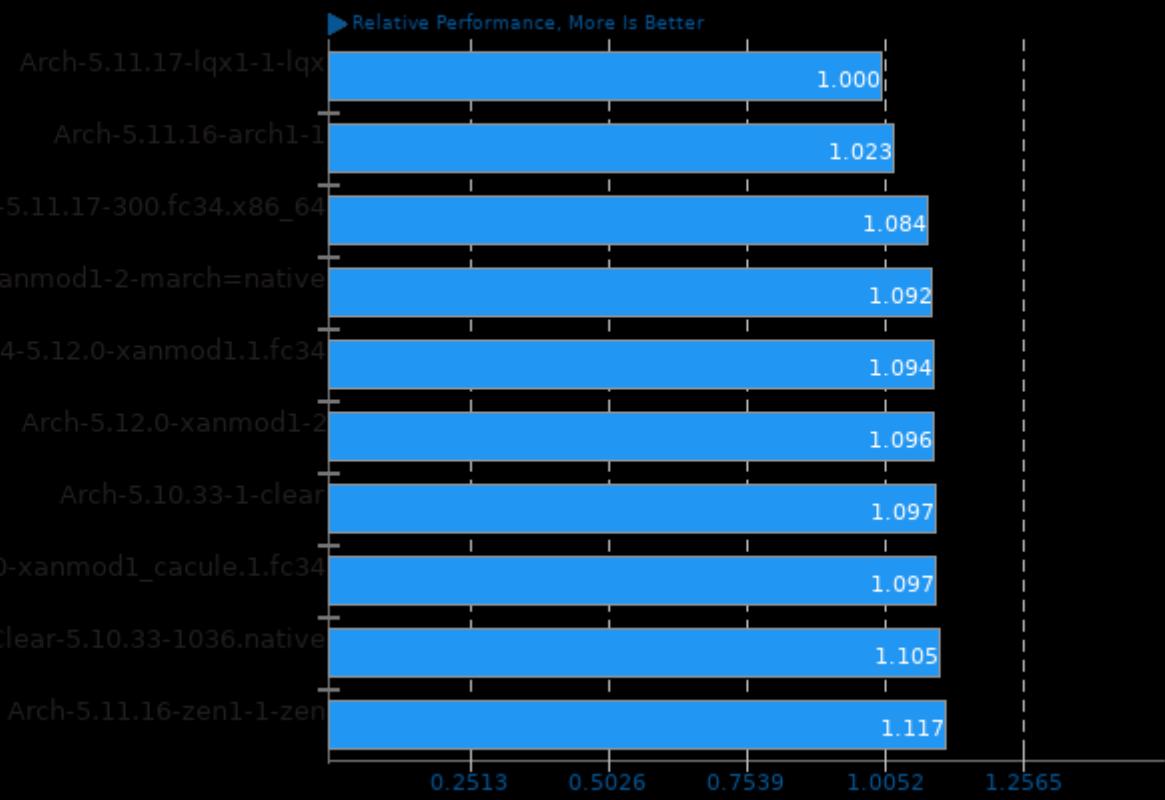
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/scimark2 and pts/compress-7zip

Geometric Mean Of CPU Massive Tests

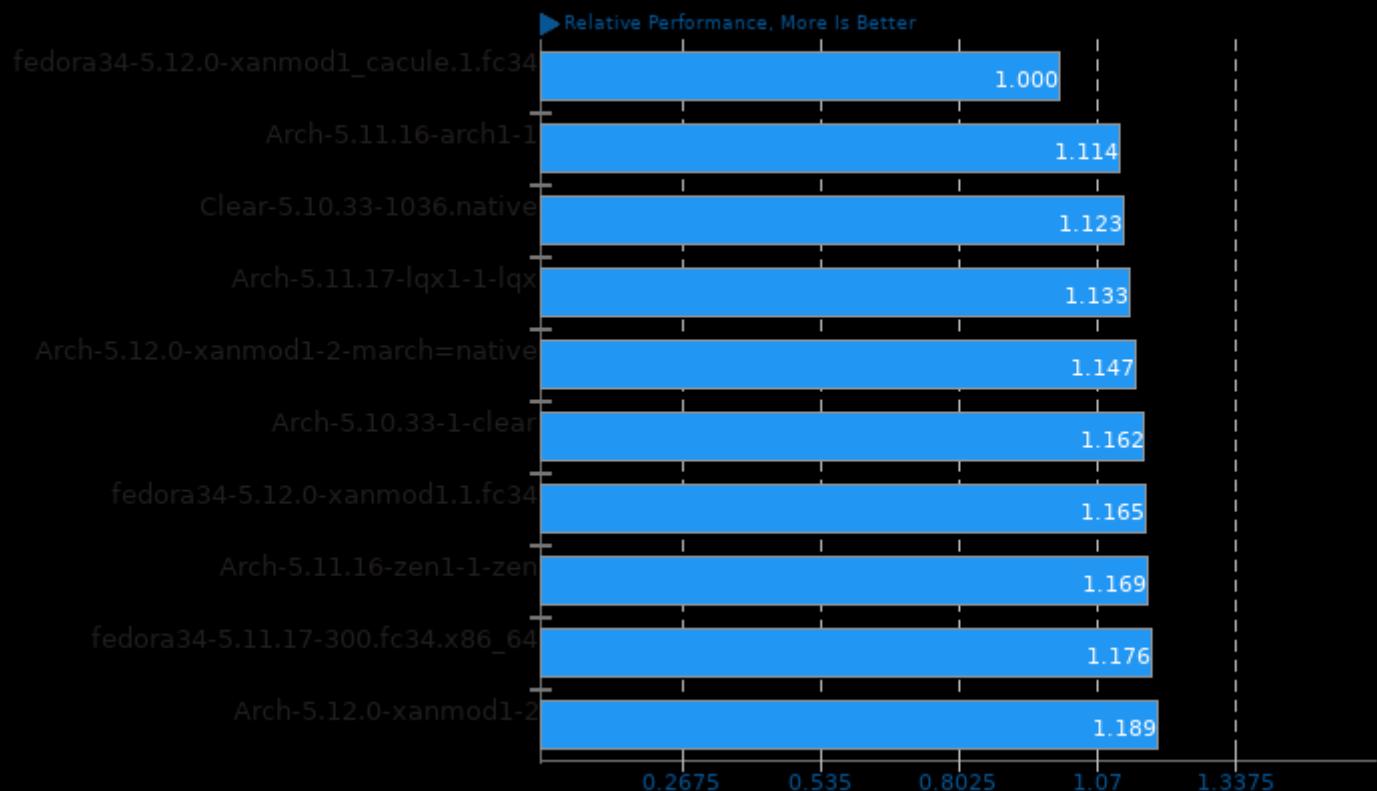
Result Composite - BenchMarxAsusk555lb



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

Geometric Mean Of HPC - High Performance Computing Tests

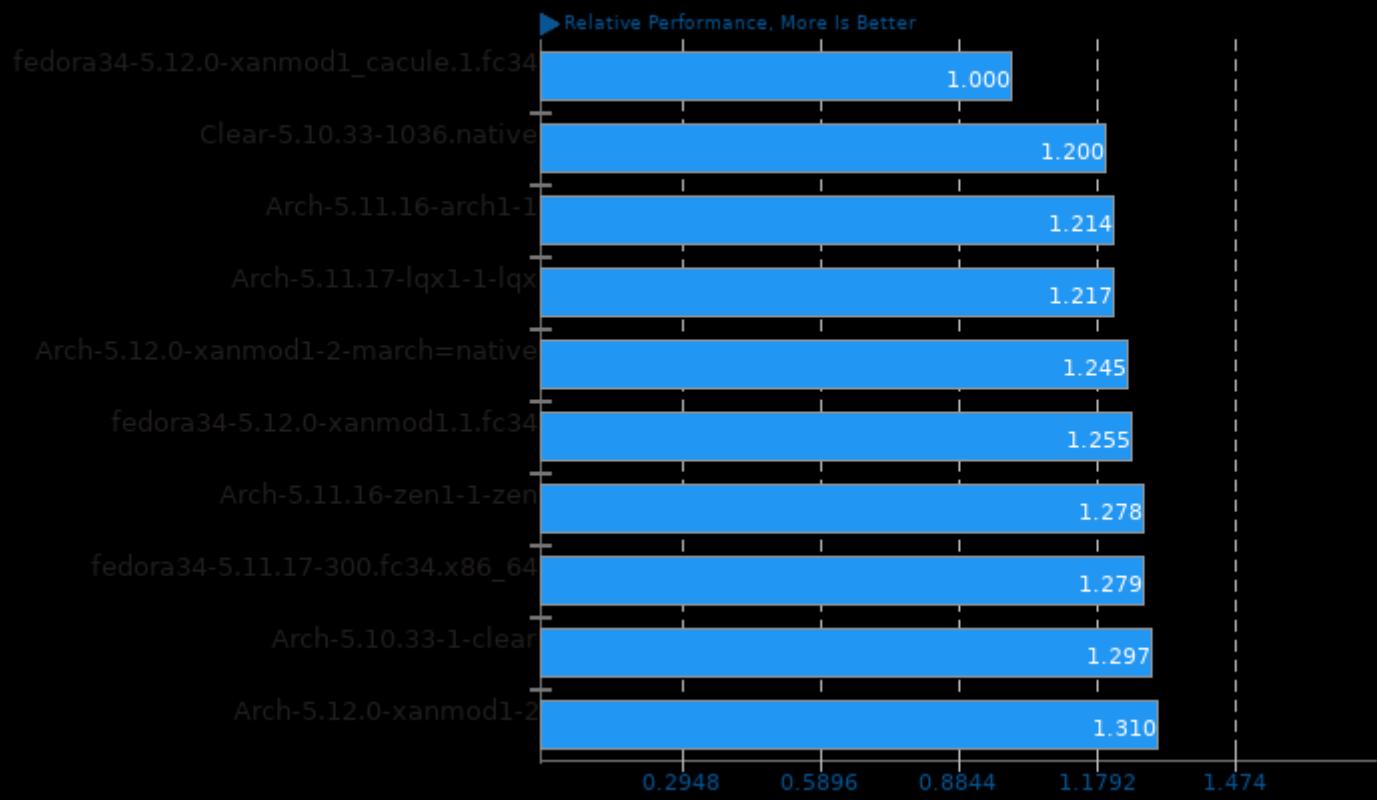
Result Composite - BenchMarxAsusk555lb



Geometric mean based upon tests: pts/arrayfire, pts/amg, pts/dolfyn and pts/minife

Geometric Mean Of Linear Algebra Tests

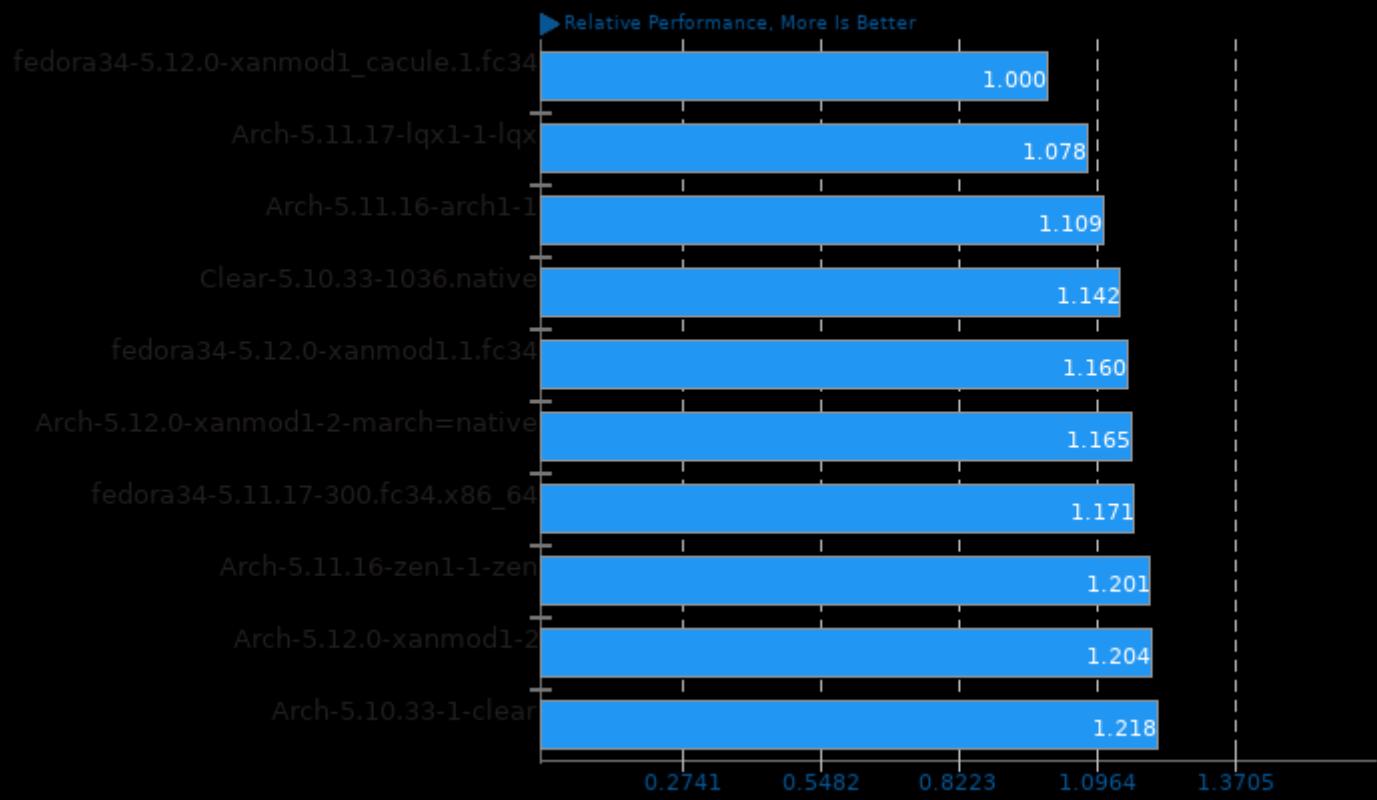
Result Composite - BenchMarxAsusk555lb



Geometric mean based upon tests: pts/arrayfire and pts/amg

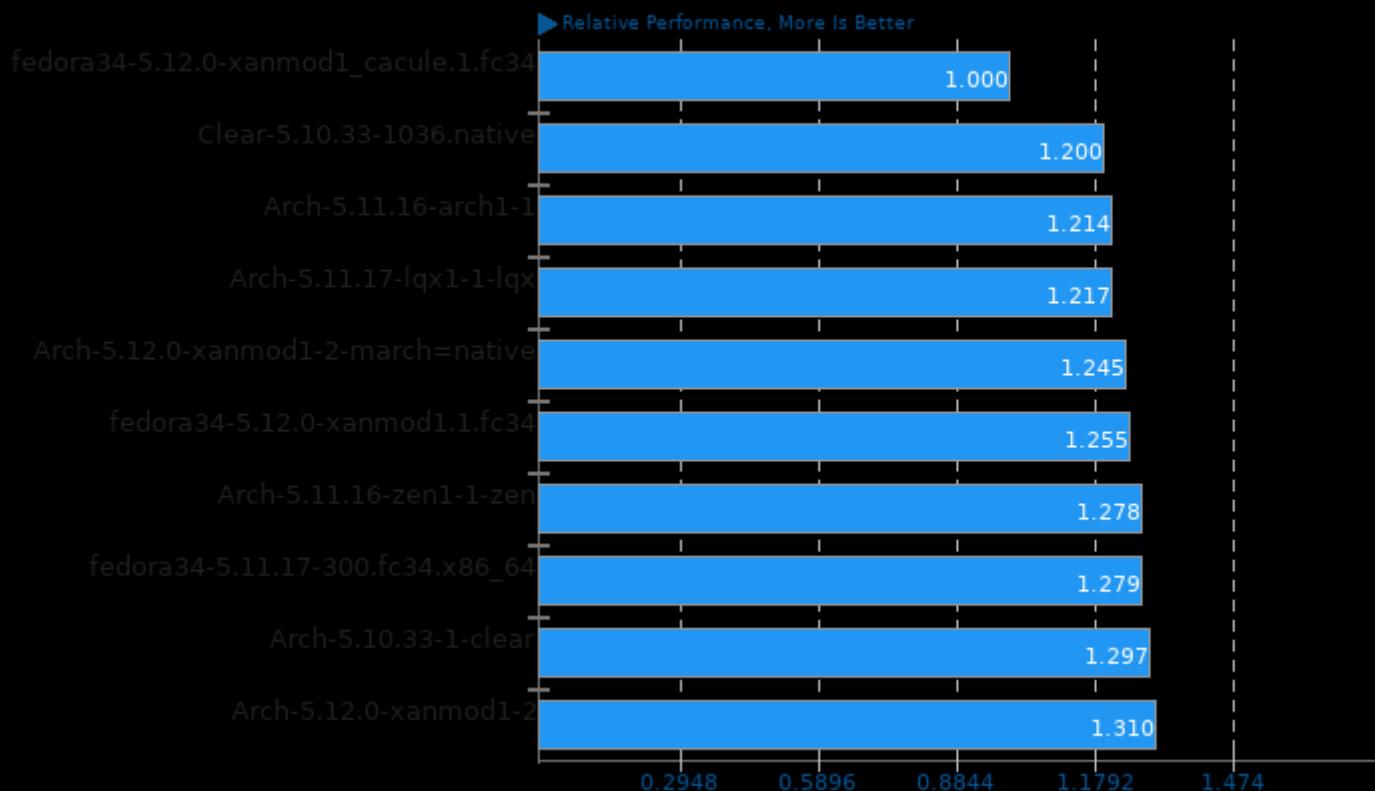
Geometric Mean Of Multi-Core Tests

Result Composite - BenchMarxAsusk555lb



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

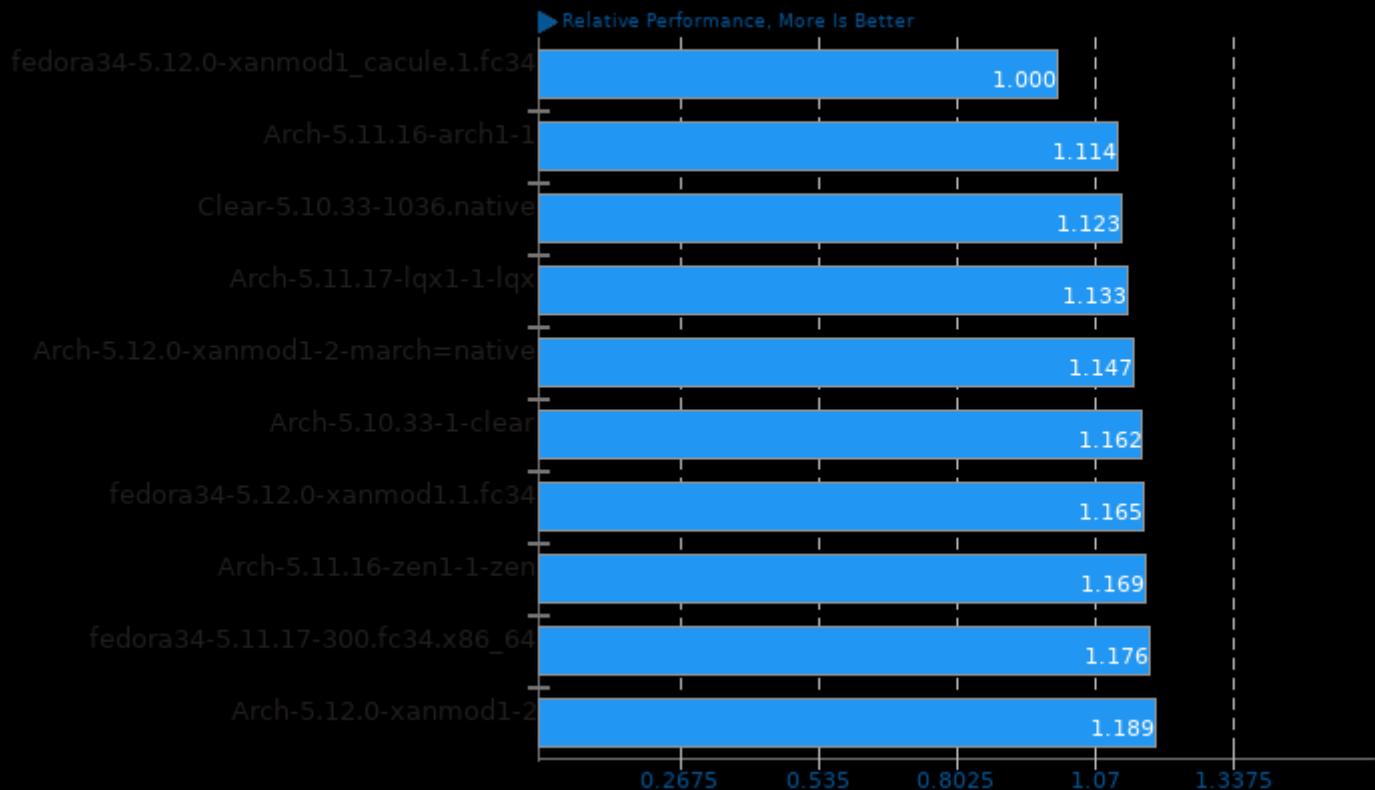
Geometric Mean Of Programmer / Developer System Benchmarks Tests Result Composite - BenchMarxAsusk555lb



Geometric mean based upon tests: pts/arrayfire and pts/amg

Geometric Mean Of Scientific Computing Tests

Result Composite - BenchMarxAsusk555lb



Geometric mean based upon tests: pts/arrayfire, pts/amg, pts/dolfyn and pts/minife

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