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EPYC Tyan Server

AMD EPYC 7543 32-Core testing with a TYAN S8036GM2NE-LE (V2.00.B21 BIOS) and llvmpipe on openSUSE Tumbleweed 20210623 via the Phoronix Test Suite.

Automated Executive Summary

Clear Linux 34770 had the most wins, coming in first place for 28% of the tests.

Based on the geometric mean of all complete results, the fastest (Clear Linux 34770) was 1.076x the speed of the slowest (Ubuntu 21.04). openSUSE Tumbleweed was 0.983x the speed of Clear Linux 34770, openSUSE Leap 15.3 was 0.99x the speed of openSUSE Tumbleweed, Debian 10.10 was 0.996x the speed of openSUSE Leap 15.3, CentOS Stream was 0.999x the speed of Debian 10.10, Fedora Server 34 was 0.996x the speed of CentOS Stream, Arch Linux was 1x the speed of Fedora Server 34, Ubuntu 20.04.2 LTS was 0.996x the speed of Arch Linux, Debian Bullseye was 0.978x the speed of Ubuntu 20.04.2 LTS, Ubuntu 21.04 was 0.988x the speed of Debian Bullseye.

The results with the greatest spread from best to worst included:

NAS Parallel Benchmarks (Test / Class: BT.C) at 4.349x
NAS Parallel Benchmarks (Test / Class: SP.C) at 3.369x
NAS Parallel Benchmarks (Test / Class: EP.D) at 2.947x
NAS Parallel Benchmarks (Test / Class: FT.C) at 2.759x
NAS Parallel Benchmarks (Test / Class: CG.C) at 2.401x

NAS Parallel Benchmarks (Test / Class: IS.D) at 2.273x
VP9 libvpx Encoding (Speed: Speed 5 - Input: Bosphorus 4K) at 1.89x
Timed Wasmer Compilation (Time To Compile) at 1.644x
SVT-AV1 (Encoder Mode: Preset 8 - Input: Bosphorus 4K) at 1.608x
libavif avifenc (Encoder Speed: 10) at 1.463x.

Test Systems:

Ubuntu 20.04.2 LTS

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 20.04, Kernel: 5.8.0-55-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.5 Mesa 20.2.6 (LLVM 11.0.0 256 bits), Compiler: GCC 9.3.0, 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-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-HskZEa/gcc-9-9.3.0/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: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.8.5
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

Fedora Server 34

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 PCIe

OS: Fedora 34, Kernel: 5.12.11-300.fc34.x86_64 (x86_64), Compiler: GCC 11.1.1 20210531, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.9.5
Security Notes: SELinux + 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

Debian 10.10

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850

1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 PCIe

OS: Debian 10, Kernel: 4.19.0-17-amd64 (x86_64), Desktop: GNOME Shell 3.30.2, Display Server: X Server, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 2.7.16 + Python 3.7.3
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

Debian Bullseye

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Debian 11, Kernel: 5.10.0-7-amd64 (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server, Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.9.2
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

CentOS Stream

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: llvmpipe, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: CentOS Stream 8, Kernel: 4.18.0-310.el8.x86_64 (x86_64), Desktop: GNOME Shell 3.32.2, Display Server: X Server + Wayland, OpenGL: 4.5 Mesa 21.1.1 (LLVM 11.0.0 256 bits), Compiler: GCC 8.5.0 20210514, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --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,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.6.8
Security Notes: SELinux + 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

Clear Linux 34770

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: llvmpipe, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Clear Linux OS 34770, Kernel: 5.12.8-1045.native (x86_64), Desktop: GNOME Shell 40.2, Display Server: X Server 1.20.11, OpenGL: 4.5 Mesa 21.1.3 (LLVM 11.1.0 256 bits), Compiler: GCC 11.1.1 20210621 releases/gcc-11.1.0-335-g2348a458e1 + Clang 11.1.0 + LLVM 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: FFLAGS="-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 -Wl,-z -Wl,now -Wl,-z -Wl,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -Wl,--enable-new-dtags -Wa,-mbranches-within-32B-boundaries" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -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=skylake -Wa,-mbranches-within-32B-boundaries -fvisibility-inlines-hidden -Wl,--enable-new-dtags" MESA_GLSL_CACHE_DISABLE=0 FCFLAGS="-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 -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="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -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=skylake -Wa,-mbranches-within-32B-boundaries" 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-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=skylake-avx512
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.9.5
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

Ubuntu 21.04

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 21.04, Kernel: 5.11.0-22-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, Compiler: GCC 10.3.0, 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-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.9.5
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

openSUSE Leap 15.3

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 PCIe

OS: openSUSE Leap 15.3, Kernel: 5.3.18-59.5-default (x86_64), Compiler: GCC 7.5.0, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-plugin --disable-werror --enable-checking=release --enable-gnu-indirect-function --enable-languages=c,c++,objc,fortran,obj-c++,ada,go --enable-libstdcxx-allocator=new --enable-linux-futex --enable-multilib --enable-offload-targets=hsa,nvptx-none, --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.6.13
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

Arch Linux

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 PCIe

OS: Arch Linux, Kernel: 5.12.12-arch1-1 (x86_64), Compiler: GCC 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.9.5
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

openSUSE Tumbleweed

Processor: AMD EPYC 7543 32-Core @ 2.80GHz (32 Cores / 64 Threads), Motherboard: TYAN S8036GM2NE-LE (V2.00.B21 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB + 15GB Ultra USB 3.0, Graphics: llvmpipe, Monitor: VE228, Network: 2 x Broadcom NetXtreme BCM5720 PCIe

OS: openSUSE Tumbleweed 20210623, Kernel: 5.12.12-1-default (x86_64), Desktop: KDE Plasma 5.22.1, Display Server: X Server 1.20.11, OpenGL: 4.5 Mesa 21.1.2 (LLVM 12.0.0 256 bits), Compiler: GCC 11.1.1 20210617 [revision 79c1185de4a05fdea13b6b020795892913f8184e], File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: DEBUGINFOD_URLS=https://debuginfod.opensuse.org/
Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-werror --enable-cet=auto --enable-checking=release --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,objc,fortran,obj-c++,ada,go,d,jit --enable-libphobos --enable-libstdcxx-allocator=new --enable-link-mutex --enable-linux-futex --enable-multilib --enable-offload-targets=nvptx-none,amdgcn-amdhsa, --enable-plugin --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-build-config=bootstrap-lto-lean --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.8.10
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

EPYC Tyan Server

	Ubuntu 20.04.2 LTS	Fedora Server 34	Debian 10.10	Debian Bullseye	CentOS Stream	Clear Linux 34770	Ubuntu 21.04	openSUSE Leap 15.3	Arch Linux	openSUSE Tumbleweed
High Performance Conjugate Gradient (GFLOP/s)	12.8778	11.7130		11.7941	12.4586	19.4305	12.6926	12.1209	18.2641	
Normalized	66.28%	60.28%		60.7%	64.12%	100%	65.32%	62.38%	94%	
Standard Deviation	0.1%	17.8%		16.2%	3.6%	8.2%	19.5%	11.2%	21.5%	
NAS Parallel Benchmarks - BT.C (Mop/s)	87955	20508	87888	89193	21314	87029	87240	21380		
Normalized	98.61%	22.99%	98.54%	100%	23.9%	97.57%	97.81%	23.97%		
Standard Deviation	0.4%	7.1%	0.6%	0.1%	0%	0.2%	0.2%	0.2%		
NAS Parallel Benchmarks - CG.C (Mop/s)	29892	13588		30352	12925	29640	28970	12641		
Normalized	98.48%	44.77%		100%	42.58%	97.65%	95.45%	41.65%		
Standard Deviation	1.6%	0.1%		1.4%	2.1%	1%	2.4%	4.3%		
NAS Parallel Benchmarks - EP.D (Mop/s)	2934	1601		2965	1006	2844	2930	1362		
Normalized	98.96%	54%		100%	33.93%	95.93%	98.8%	45.94%		
Standard Deviation	2.6%	6.7%		0.5%	5.5%	4.3%	2.9%	0%		
NAS Parallel Benchmarks - FT.C (Mop/s)	47060	17996		49076	18870	48460	46811	17789		
Normalized	95.89%	36.67%		100%	38.45%	98.74%	95.38%	36.25%		
Standard Deviation	0.2%	0.4%		0.5%	0.5%	1.1%	2.5%	0.9%		
NAS Parallel Benchmarks - IS.D (Mop/s)	1787	1092		1731	958.16	2178	1985	1153	1147	
Normalized	82.05%	50.15%		79.5%	44%	100%	91.14%	52.96%	52.67%	
Standard Deviation	0.8%	2.2%		1.1%	1.1%	7%	1.7%	2.4%	1.8%	
NAS Parallel Benchmarks - SP.C (Mop/s)	33234	10058	33844	33101	10304	33882	32826	10268		
Normalized	98.09%	29.69%	99.89%	97.7%	30.41%	100%	96.88%	30.31%		
Standard Deviation	0.3%	0.8%	0.4%	0.4%	0.1%	0.3%	0.2%	0.1%		
miniFE - Small (CG Mflops)	11203	10018	10918	13355	7928	10394	11861		10132	
Normalized	83.88%	75.01%	81.75%	100%	59.36%	77.82%	88.81%		75.86%	
Standard Deviation	9%	7%	8.6%	9.7%	16.7%	8.2%	4.5%		8.8%	
NAMD - ATPase Simulation - 327,506 Atoms	0.67252	0.67355	0.67193	0.67131	0.67415	0.67373	0.67638	0.67262	0.67235	0.67239
Normalized	99.82%	99.67%	99.91%	100%	99.58%	99.64%	99.25%	99.81%	99.85%	99.84%
Standard Deviation	0.1%	0.1%	0%	0.1%	0.1%	0%	0.9%	0.1%	0.1%	0.2%

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Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	27.87694	29.03664		27.70186	28.64774	**27.16345**	28.80799	29.13082	**29.46209**	
	80	78		50	26	**98**	55	44	**72**	
Normalized	97.44%	93.55%		98.06%	94.82%	100%	94.29%	93.25%	92.2%	
Standard Deviation	2.5%	0.5%		2.8%	1.1%	1.3%	1.1%	1.4%	0.3%	
Xmrig - Monero - 1M (H/s)	**21915**		22335	**23576**					22021	
Normalized	92.95%		94.73%	100%					93.4%	
Standard Deviation	0.3%		0.4%	0.2%					0.2%	
Xmrig - Wownero - 1M (H/s)	23123		**23003**	**24478**					23169	
Normalized	94.46%		93.97%	100%					94.65%	
Standard Deviation	0.3%		0.6%	0.2%					0.1%	
LuxCoreRender - DLSC - CPU (M samples/sec)	**5.45**	5.46	5.47	**5.45**	5.46	**5.52**	5.47	5.50	5.49	5.48
Normalized	98.73%	98.91%	99.09%	98.73%	98.91%	100%	99.09%	99.64%	99.46%	99.28%
Standard Deviation	0.3%	1.2%	0.6%	0.5%	0.3%	0.2%	0.7%	0.4%	0.5%	0.2%
LuxCoreRender - Danish Mood - CPU (M samples/sec)	4.32	4.39	4.36	4.42	4.40	**4.47**	**4.30**	4.46	4.33	4.46
Normalized	96.64%	98.21%	97.54%	98.88%	98.43%	100%	96.2%	99.78%	96.87%	99.78%
Standard Deviation	0.7%	1.6%	1%	0.3%	1.7%	0.3%	0.3%	1.8%	0.7%	0.4%
LuxCoreRender - Orange Juice - CPU (M samples/sec)	8.29	8.29	8.33	**8.39**	**8.25**	8.36	8.30	**8.39**	8.34	8.36
Normalized	98.81%	98.81%	99.28%	100%	98.33%	99.64%	98.93%	100%	99.4%	99.64%
Standard Deviation	0.1%	0.3%	0.2%	0.5%	0.5%	0.1%	0.2%	0.6%	0.4%	0.1%
LuxCoreRender - LuxCore Benchmark - CPU (M samples/sec)	4.73	4.68	4.74	4.79	4.74	4.80	**4.66**	4.73	4.74	**4.85**
Normalized	97.53%	96.49%	97.73%	98.76%	97.73%	98.97%	96.08%	97.53%	97.73%	100%
Standard Deviation	0.2%	0.3%	0.7%	0.6%	0.5%	0.3%	1%	0.9%	1.2%	0.6%
LuxCoreRender - R.C.a.P - CPU (M samples/sec)	16.38	16.11	17.14	16.75	17.01	**17.48**	16.29	16.16	**15.96**	16.71
Normalized	93.71%	92.16%	98.05%	95.82%	97.31%	100%	93.19%	92.45%	91.3%	95.59%
Standard Deviation	4.4%	1.1%	6.9%	5.9%	6.6%	6.9%	4.3%	9.5%	1.1%	5.3%
OSPray - San Miguel - Path	3.72	**3.70**	3.73	**3.78**	3.74	3.76	**3.70**	3.77	3.72	**3.78**
Normalized	98.41%	97.88%	98.68%	100%	98.94%	99.47%	97.88%	99.74%	98.41%	100%
Standard Deviation	0%	0.6%	0%	0.2%	1.2%	0.2%	0%	0%	0%	0.2%
OSPray - NASA Streamlines - Path Tracer (FPS)	**12.35**	**12.35**	12.5	**12.66**	12.5	12.5	**12.35**	12.5	**12.35**	12.5
Normalized	97.55%	97.55%	98.74%	100%	98.74%	98.74%	97.55%	98.74%	97.55%	98.74%
Standard Deviation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OSPray - M.R - Path Tracer (FPS)	**500**	**500**	444.44	**422.22**	**500**	**500**	**500**	**500**	**500**	486.11
Normalized	100%	100%	88.89%	84.44%	100%	100%	100%	100%	100%	97.22%
Standard Deviation			18.3%	20.4%		0%			0%	9.9%

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Embree - Pathtracer ISPC -	33.3187	33.3893	32.5872	33.5204	33.2960	33.4857	33.2569	33.2921	33.5502	33.4436
Normalized	99.31%	99.52%	97.13%	99.91%	99.24%	99.81%	99.13%	99.23%	100%	99.68%
Standard Deviation	0.1%	0.3%	0.6%	0.4%	0.4%	0.2%	0.2%	0.1%	0.2%	0.2%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	37.1865	37.3838	32.4410	37.3153	37.2281	37.3454	37.0053	37.7809	37.4231	37.5510
Normalized	98.43%	98.95%	85.87%	98.77%	98.54%	98.85%	97.95%	100%	99.05%	99.39%
Standard Deviation	1.2%	0.7%	7.6%	1%	0.5%	1.2%	1.1%	0.3%	0.9%	1.1%
SVT-AV1 - Preset 4 - Bosphorus 4K	1.931	1.913	1.852	1.707	1.959	2.071	1.875	1.940	1.922	1.939
Normalized	93.24%	92.37%	89.43%	82.42%	94.59%	100%	90.54%	93.67%	92.81%	93.63%
Standard Deviation	0.1%	0.3%	0.3%	0.5%	0.7%	0.4%	0.4%	0.2%	0.3%	0.4%
SVT-AV1 - Preset 8 - Bosphorus 4K	20.851	18.345	20.716	14.875	22.402	23.919	17.809	21.464	18.448	19.172
Normalized	87.17%	76.7%	86.61%	62.19%	93.66%	100%	74.46%	89.74%	77.13%	80.15%
Standard Deviation	1%	1%	0.9%	1.4%	0.6%	0.5%	0.6%	1%	1.1%	1.3%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	24.65	24.71	25.19	24.96	24.76	25.15	24.69	23.98	24.71	24.98
Normalized	97.86%	98.09%	100%	99.09%	98.29%	99.84%	98.02%	95.2%	98.09%	99.17%
Standard Deviation	0.6%	0.7%	0.3%	0.6%	0.4%	0.2%	0.4%	0.1%	0.6%	0.3%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	282.38	281.37	296.57	273.70	285.20	299.80	284.09	286.38	278.52	295.05
Normalized	94.19%	93.85%	98.92%	91.29%	95.13%	100%	94.76%	95.52%	92.9%	98.42%
Standard Deviation	2.4%	1.4%	2%	2.2%	1.2%	2.3%	2.5%	2.3%	0.8%	2.3%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	458.18	434.07	537.01	429.71	467.20	463.76	470.53	459.35	465.56	490.50
Normalized	85.32%	80.83%	100%	80.02%	87%	86.36%	87.62%	85.54%	86.69%	91.34%
Standard Deviation	10.3%	5.5%	2.3%	7.4%	9%	6.5%	8%	8.2%	11.2%	2.5%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	349.16	291.76	344.93	256.35	303.33	298.74	251.54	301.69	290.31	296.62
Normalized	100%	83.56%	98.79%	73.42%	86.87%	85.56%	72.04%	86.4%	83.15%	84.95%
Standard Deviation	4.2%	1.1%	2.9%	1.4%	4.4%	2.2%	5.1%	2.5%	3.1%	1.7%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	353.98	305.14	353.73	259.56	303.00	302.64	257.98	302.99	298.81	297.47
Normalized	100%	86.2%	99.93%	73.33%	85.6%	85.5%	72.88%	85.6%	84.41%	84.04%
Standard Deviation	1.1%	2.8%	0.7%	0.2%	1.4%	2.3%	12.6%	1.2%	1%	1.8%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	264.89	272.55	297.41	236.32	274.02	273.38	241.51	277.37	272.07	270.60
Normalized	89.07%	91.64%	100%	79.46%	92.14%	91.92%	81.2%	93.26%	91.48%	90.99%
Standard Deviation	1.5%	1.4%	1.7%	2.5%	1.3%	1.7%	0.7%	0.7%	1%	1.6%

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VP9 libvpx Encoding - Speed 0 - Bosphorus 4K	6.16	6.89	**6.05**	6.52	6.48	**7.25**	6.23	6.64	6.85	7.00
Normalized	84.97%	95.03%	83.45%	89.93%	89.38%	100%	85.93%	91.59%	94.48%	96.55%
Standard Deviation	0.2%	0.9%	0.3%	1.4%	0.9%	0.3%	0.4%	0.3%	0.8%	1.7%
VP9 libvpx Encoding - Speed 5 - Bosphorus 4K	13.63	16.23	13.03	**9.31**	14.89	**17.60**	14.60	14.09	16.20	16.02
Normalized	77.44%	92.22%	74.03%	52.9%	84.6%	100%	82.95%	80.06%	92.05%	91.02%
Standard Deviation	0.9%	1.4%	0.7%	0.8%	2.5%	1.1%	1.1%	1.5%	0.3%	2%
Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)	0.90	0.96	**0.87**	0.89	0.94	**0.97**	0.89	0.96	0.95	0.91
Normalized	92.78%	98.97%	89.69%	91.75%	96.91%	100%	91.75%	98.97%	97.94%	93.81%
Standard Deviation	0.6%	0.4%	1%	2.2%	0.8%	0.4%	1.3%	0.4%	0.3%	2.2%
Intel Open Image Denoise - RT.ldr_alb_nrm.3840x2160 (Images / Sec)	0.90	0.96	**0.87**	0.94	0.95	**0.97**	0.89	0.96	0.91	0.94
Normalized	92.78%	98.97%	89.69%	96.91%	97.94%	100%	91.75%	98.97%	93.81%	96.91%
Standard Deviation	0.7%	0.2%	0.4%	2.5%	0.8%	0.5%	0.2%	0.8%	0.8%	0.3%
Intel Open Image Denoise - RTLightmap.hdr.4096x4096 (Images / Sec)	0.45	**0.48**	**0.44**	0.46	0.47	**0.48**	0.45	0.47	0.46	0.47
Normalized	93.75%	100%	91.67%	95.83%	97.92%	100%	93.75%	97.92%	95.83%	97.92%
Standard Deviation	1.2%	0.1%	1.3%	0.5%	1%	2%	0.4%	2.3%	0.2%	0.1%
OpenVKL - vklBenchmark (Items / Sec)	297	296	**282**	287	293	292	**319**	291	298	292
Normalized	93.1%	92.79%	88.4%	89.97%	91.85%	91.54%	100%	91.22%	93.42%	91.54%
Standard Deviation	4.1%	0.8%	1.4%	2.1%	4.4%	2.4%	2%	4.3%	4.4%	1.9%
libavif avifenc - 10 (sec)	**3.817**	3.620	2.785	2.873	2.817	**2.609**	3.785	2.779	3.637	2.784
Normalized	68.35%	72.07%	93.68%	90.81%	92.62%	100%	68.93%	93.88%	71.73%	93.71%
Standard Deviation	0.8%	2.5%	2.3%	2.8%	3.2%	2.3%	2.3%	1%	2%	2.2%
libavif avifenc - 6, Lossless (sec)	30.222	27.881	27.237	27.395	27.000	**26.150**	**30.515**	26.826	28.546	26.680
Normalized	86.53%	93.79%	96.01%	95.46%	96.85%	100%	85.7%	97.48%	91.61%	98.01%
Standard Deviation	1.2%	0.1%	2%	0.6%	0.7%	0.3%	1.3%	0.3%	1%	0.3%
libavif avifenc - 10, Lossless (sec)	6.287	6.185	5.323	5.298	5.188	**4.915**	**6.302**	5.199	6.107	5.117
Normalized	78.18%	79.47%	92.34%	92.77%	94.74%	100%	77.99%	94.54%	80.48%	96.05%
Standard Deviation	2.4%	0.2%	5.7%	0.5%	2.1%	1%	2.5%	0.4%	2.1%	1.6%

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Timed Godot Game Engine Compilation - Time To Compile (sec)	57.907	54.948	63.293	53.426			54.630		60.578	
Normalized	92.26%	97.23%	84.41%	100%			97.8%		88.19%	
Standard Deviation	0.8%	0.3%	1%	0.6%			2%		0.1%	
Timed Linux Kernel Compilation - Time To Compile (sec)	35.137	34.019	29.492	32.031	31.134	31.165	31.450	28.874	38.480	32.375
Normalized	82.18%	84.88%	97.9%	90.14%	92.74%	92.65%	91.81%	100%	75.04%	89.19%
Standard Deviation	2.3%	2.4%	2.4%	2.5%	2.4%	2.4%	2.2%	2.5%	2.6%	2.4%
Timed LLVM Compilation - Ninja (sec)	232.758	209.690	185.201	202.013	192.197		209.931	204.165	241.640	207.066
Normalized	79.57%	88.32%	100%	91.68%	96.36%		88.22%	90.71%	76.64%	89.44%
Standard Deviation	0.6%	0.6%	0.1%	0.1%	0.6%		0.8%	0%	0.2%	0.3%
Timed LLVM Compilation - Unix Makefiles (sec)	286.375	257.168	223.264	250.573	227.741		250.224	242.618	288.513	251.078
Normalized	77.96%	86.82%	100%	89.1%	98.03%		89.23%	92.02%	77.38%	88.92%
Standard Deviation	0.9%	1.2%	2.5%	1.6%	0.7%		0.4%	1.9%	0.9%	0.7%
Timed Node.js Compilation - Time To Compile (sec)	151.647	137.588	123.139	134.407	127.498		140.352	124.995	157.696	134.370
Normalized	81.2%	89.5%	100%	91.62%	96.58%		87.74%	98.52%	78.09%	91.64%
Standard Deviation	0.1%	0.3%	0.2%	0.2%	0.2%		0.6%	0.2%	0.2%	0.3%
Timed Wasmer Compilation - Time To Compile (sec)	61.241	41.498		60.641	45.007		40.231		39.109	37.253
Normalized	60.83%	89.77%		61.43%	82.77%		92.6%		95.25%	100%
Standard Deviation	1%	0.8%		1.6%	2.4%		1%		2.4%	0.6%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	3.639	3.640		3.756	3.801	3.777	3.581	3.837	3.715	
Normalized	94.84%	94.87%		97.89%	99.06%	98.44%	93.33%	100%	96.82%	
Standard Deviation	0.5%	0.4%		0.2%	0.1%	0.2%	0.3%	0.8%	1.3%	
TensorFlow Lite - SqueezeNet (us)	69193	70454	69846	69107	87581	72316	83601	68977	69933	68648
Normalized	99.21%	97.44%	98.28%	99.34%	78.38%	94.93%	82.11%	99.52%	98.16%	100%
Standard Deviation	0.5%	1.3%	0.9%	0.7%	9.3%	1.9%	9.7%	0.4%	0.5%	0.2%
TensorFlow Lite - Inception V4 (us)	936694	941892	942408	932251	944105	940126	1052955	932224	935779	931747
Normalized	99.47%	98.92%	98.87%	99.95%	98.69%	99.11%	88.49%	99.95%	99.57%	100%
Standard Deviation	0.4%	1.1%	0.8%	0.3%	0.9%	0.9%	2.8%	0.6%	0.1%	0%
TensorFlow Lite - Mobilenet Float (us)	43688	43886	44223	43712	45933	43841	50144	44085	43481	43729
Normalized	99.53%	99.08%	98.32%	99.47%	94.66%	99.18%	86.71%	98.63%	100%	99.43%
Standard Deviation	0.6%	0.4%	0.4%	0.4%	7%	0.4%	5.3%	0.5%	0.3%	0.1%
TensorFlow Lite - Mobilenet Quant	46473	46558	46650	46350	47417	46346	52962	46366	46479	46218
Normalized	99.45%	99.27%	99.07%	99.71%	97.47%	99.72%	87.27%	99.68%	99.44%	100%

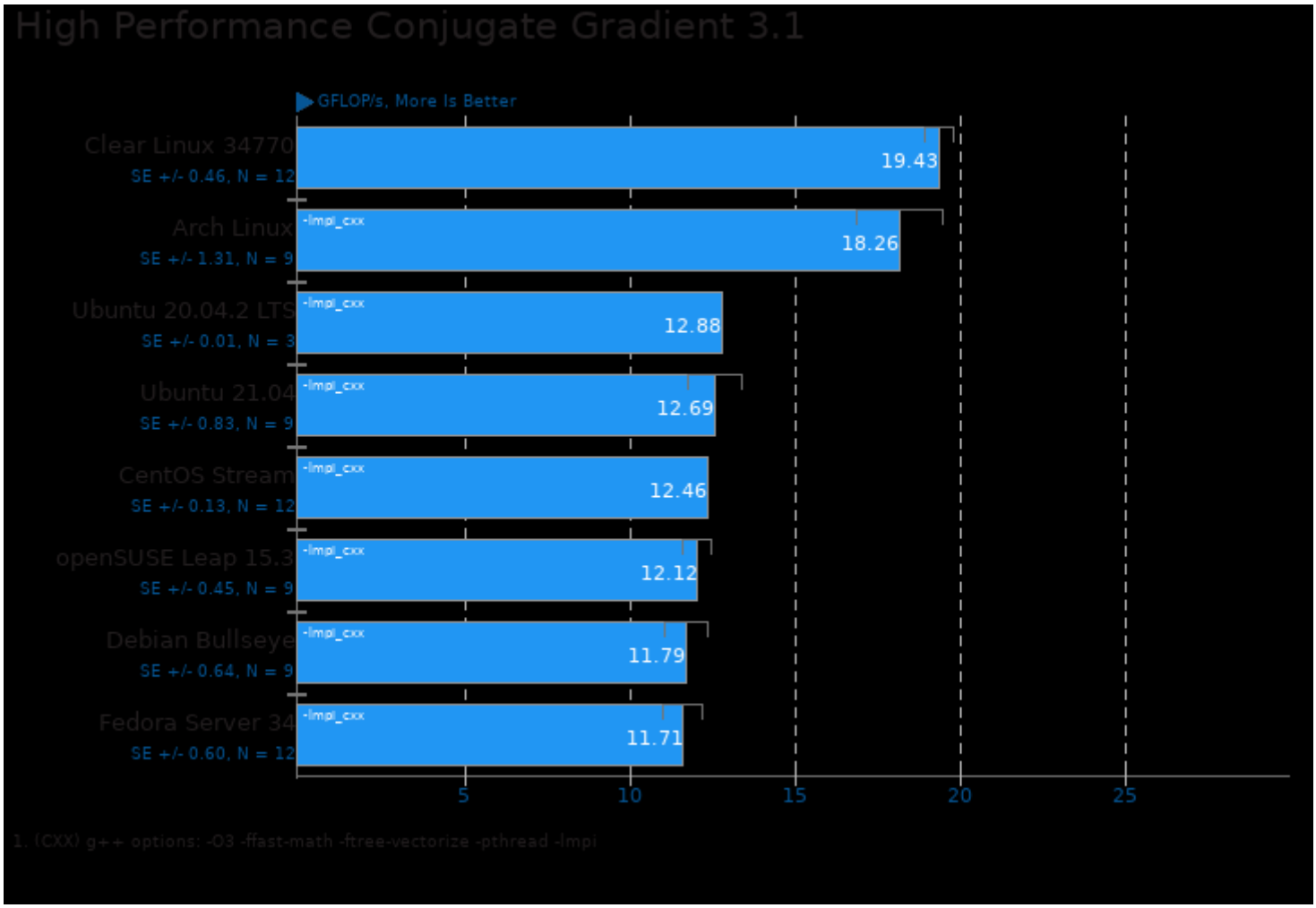
Standard Deviation	0.3%	0.6%	0.4%	0.1%	1.7%	0%	3.8%	0.1%	0.8%	0%
TensorFlow Lite - I.R.V (us)	835539	837065	834724	834703	843780	837254	**943408**	838331	834905	**833316**
Normalized	99.73%	99.55%	99.83%	99.83%	98.76%	99.53%	88.33%	99.4%	99.81%	100%
Standard Deviation	0.3%	0.4%	0%	0.3%	0.6%	0.4%	6.8%	0.9%	0.2%	0.3%
ASTC Encoder - Exhaustive (sec)	23.6779	23.5167		23.4605	23.9299	23.5118	23.5801	**24.0241**	23.4204	**23.4190**
Normalized	98.91%	99.58%		99.82%	97.87%	99.61%	99.32%	97.48%	99.99%	100%
Standard Deviation	0.1%	0%		0.1%	0.1%	0%	0.1%	0%	0%	0%
Mobile Neural Network - mobilenetV3 (ms)	2.572	2.535	**2.906**	2.616	2.584	**2.264**	2.496	2.805	2.330	2.462
Normalized	88.02%	89.31%	77.91%	86.54%	87.62%	100%	90.71%	80.71%	97.17%	91.96%
Standard Deviation	2.3%	4.4%	6.5%	4.9%	1.2%	3%	1.7%	2.3%	5.7%	1.1%
Mobile Neural Network - squeezenetv1.1	4.144	4.042	**4.720**	4.676	4.355	4.409	4.377	4.622	**3.909**	4.094
Normalized	94.33%	96.71%	82.82%	83.6%	89.76%	88.66%	89.31%	84.57%	100%	95.48%
Standard Deviation	2%	3.4%	3.4%	2.4%	3.3%	4%	1.1%	1.3%	2%	2.5%
Mobile Neural Network - resnet-v2-50 (ms)	21.954	**18.933**	23.736	22.520	22.034	22.347	21.663	**24.443**	19.548	21.150
Normalized	86.24%	100%	79.76%	84.07%	85.93%	84.72%	87.4%	77.46%	96.85%	89.52%
Standard Deviation	0.9%	5.7%	4.1%	6.6%	3.4%	4.6%	2%	5%	4.7%	2.7%
Mobile Neural Network - SqueezeNetV1.0 (ms)	6.094	**5.767**	6.326	6.204	6.776	6.539	**6.900**	6.713	5.836	6.187
Normalized	94.63%	100%	91.16%	92.96%	85.11%	88.19%	83.58%	85.91%	98.82%	93.21%
Standard Deviation	3.5%	3.3%	5.4%	5.8%	2.2%	6.9%	0.7%	2%	3%	2.1%
Mobile Neural Network - MobileNetV2_224 (ms)	3.947	3.975	4.242	4.034	**4.275**	4.026	3.955	4.221	**3.715**	4.140
Normalized	94.12%	93.46%	87.58%	92.09%	86.9%	92.28%	93.93%	88.01%	100%	89.73%
Standard Deviation	5.4%	4.3%	5.9%	10.3%	2.1%	7.5%	1.1%	1.2%	4.7%	4.2%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	2.849	2.894	3.482	**3.796**	2.932	2.981	**2.734**	3.405	3.012	3.416
Normalized	95.96%	94.47%	78.52%	72.02%	93.25%	91.71%	100%	80.29%	90.77%	80.04%
Standard Deviation	6%	7.7%	8.5%	8.5%	11.5%	10.6%	0.8%	18.6%	5.8%	16%
Mobile Neural Network - inception-v3 (ms)	24.361	22.603	26.471	**27.651**	27.519	23.754	24.418	25.508	22.742	**22.539**
Normalized	92.52%	99.72%	85.15%	81.51%	81.9%	94.89%	92.3%	88.36%	99.11%	100%
Standard Deviation	2%	2.4%	3.1%	1.4%	2.1%	3.9%	1.3%	2.4%	2.6%	2.2%
TNN - CPU - DenseNet (ms)	2907	3043	**2822**	3098	2957	2895	**3183**	2907	2991	2971
Normalized	97.08%	92.75%	100%	91.09%	95.45%	97.48%	88.68%	97.08%	94.37%	94.99%
Standard Deviation	0%	1.2%	0.2%	0.5%	0.2%	0.2%	5.5%	0.5%	0.8%	0.3%

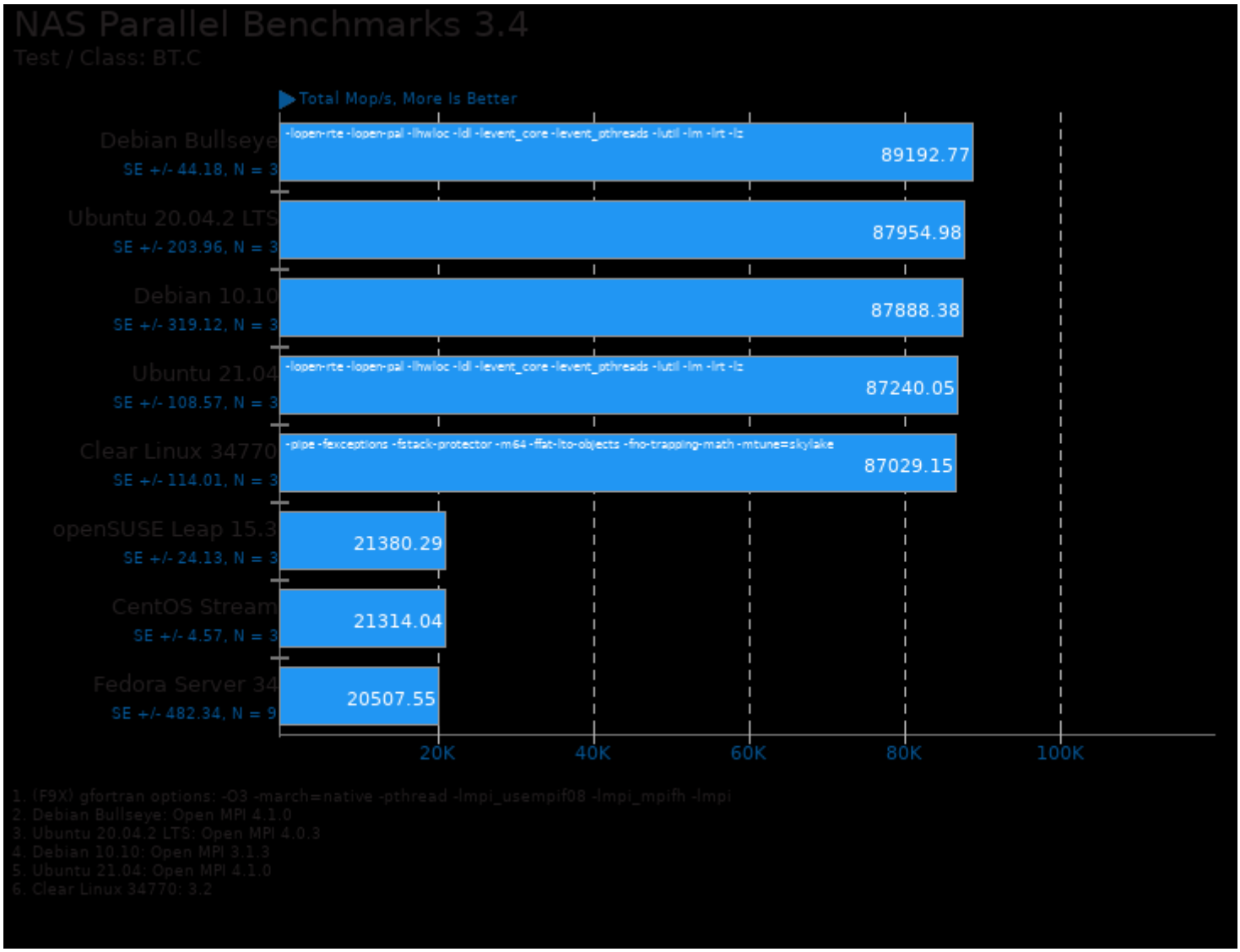
EPYC Tyan Server

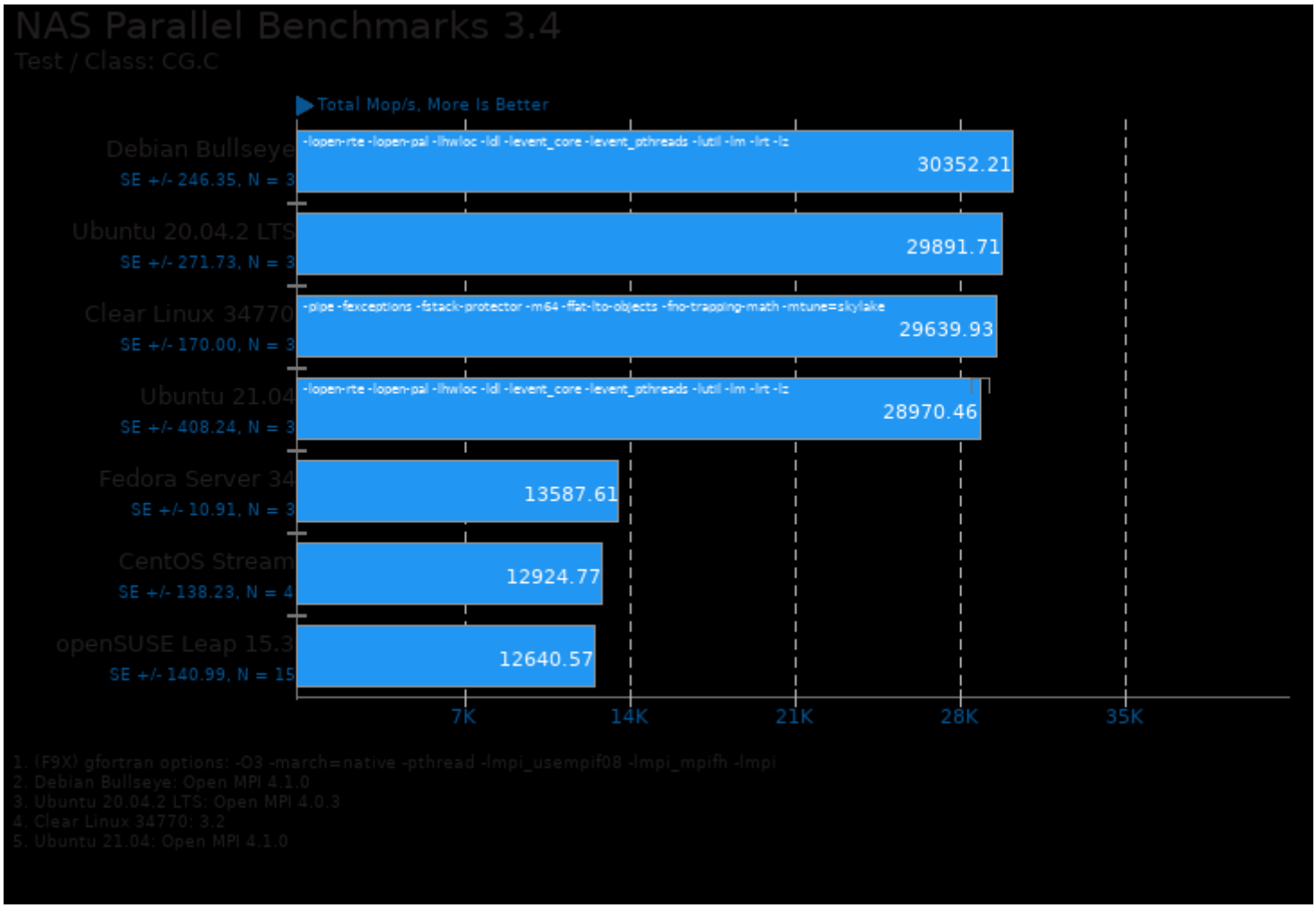
TNN - CPU - MobileNet v2 (ms)	290.337	296.547	**286.254**	307.534	301.637	289.527	**316.885**	289.223	289.976	295.467
Normalized	98.59%	96.53%	100%	93.08%	94.9%	98.87%	90.33%	98.97%	98.72%	96.88%
Standard Deviation	0.4%	1.5%	1.7%	2.3%	0.3%	0.1%	2.4%	1.7%	0.4%	2.5%
TNN - CPU - SqueezeNet v2 (ms)	62.597	64.811	62.217	62.165	62.620	65.828	**66.292**	**60.825**	63.364	64.865
Normalized	97.17%	93.85%	97.76%	97.84%	97.13%	92.4%	91.75%	100%	95.99%	93.77%
Standard Deviation	0.9%	0.2%	2.4%	1.3%	0.5%	2.4%	0.3%	0.2%	0.4%	0.3%
TNN - CPU - SqueezeNet v1.1 (ms)	269.182	271.391	268.003	269.358	269.467	270.350	**277.579**	**266.809**	271.068	270.875
Normalized	99.12%	98.31%	99.55%	99.05%	99.01%	98.69%	96.12%	100%	98.43%	98.5%
Standard Deviation	0.1%	0.1%	0.2%	0.4%	0.1%	0.1%	0%	0.4%	0%	0.1%
PlaidML - No - Inference - VGG16 - CPU (FPS)	**26.73**	26.96	33.54	33.87	33.59	**34.20**	27.43	33.34	26.94	34.18
Normalized	78.16%	78.83%	98.07%	99.04%	98.22%	100%	80.2%	97.49%	78.77%	99.94%
Standard Deviation	1.5%	1.2%	1.3%	2.4%	1.4%	1.2%	0.7%	0.7%	1.6%	2.1%
PlaidML - No - Inference - VGG19 - CPU (FPS)	22.49	**22.13**	27.95	27.67	27.92	28.34	22.86	27.86	22.92	**28.58**
Normalized	78.69%	77.43%	97.8%	96.82%	97.69%	99.16%	79.99%	97.48%	80.2%	100%
Standard Deviation	1.4%	2.4%	2%	1.5%	1.6%	1.6%	1.1%	2.1%	0.9%	2%
PlaidML - No - Inference - ResNet 50 - CPU (FPS)	9.04	8.59	9.60	**9.61**	7.59	7.74	9.38	7.51	8.45	**7.36**
Normalized	94.07%	89.39%	99.9%	100%	78.98%	80.54%	97.61%	78.15%	87.93%	76.59%
Standard Deviation	0.5%	0.5%	1.9%	0.4%	0.4%	1%	2.1%	0.9%	0.6%	0.9%
Blender - BMW27 - CPU-Only (sec)	52.85	53.13	52.44	52.55	**52.25**	**52.25**	**53.59**	52.38	53.17	52.47
Normalized	98.86%	98.34%	99.64%	99.43%	100%	100%	97.5%	99.75%	98.27%	99.58%
Standard Deviation	0.2%	0.3%	0.2%	0.2%	0.2%	0.1%	0.3%	0%	0.2%	0.5%
Blender - Classroom -	146.51	146.65	146.09	**145.38**	146.29	145.82	**147.55**	145.40	146.41	145.39
Normalized	99.23%	99.13%	99.51%	100%	99.38%	99.7%	98.53%	99.99%	99.3%	99.99%
Standard Deviation	0.2%	0.1%	0.3%	0.2%	0.2%	0.4%	0.1%	0.3%	0.1%	0.3%
Blender - Barbershop - CPU-Only (sec)	195.79	196.64	192.55	189.90	190.76	190.95	**197.52**	**189.89**	196.10	190.82
Normalized	96.99%	96.57%	98.62%	99.99%	99.54%	99.44%	96.14%	100%	96.83%	99.51%
Standard Deviation	0%	0.3%	0.9%	0.3%	0.1%	0.1%	0.2%	0.2%	0.1%	0.5%
ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)	291	277	**233**	282	242		257	242	**294**	265
Normalized	98.98%	94.22%	79.25%	95.92%	82.31%		87.41%	82.31%	100%	90.14%
Standard Deviation	5.2%	1.2%	6.9%	5.1%	3.9%		5.9%	2.8%	1.8%	1.6%

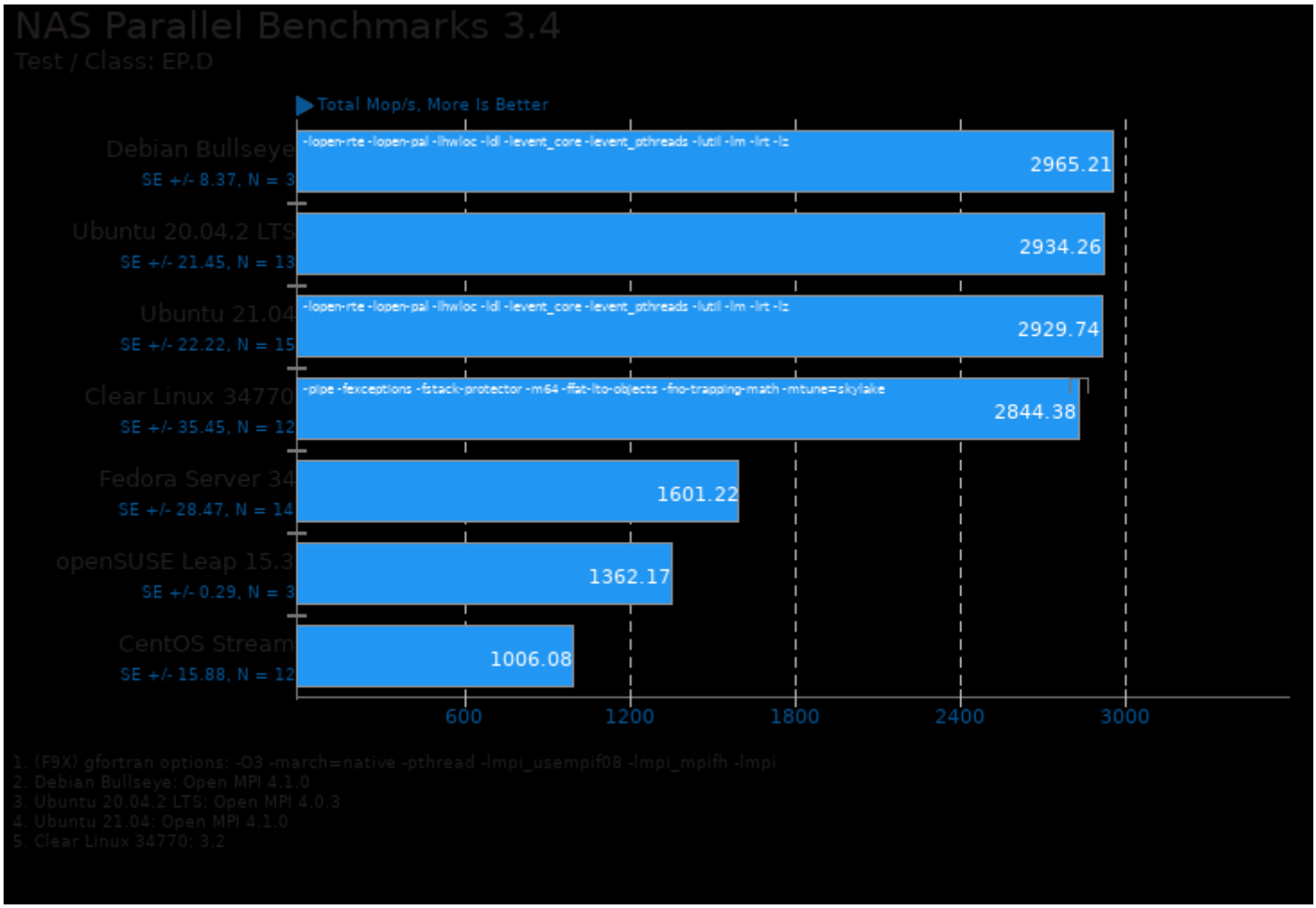
EPYC Tyan Server

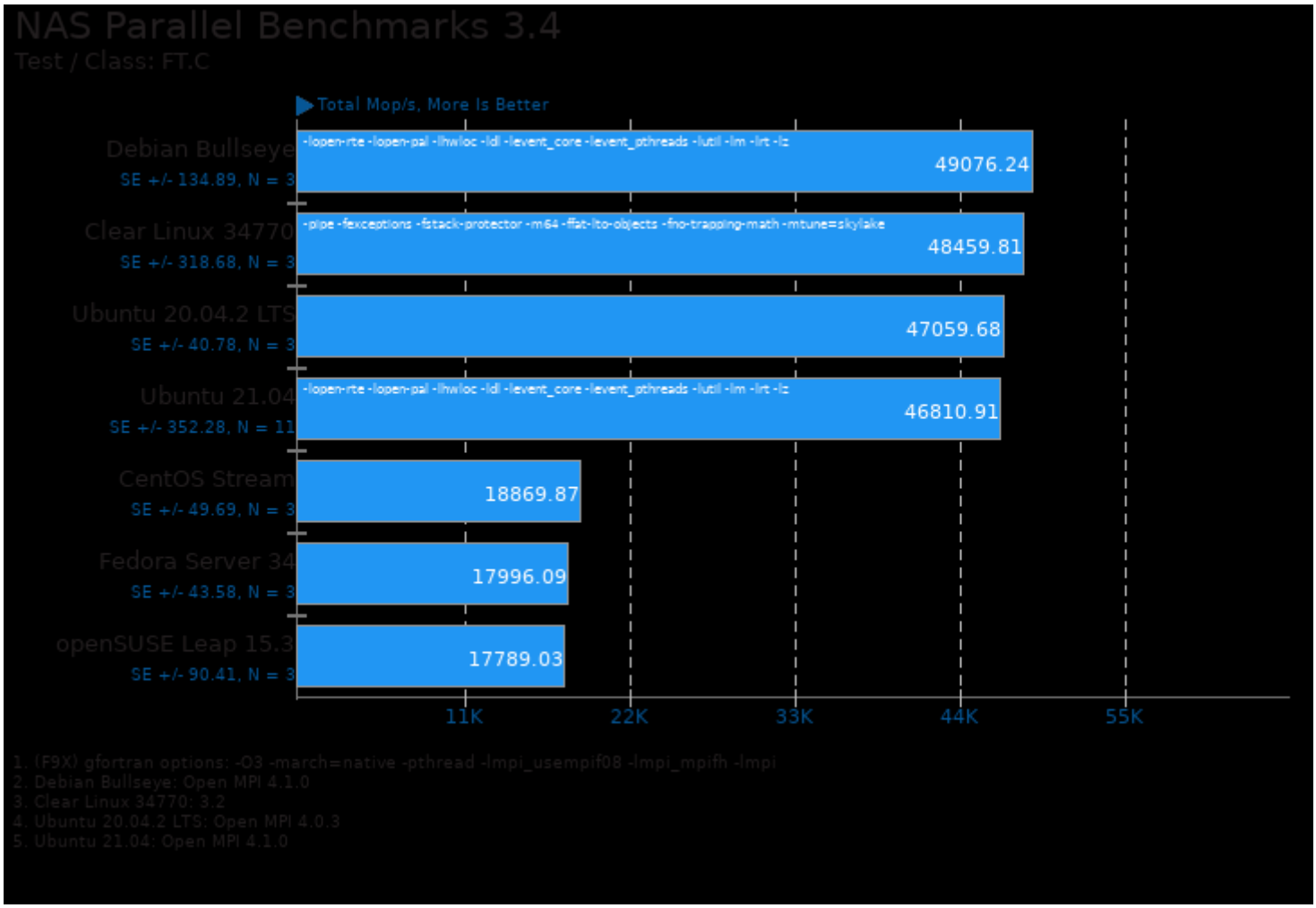
ONNX Runtime - bertsquad-10 - OpenMP CPU (Inferences/min)	**445**	440	432	424	427		**395**	429	442	419
Normalized	100%	98.88%	97.08%	95.28%	95.96%		88.76%	96.4%	99.33%	94.16%
Standard Deviation	2.9%	3.3%	5.1%	3.5%	2%		4%	5.6%	3.7%	4.6%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU (Inferences/min)	**93**	84	75	73	74		90	**71**	83	83
Normalized	100%	90.32%	80.65%	78.49%	79.57%		96.77%	76.34%	89.25%	89.25%
Standard Deviation	13.3%	14%	8.9%	13.9%	10.6%		14.3%	20.2%	16.2%	16.3%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)	10866	10911	11064	11283	**9699**		10193	10321	**11449**	11100
Normalized	94.91%	95.3%	96.64%	98.55%	84.71%		89.03%	90.15%	100%	96.95%
Standard Deviation	0.8%	1.3%	1.7%	0.8%	2.3%		0.7%	1.9%	0.5%	1.2%
ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)	4775	4884	5018	4597	**4475**		4684	**5237**	4985	4744
Normalized	91.18%	93.26%	95.82%	87.78%	85.45%		89.44%	100%	95.19%	90.59%
Standard Deviation	1.3%	0.9%	6.6%	0.9%	4.3%		1%	8.5%	0.5%	0.8%
Numenta Anomaly Benchmark - Windowed Gaussian (sec)	6.805		6.671		6.293	**5.938**		**7.877**		
Normalized	87.26%		89.01%		94.36%	100%		75.38%		
Standard Deviation	1.8%		0.9%		1.9%	1.9%		0.7%		
Kripke (Throughput FoM)	7865897 9	7847051 9	7843311 8	7811213 3	7763192 7	**9050215 3**	**7358494 1**	8696495 7	7577925 6	8298867 2
Normalized	86.91%	86.71%	86.66%	86.31%	85.78%	100%	81.31%	96.09%	83.73%	91.7%
Standard Deviation	9.5%	11.1%	12.5%	5.9%	5.9%	1.1%	9.8%	5.2%	9.5%	9%
BRL-CAD - V.P.M (VGR Performance Metric)	**422481**	417781	409125	420156	**406823**		419835		413318	
Normalized	100%	98.89%	96.84%	99.45%	96.29%		99.37%		97.83%	

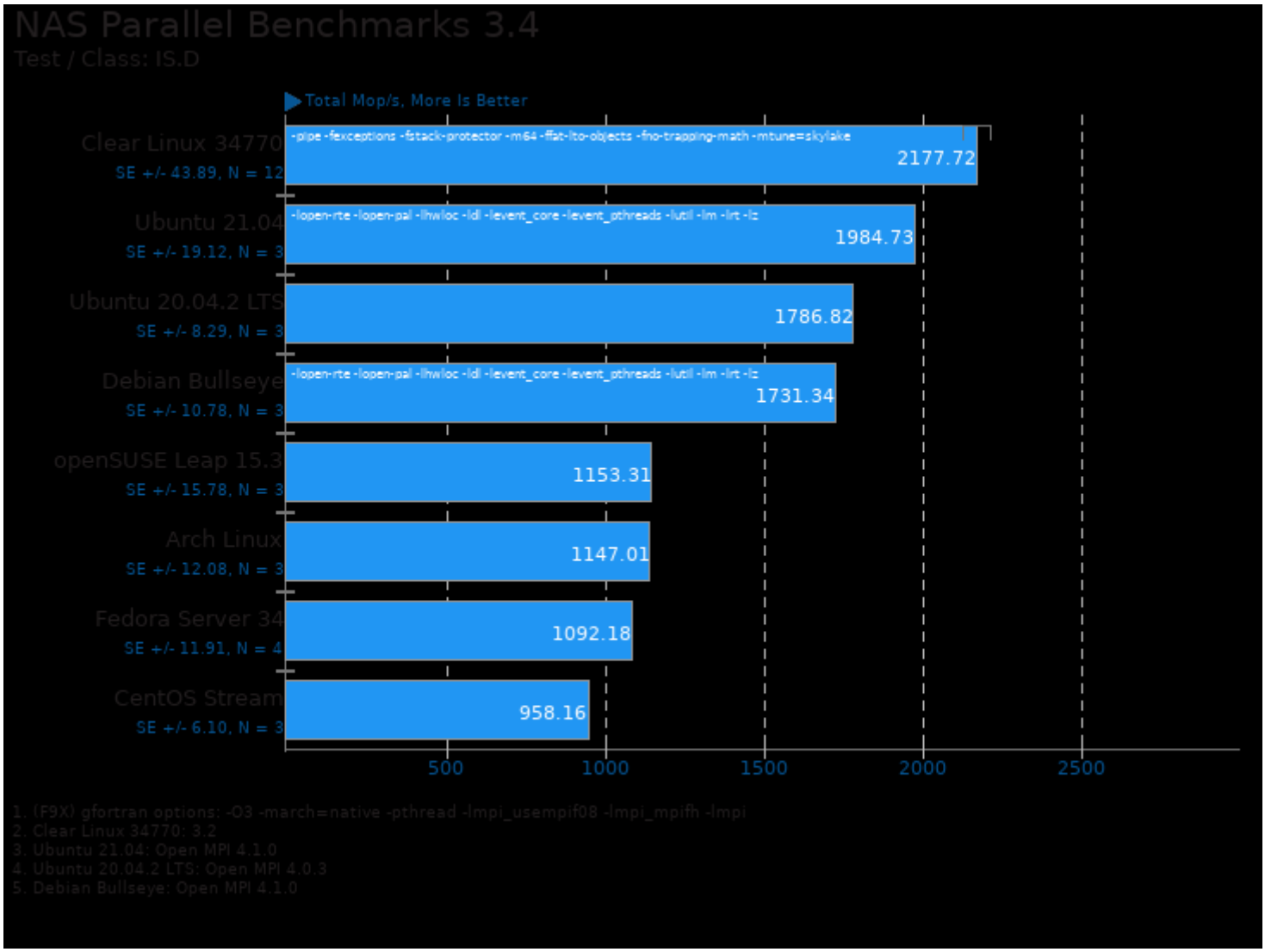

High Performance Conjugate Gradient 3.1
GFLOP/s, More Is Better
Clear Linux 34770
SE +/- 0.46, N = 12
19.43
Arch Linux
SE +/- 1.31, N = 9
-lmpi_cxx
18.26
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
-lmpi_cxx
12.88
Ubuntu 21.04
SE +/- 0.83, N = 9
-lmpi_cxx
12.69
CentOS Stream
SE +/- 0.13, N = 12
-lmpi_cxx
12.46
openSUSE Leap 15.3
SE +/- 0.45, N = 9
-lmpi_cxx
12.12
Debian Bullseye
SE +/- 0.64, N = 9
-lmpi_cxx
11.79
Fedora Server 34
SE +/- 0.60, N = 12
-lmpi_cxx
11.71
5
10
15
20
25
1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -pthread -lmpi

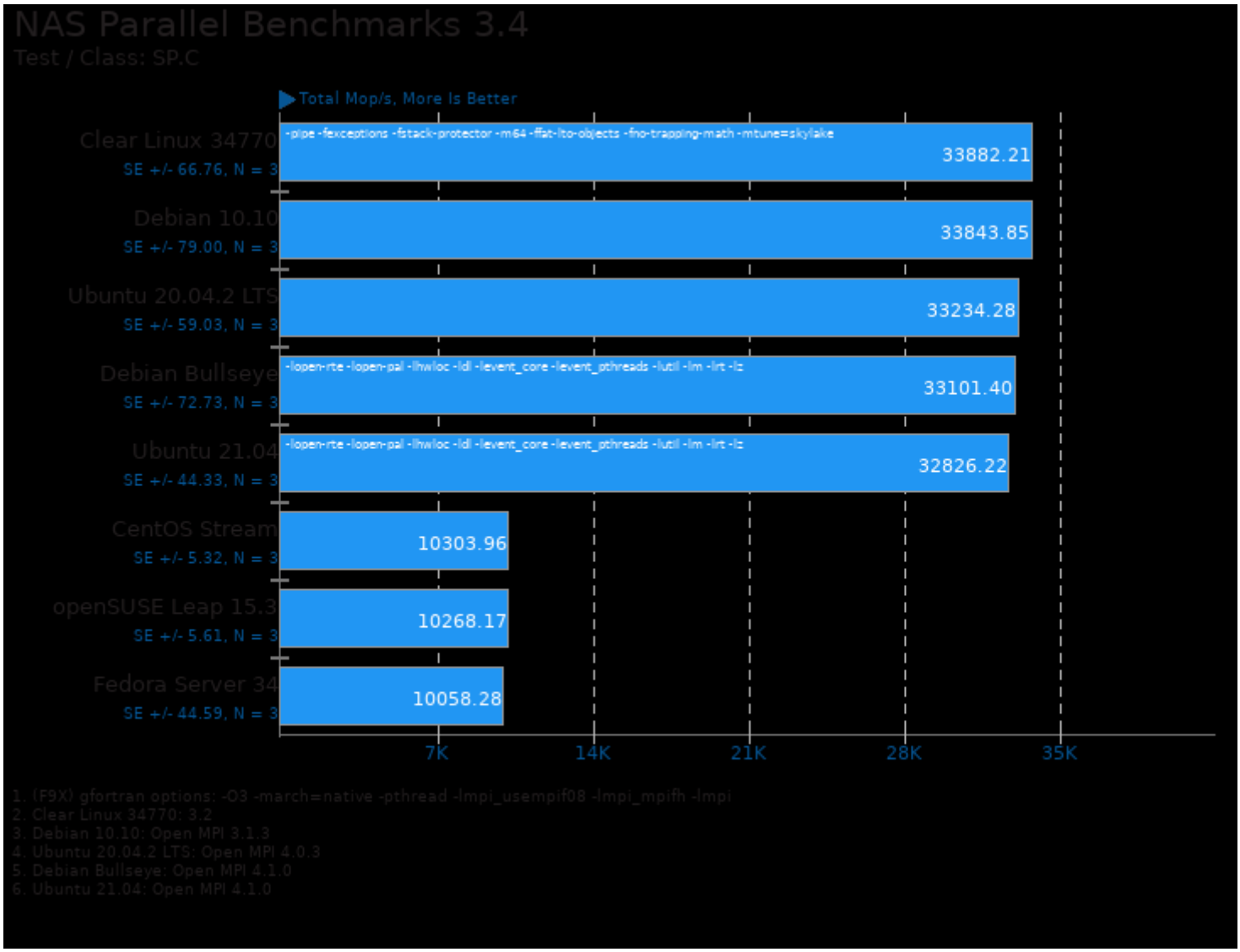

NAS Parallel Benchmarks 3.4
Test / Class: BT.C
Total Mop/s, More Is Better
Debian Bullseye
SE +/- 44.18, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
89192.77
Ubuntu 20.04.2 LTS
SE +/- 203.96, N = 3
87954.98
Debian 10.10
SE +/- 319.12, N = 3
87888.38
Ubuntu 21.04
SE +/- 108.57, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
87240.05
Clear Linux 34770
SE +/- 114.01, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
87029.15
openSUSE Leap 15.3
SE +/- 24.13, N = 3
21380.29
CentOS Stream
SE +/- 4.57, N = 3
21314.04
Fedora Server 34
SE +/- 482.34, N = 9
20507.55
20K
40K
60K
80K
100K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Debian Bullseye: Open MPI 4.1.0
3. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
4. Debian 10.10: Open MPI 3.1.3
5. Ubuntu 21.04: Open MPI 4.1.0
6. Clear Linux 34770: 3.2

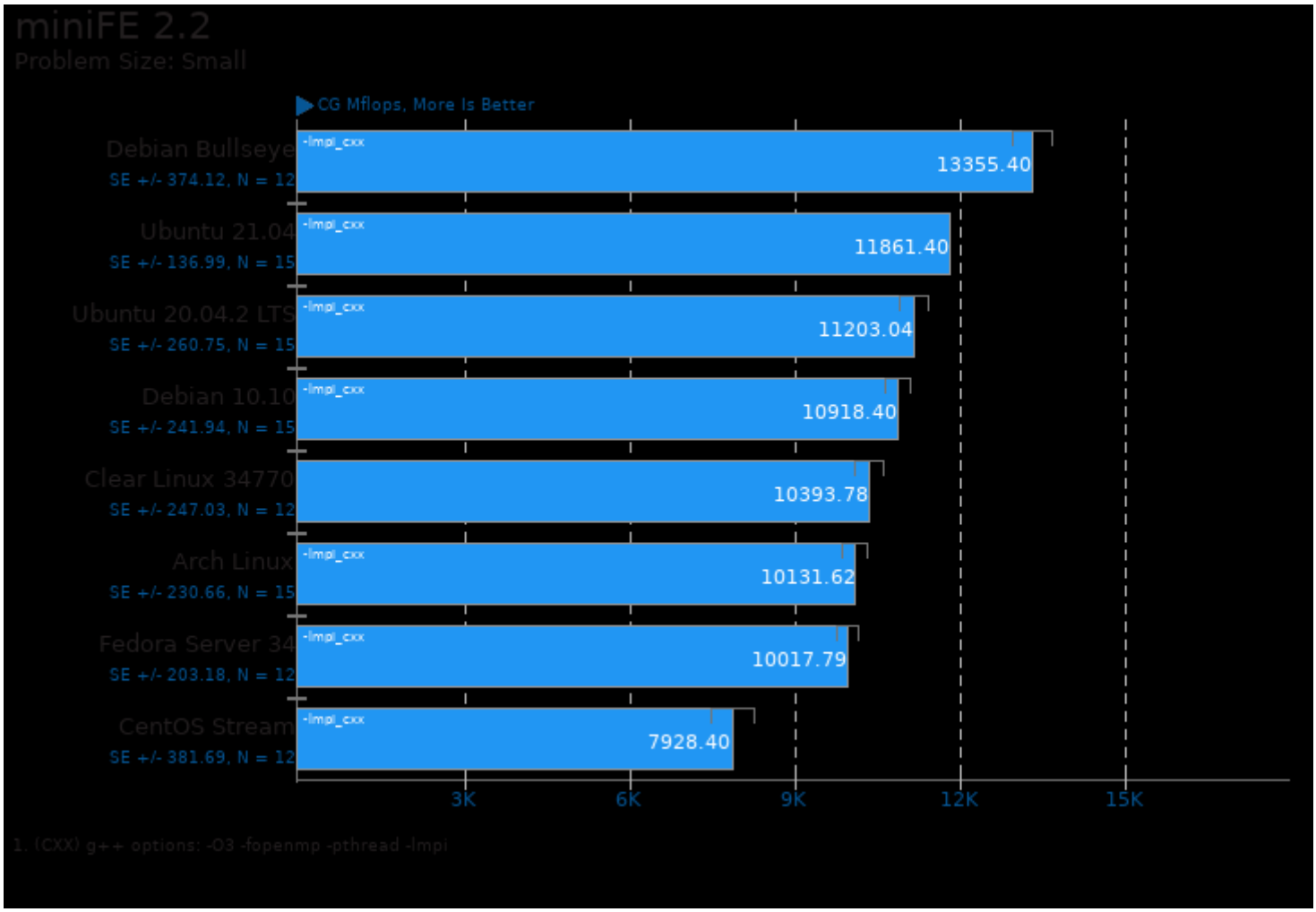

NAS Parallel Benchmarks 3.4
Test / Class: CG.C
Total Mop/s, More Is Better
Debian Bullseye
SE +/- 246.35, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
30352.21
Ubuntu 20.04.2 LTS
SE +/- 271.73, N = 3
29891.71
Clear Linux 34770
SE +/- 170.00, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
29639.93
Ubuntu 21.04
SE +/- 408.24, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
28970.46
Fedora Server 34
SE +/- 10.91, N = 3
13587.61
CentOS Stream
SE +/- 138.23, N = 4
12924.77
openSUSE Leap 15.3
SE +/- 140.99, N = 15
12640.57
7K
14K
21K
28K
35K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Debian Bullseye: Open MPI 4.1.0
3. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
4. Clear Linux 34770: 3.2
5. Ubuntu 21.04: Open MPI 4.1.0

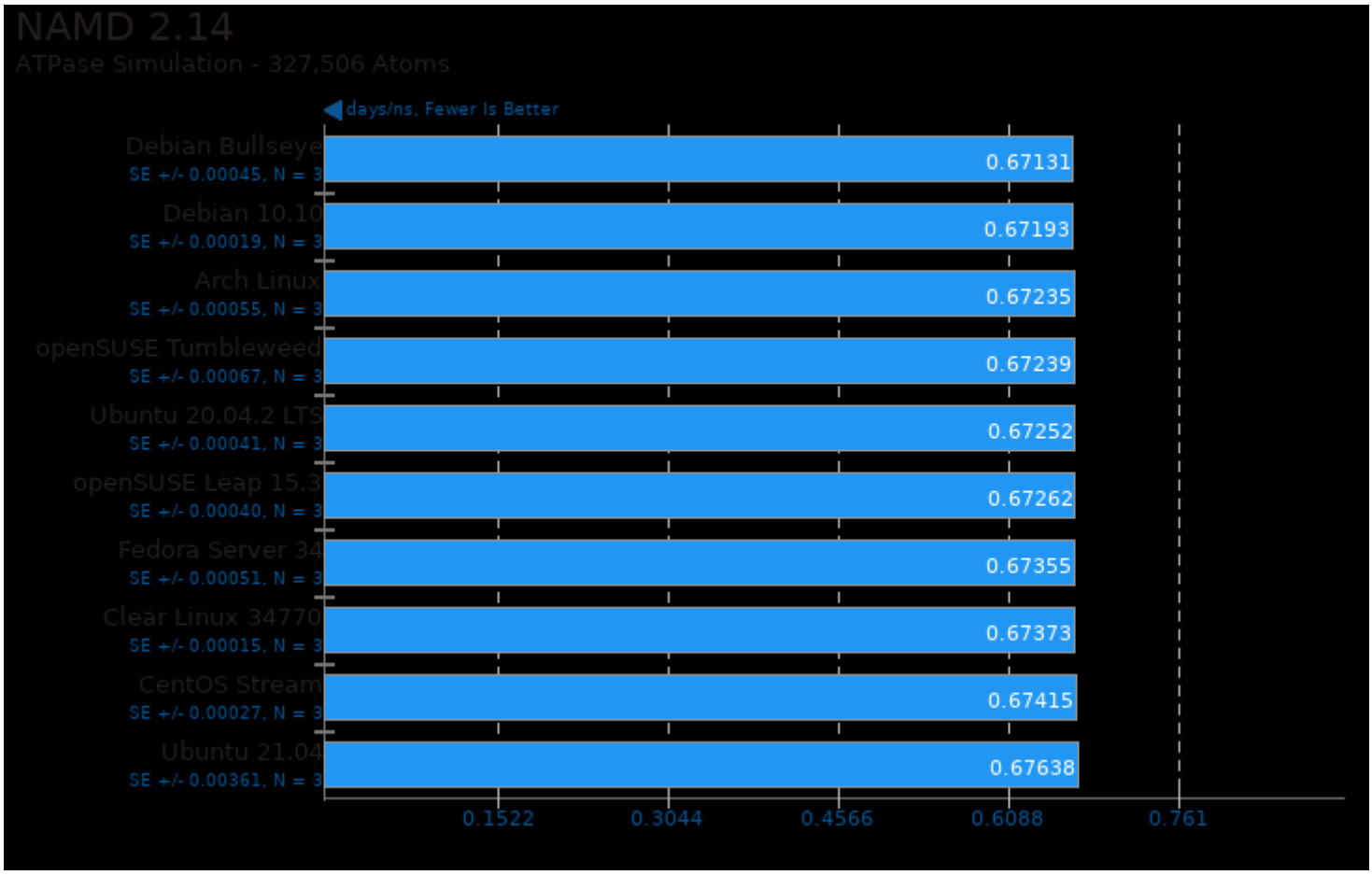

NAS Parallel Benchmarks 3.4
Test / Class: EP.D
Total Mop/s, More Is Better
Debian Bullseye
SE +/- 8.37, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
2965.21
Ubuntu 20.04.2 LTS
SE +/- 21.45, N = 13
2934.26
Ubuntu 21.04
SE +/- 22.22, N = 15
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
2929.74
Clear Linux 34770
SE +/- 35.45, N = 12
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
2844.38
Fedora Server 34
SE +/- 28.47, N = 14
1601.22
openSUSE Leap 15.3
SE +/- 0.29, N = 3
1362.17
CentOS Stream
SE +/- 15.88, N = 12
1006.08
600
1200
1800
2400
3000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Debian Bullseye: Open MPI 4.1.0
3. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
4. Ubuntu 21.04: Open MPI 4.1.0
5. Clear Linux 34770: 3.2

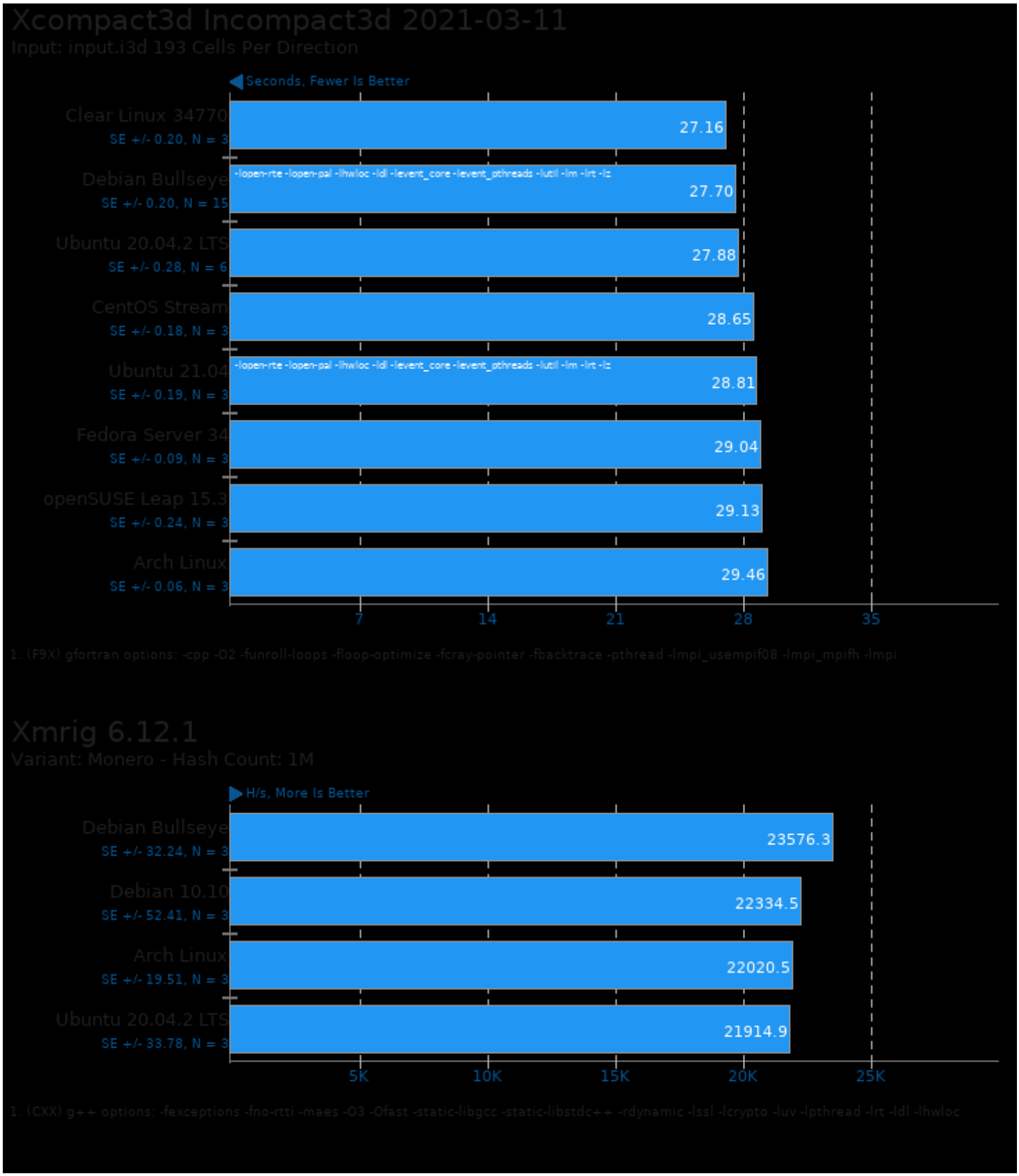

NAS Parallel Benchmarks 3.4
Test / Class: FT.C
Total Mop/s, More Is Better
Debian Bullseye
SE +/- 134.89, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
49076.24
Clear Linux 34770
SE +/- 318.68, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
48459.81
Ubuntu 20.04.2 LTS
SE +/- 40.78, N = 3
47059.68
Ubuntu 21.04
SE +/- 352.28, N = 11
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
46810.91
CentOS Stream
SE +/- 49.69, N = 3
18869.87
Fedora Server 34
SE +/- 43.58, N = 3
17996.09
openSUSE Leap 15.3
SE +/- 90.41, N = 3
17789.03
11K
22K
33K
44K
55K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Debian Bullseye: Open MPI 4.1.0
3. Clear Linux 34770: 3.2
4. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
5. Ubuntu 21.04: Open MPI 4.1.0

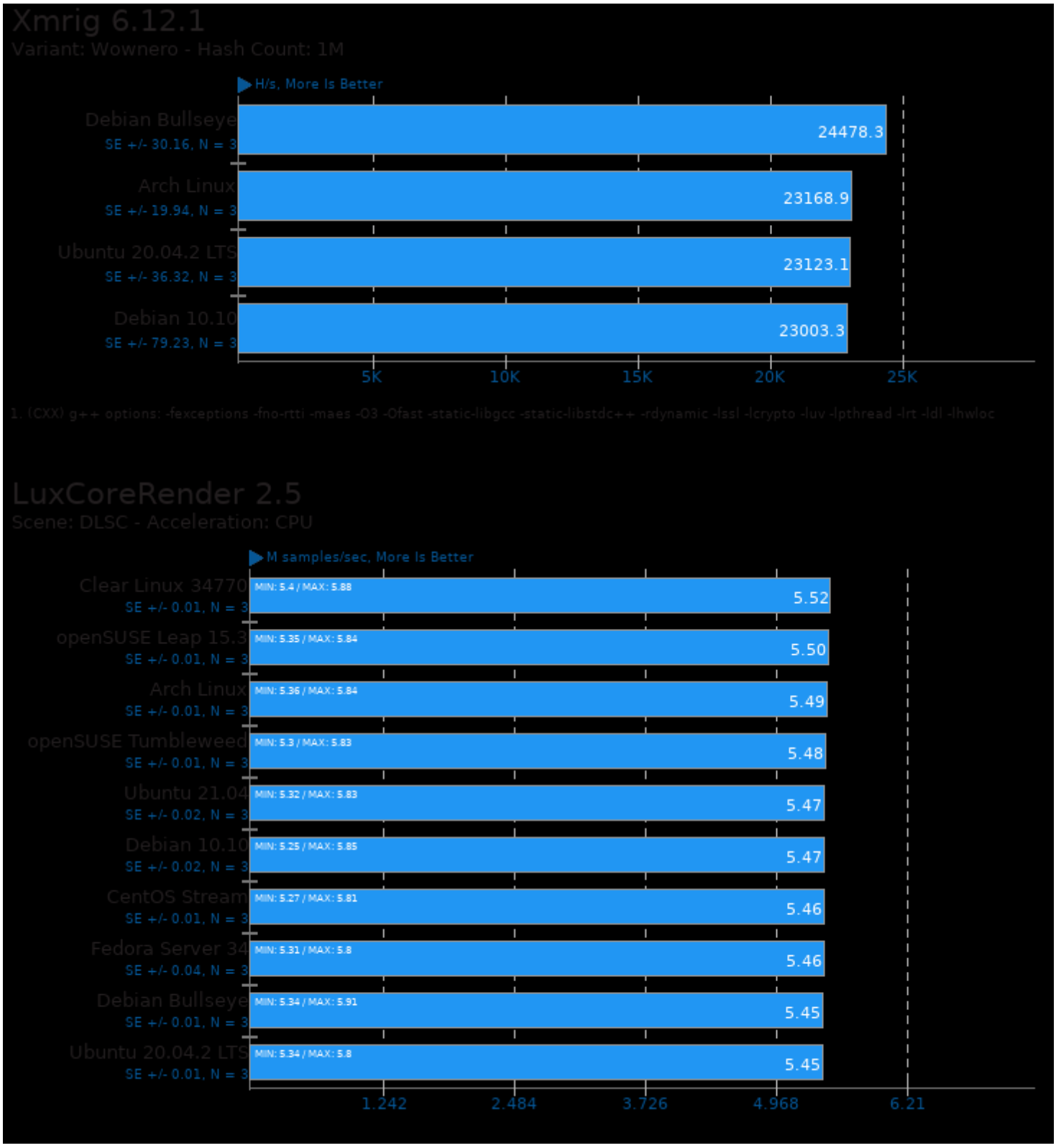

NAS Parallel Benchmarks 3.4
Test / Class: IS.D
Total Mop/s, More Is Better
Clear Linux 34770
SE +/- 43.89, N = 12
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
2177.72
Ubuntu 21.04
SE +/- 19.12, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
1984.73
Ubuntu 20.04.2 LTS
SE +/- 8.29, N = 3
1786.82
Debian Bullseye
SE +/- 10.78, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
1731.34
openSUSE Leap 15.3
SE +/- 15.78, N = 3
1153.31
Arch Linux
SE +/- 12.08, N = 3
1147.01
Fedora Server 34
SE +/- 11.91, N = 4
1092.18
CentOS Stream
SE +/- 6.10, N = 3
958.16
500
1000
1500
2000
2500
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Clear Linux 34770: 3.2
3. Ubuntu 21.04: Open MPI 4.1.0
4. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
5. Debian Bullseye: Open MPI 4.1.0

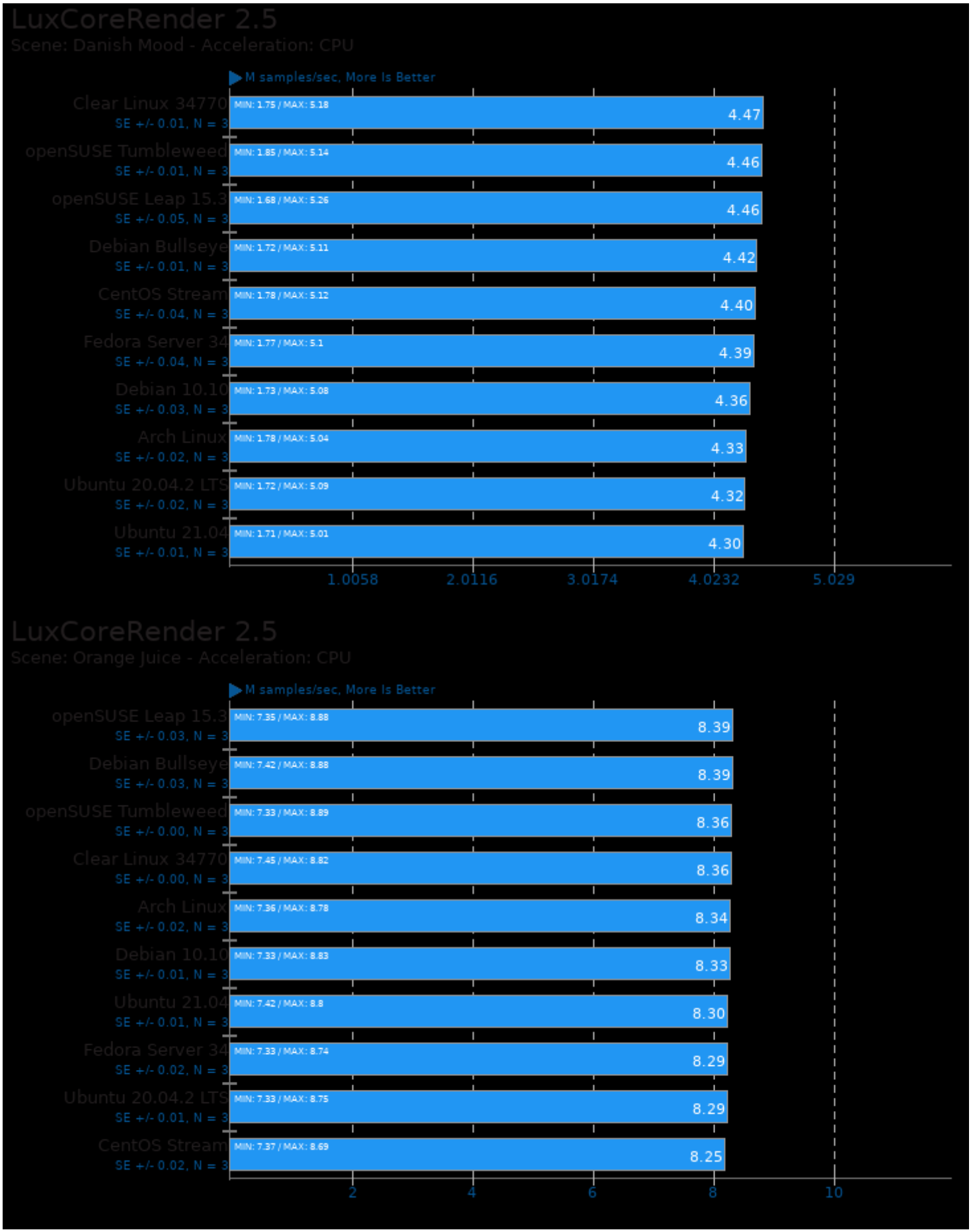

NAS Parallel Benchmarks 3.4
Test / Class: SP.C
Total Mop/s, More Is Better
Clear Linux 34770
SE +/- 66.76, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
33882.21
Debian 10.10
SE +/- 79.00, N = 3
33843.85
Ubuntu 20.04.2 LTS
SE +/- 59.03, N = 3
33234.28
Debian Bullseye
SE +/- 72.73, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
33101.40
Ubuntu 21.04
SE +/- 44.33, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
32826.22
CentOS Stream
SE +/- 5.32, N = 3
10303.96
openSUSE Leap 15.3
SE +/- 5.61, N = 3
10268.17
Fedora Server 34
SE +/- 44.59, N = 3
10058.28
7K
14K
21K
28K
35K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Clear Linux 34770: 3.2
3. Debian 10.10: Open MPI 3.1.3
4. Ubuntu 20.04.2 LTS: Open MPI 4.0.3
5. Debian Bullseye: Open MPI 4.1.0
6. Ubuntu 21.04: Open MPI 4.1.0

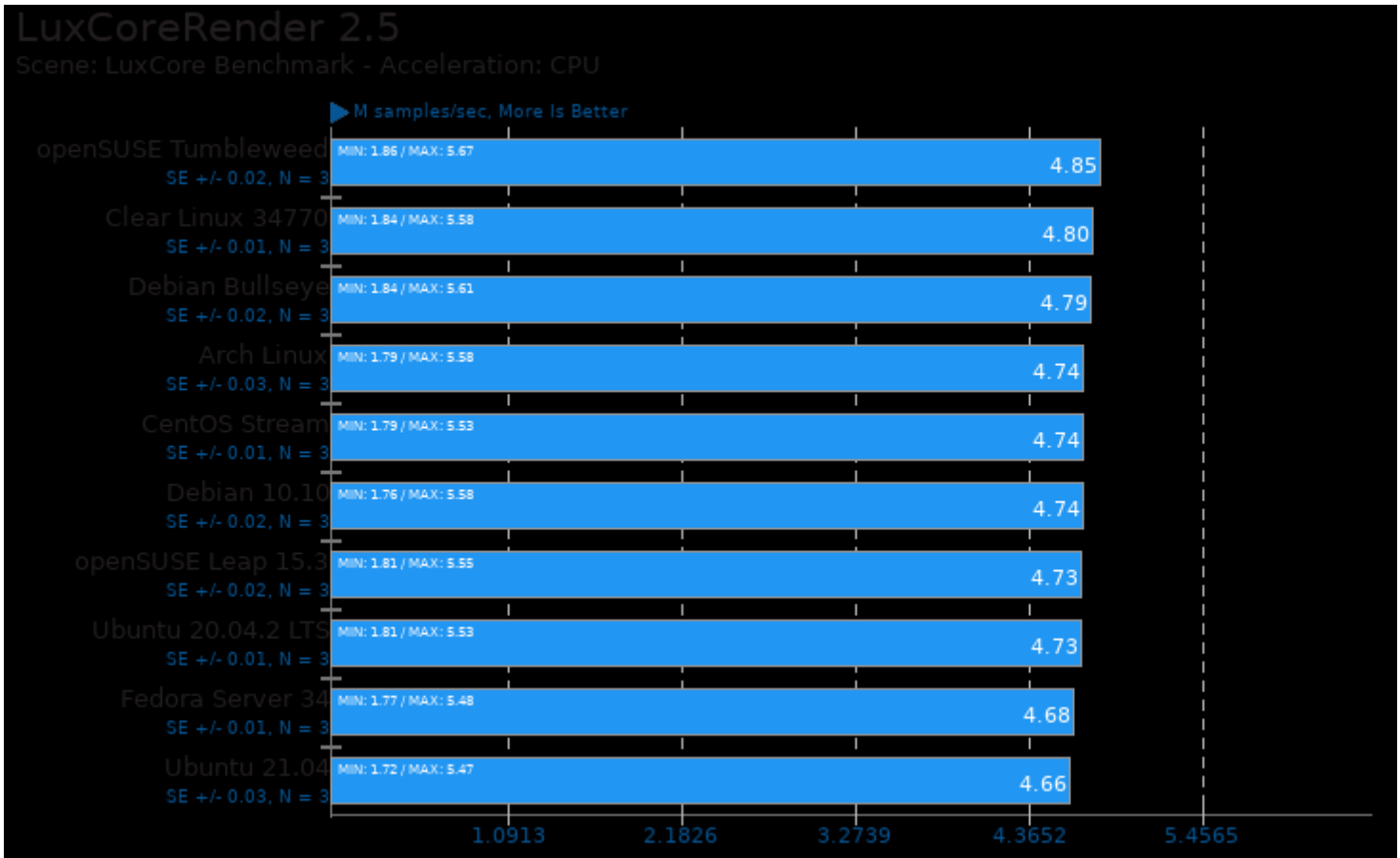

miniFE 2.2
Problem Size: Small
CG Mflops, More Is Better
Debian Bullseye
SE +/- 374.12, N = 12
-lmpi_cxx
13355.40
Ubuntu 21.04
SE +/- 136.99, N = 15
-lmpi_cxx
11861.40
Ubuntu 20.04.2 LTS
SE +/- 260.75, N = 15
-lmpi_cxx
11203.04
Debian 10.10
SE +/- 241.94, N = 15
-lmpi_cxx
10918.40
Clear Linux 34770
SE +/- 247.03, N = 12
10393.78
Arch Linux
SE +/- 230.66, N = 15
-lmpi_cxx
10131.62
Fedora Server 34
SE +/- 203.18, N = 12
-lmpi_cxx
10017.79
CentOS Stream
SE +/- 381.69, N = 12
-lmpi_cxx
7928.40
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -fopenmp -pthread -lmpi

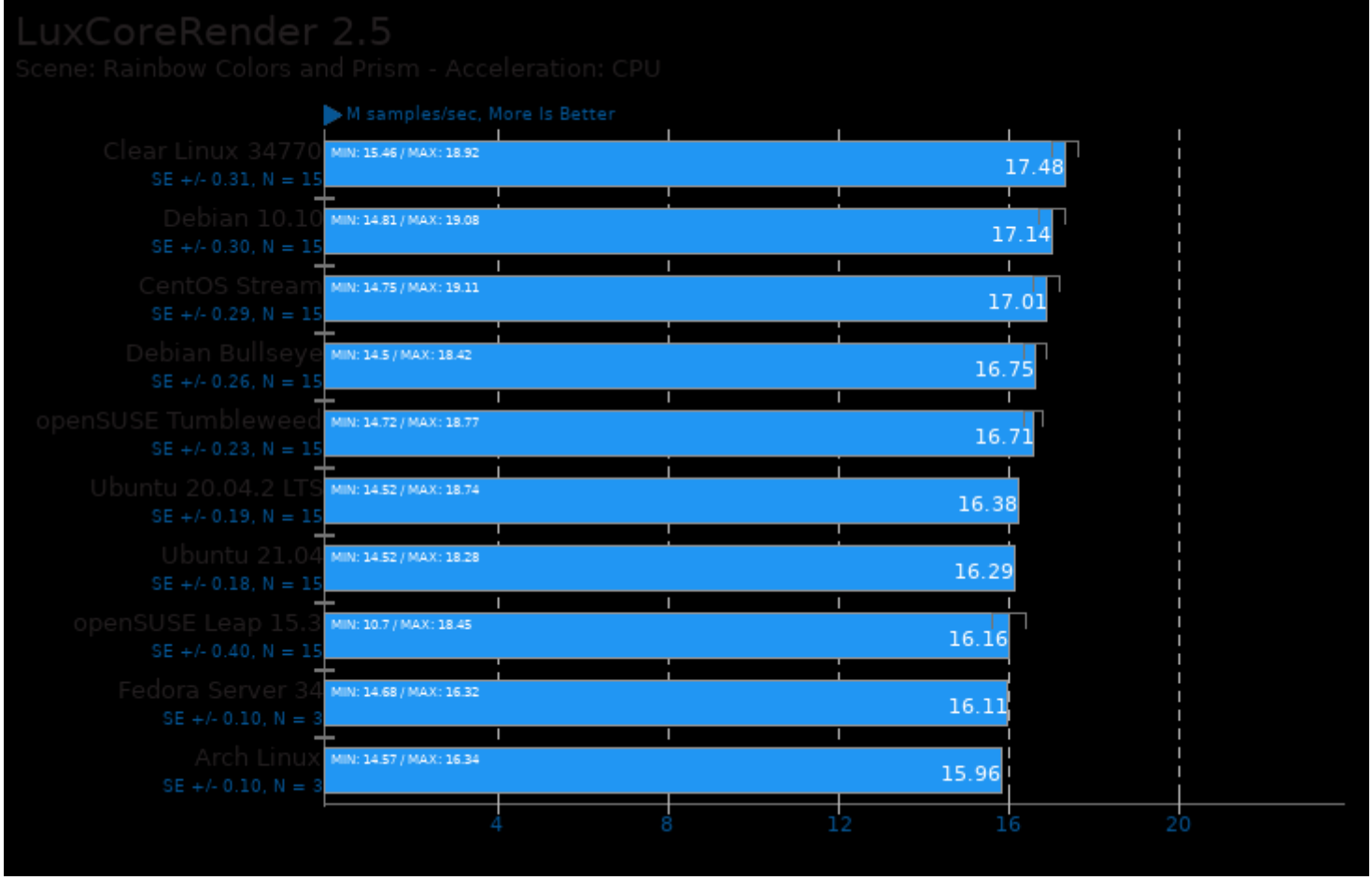

NAMD 2.14
ATPase Simulation - 327,506 Atoms
days/ns, Fewer Is Better
Debian Bullseye
SE +/- 0.00045, N = 3
0.67131
Debian 10.10
SE +/- 0.00019, N = 3
0.67193
Arch Linux
SE +/- 0.00055, N = 3
0.67235
openSUSE Tumbleweed
SE +/- 0.00067, N = 3
0.67239
Ubuntu 20.04.2 LTS
SE +/- 0.00041, N = 3
0.67252
openSUSE Leap 15.3
SE +/- 0.00040, N = 3
0.67262
Fedora Server 34
SE +/- 0.00051, N = 3
0.67355
Clear Linux 34770
SE +/- 0.00015, N = 3
0.67373
CentOS Stream
SE +/- 0.00027, N = 3
0.67415
Ubuntu 21.04
SE +/- 0.00361, N = 3
0.67638
0.1522
0.3044
0.4566
0.6088
0.761

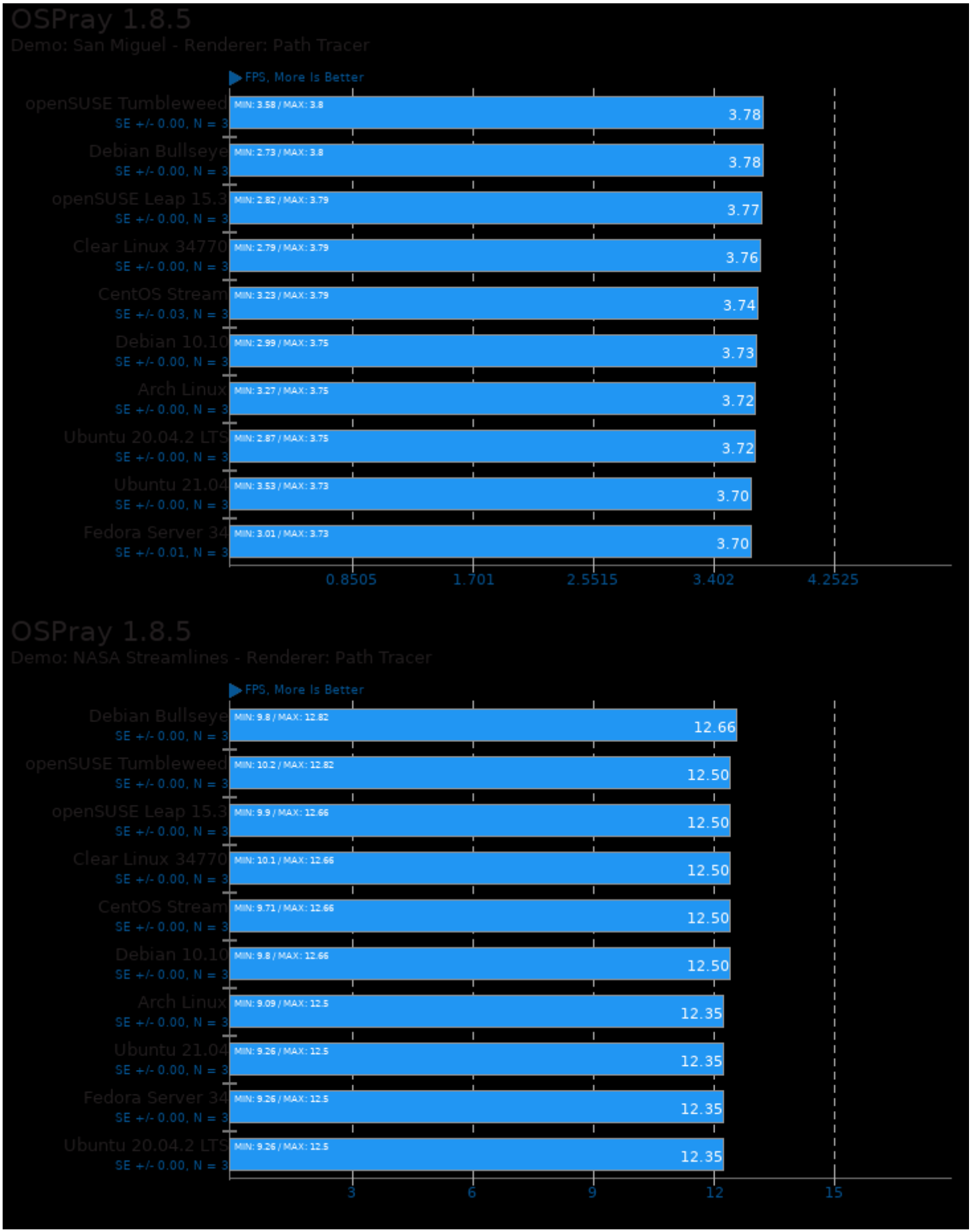

Xcompact3d Incompact3d 2021-03-11
Input: input.i3d 193 Cells Per Direction
Seconds, Fewer Is Better
Clear Linux 34770
SE +/- 0.20, N = 3
27.16
Debian Bullseye
SE +/- 0.20, N = 15
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
27.70
Ubuntu 20.04.2 LTS
SE +/- 0.28, N = 6
27.88
CentOS Stream
SE +/- 0.18, N = 3
28.65
Ubuntu 21.04
SE +/- 0.19, N = 3
-lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads -lutil -lm -lrt -lz
28.81
Fedora Server 34
SE +/- 0.09, N = 3
29.04
openSUSE Leap 15.3
SE +/- 0.24, N = 3
29.13
Arch Linux
SE +/- 0.06, N = 3
29.46
7
14
21
28
35
1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
Debian Bullseye
SE +/- 32.24, N = 3
23576.3
Debian 10.10
SE +/- 52.41, N = 3
22334.5
Arch Linux
SE +/- 19.51, N = 3
22020.5
Ubuntu 20.04.2 LTS
SE +/- 33.78, N = 3
21914.9
5K
10K
15K
20K
25K
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

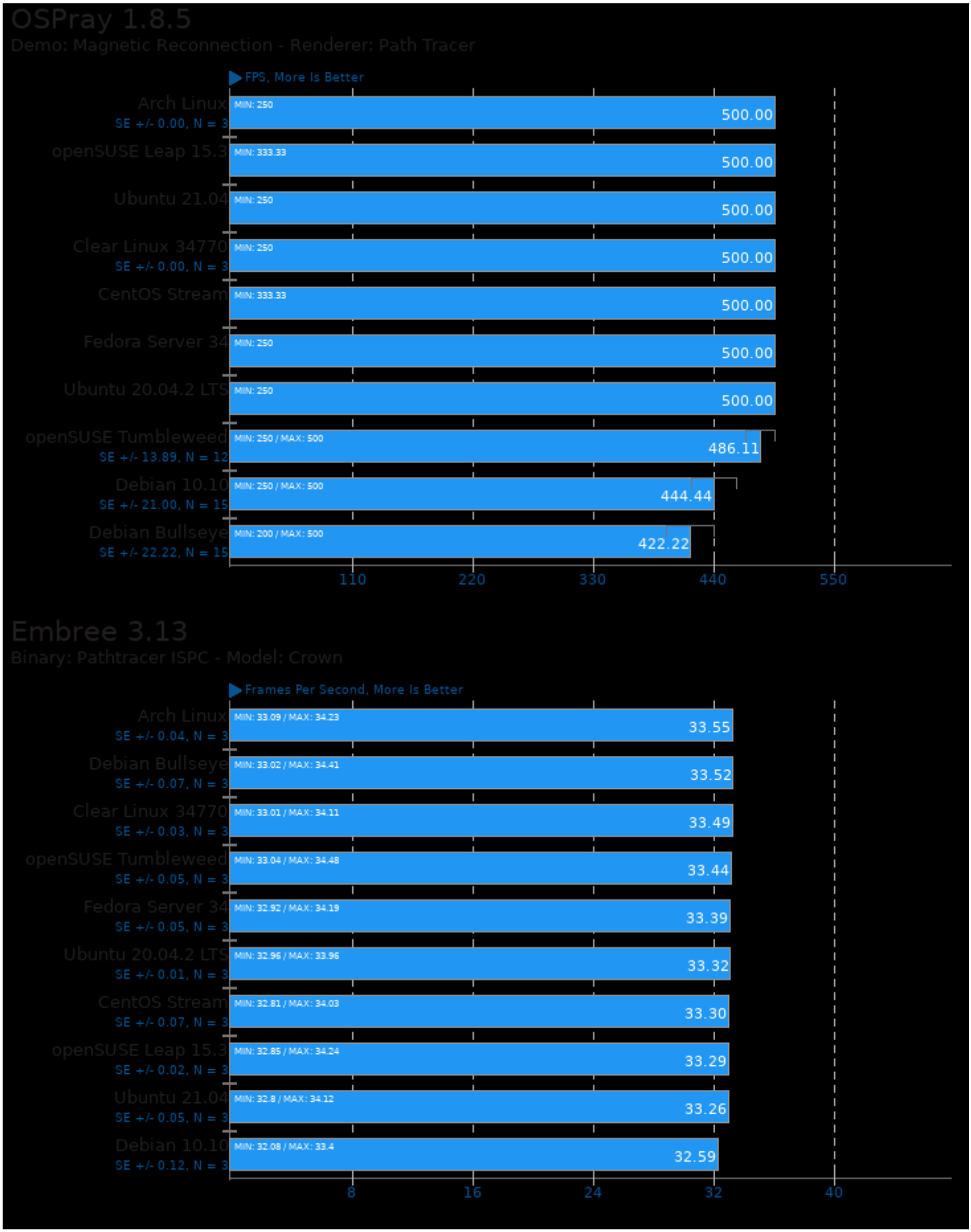

Xmrig 6.12.1
Variant: Wownero - Hash Count: 1M
H/s, More Is Better
Debian Bullseye
SE +/- 30.16, N = 3
24478.3
Arch Linux
SE +/- 19.94, N = 3
23168.9
Ubuntu 20.04.2 LTS
SE +/- 36.32, N = 3
23123.1
Debian 10.10
SE +/- 79.23, N = 3
23003.3
5K
10K
15K
20K
25K
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc
LuxCoreRender 2.5
Scene: DLSC - Acceleration: CPU
M samples/sec, More Is Better
Clear Linux 34770
SE +/- 0.01, N = 3
MIN: 5.4 / MAX: 5.88
5.52
openSUSE Leap 15.3
SE +/- 0.01, N = 3
MIN: 5.35 / MAX: 5.84
5.50
Arch Linux
SE +/- 0.01, N = 3
MIN: 5.36 / MAX: 5.84
5.49
openSUSE Tumbleweed
SE +/- 0.01, N = 3
MIN: 5.3 / MAX: 5.83
5.48
Ubuntu 21.04
SE +/- 0.02, N = 3
MIN: 5.32 / MAX: 5.83
5.47
Debian 10.10
SE +/- 0.02, N = 3
MIN: 5.25 / MAX: 5.85
5.47
CentOS Stream
SE +/- 0.01, N = 3
MIN: 5.27 / MAX: 5.81
5.46
Fedora Server 34
SE +/- 0.04, N = 3
MIN: 5.31 / MAX: 5.8
5.46
Debian Bullseye
SE +/- 0.01, N = 3
MIN: 5.34 / MAX: 5.91
5.45
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
MIN: 5.34 / MAX: 5.8
5.45
1.242
2.484
3.726
4.968
6.21

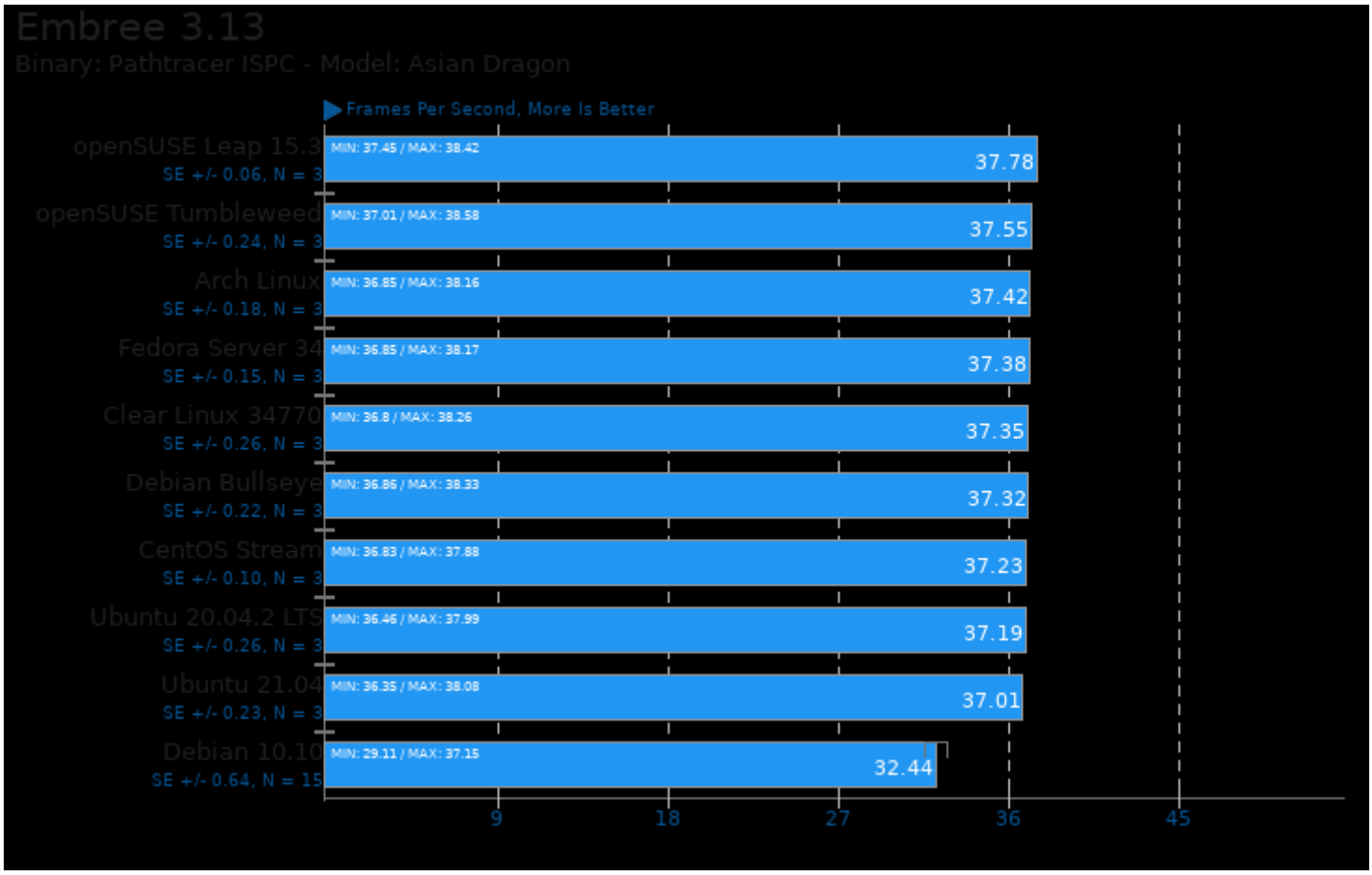

LuxCoreRender 2.5
Scene: Danish Mood - Acceleration: CPU
M samples/sec, More Is Better
Clear Linux 34770
SE +/- 0.01, N = 3
MIN: 1.75 / MAX: 5.18
4.47
openSUSE Tumbleweed
SE +/- 0.01, N = 3
MIN: 1.85 / MAX: 5.14
4.46
openSUSE Leap 15.3
SE +/- 0.05, N = 3
MIN: 1.68 / MAX: 5.26
4.46
Debian Bullseye
SE +/- 0.01, N = 3
MIN: 1.72 / MAX: 5.11
4.42
CentOS Stream
SE +/- 0.04, N = 3
MIN: 1.78 / MAX: 5.12
4.40
Fedora Server 34
SE +/- 0.04, N = 3
MIN: 1.77 / MAX: 5.1
4.39
Debian 10.10
SE +/- 0.03, N = 3
MIN: 1.73 / MAX: 5.08
4.36
Arch Linux
SE +/- 0.02, N = 3
MIN: 1.78 / MAX: 5.04
4.33
Ubuntu 20.04.2 LTS
SE +/- 0.02, N = 3
MIN: 1.72 / MAX: 5.09
4.32
Ubuntu 21.04
SE +/- 0.01, N = 3
MIN: 1.71 / MAX: 5.01
4.30
1.0058
2.0116
3.0174
4.0232
5.029
LuxCoreRender 2.5
Scene: Orange Juice - Acceleration: CPU
M samples/sec, More Is Better
openSUSE Leap 15.3
SE +/- 0.03, N = 3
MIN: 7.35 / MAX: 8.88
8.39
Debian Bullseye
SE +/- 0.03, N = 3
MIN: 7.42 / MAX: 8.88
8.39
openSUSE Tumbleweed
SE +/- 0.00, N = 3
MIN: 7.33 / MAX: 8.89
8.36
Clear Linux 34770
SE +/- 0.00, N = 3
MIN: 7.45 / MAX: 8.82
8.36
Arch Linux
SE +/- 0.02, N = 3
MIN: 7.36 / MAX: 8.78
8.34
Debian 10.10
SE +/- 0.01, N = 3
MIN: 7.33 / MAX: 8.83
8.33
Ubuntu 21.04
SE +/- 0.01, N = 3
MIN: 7.42 / MAX: 8.8
8.30
Fedora Server 34
SE +/- 0.02, N = 3
MIN: 7.33 / MAX: 8.74
8.29
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
MIN: 7.33 / MAX: 8.75
8.29
CentOS Stream
SE +/- 0.02, N = 3
MIN: 7.37 / MAX: 8.69
8.25
2
4
6
8
10

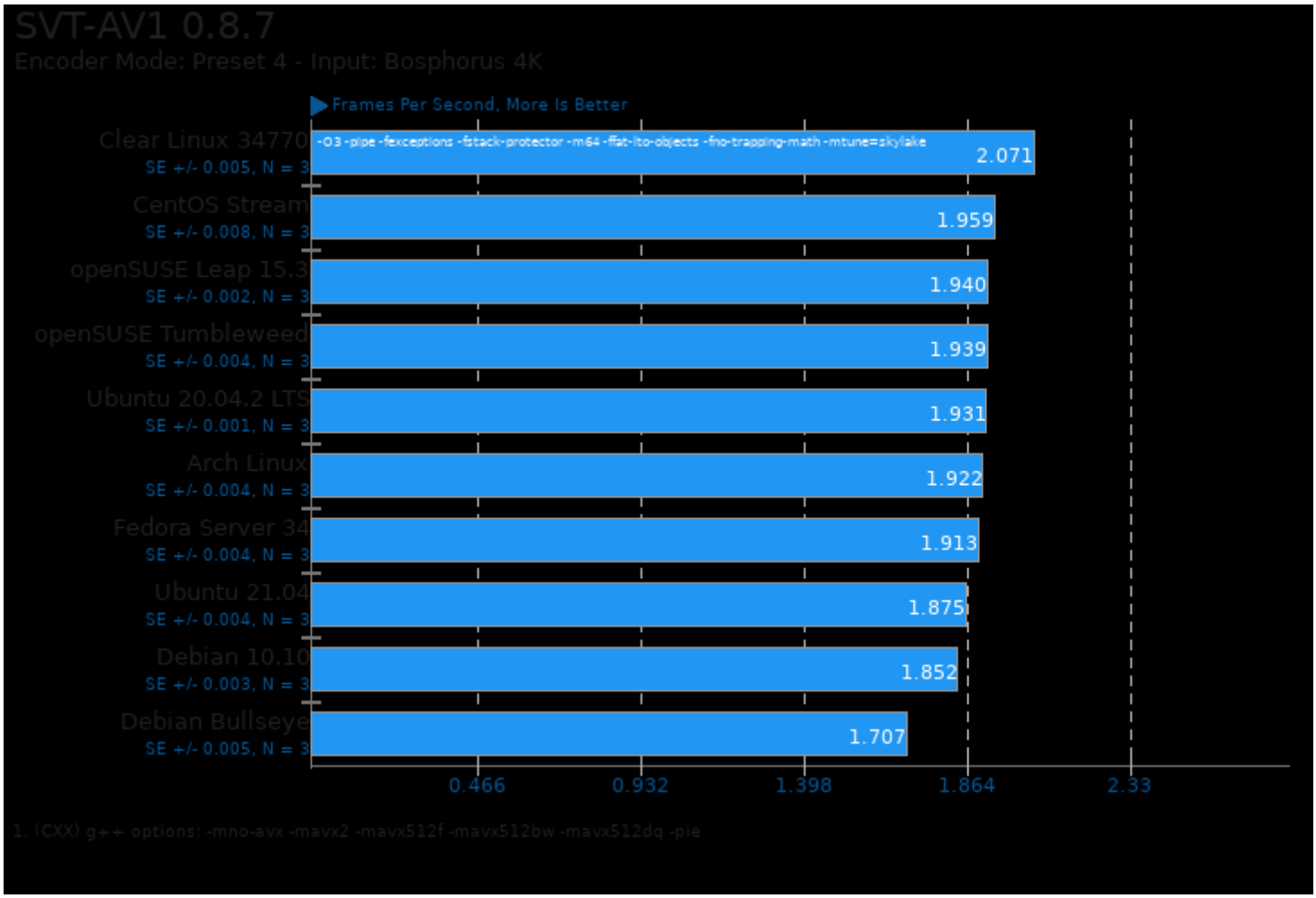

LuxCoreRender 2.5
Scene: LuxCore Benchmark - Acceleration: CPU
M samples/sec, More Is Better
openSUSE Tumbleweed
SE +/- 0.02, N = 3
MIN: 1.86 / MAX: 5.67
4.85
Clear Linux 34770
SE +/- 0.01, N = 3
MIN: 1.84 / MAX: 5.58
4.80
Debian Bullseye
SE +/- 0.02, N = 3
MIN: 1.84 / MAX: 5.61
4.79
Arch Linux
SE +/- 0.03, N = 3
MIN: 1.79 / MAX: 5.58
4.74
CentOS Stream
SE +/- 0.01, N = 3
MIN: 1.79 / MAX: 5.53
4.74
Debian 10.10
SE +/- 0.02, N = 3
MIN: 1.76 / MAX: 5.58
4.74
openSUSE Leap 15.3
SE +/- 0.02, N = 3
MIN: 1.81 / MAX: 5.55
4.73
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
MIN: 1.81 / MAX: 5.53
4.73
Fedora Server 34
SE +/- 0.01, N = 3
MIN: 1.77 / MAX: 5.48
4.68
Ubuntu 21.04
SE +/- 0.03, N = 3
MIN: 1.72 / MAX: 5.47
4.66
1.0913
2.1826
3.2739
4.3652
5.4565

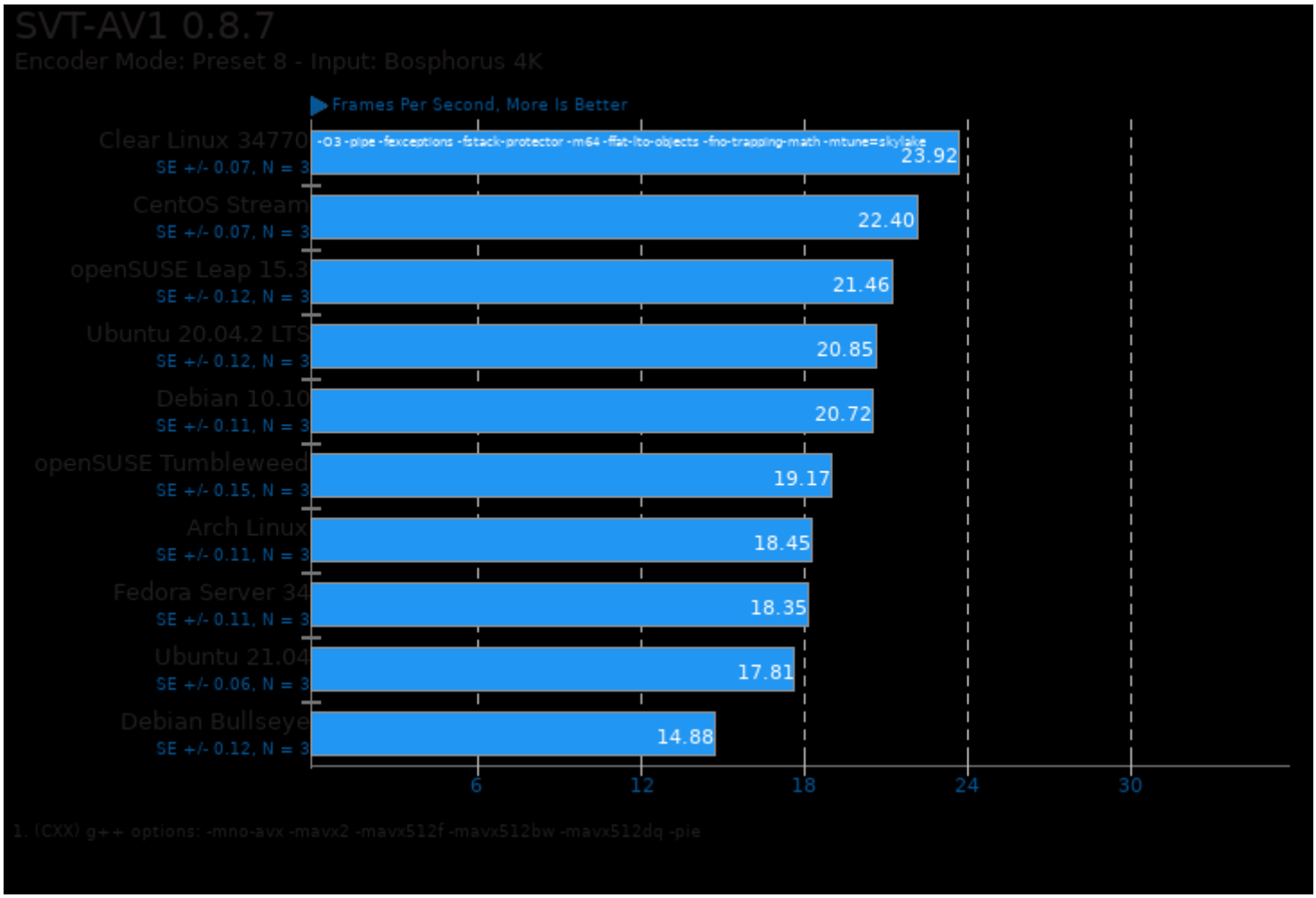

LuxCoreRender 2.5
Scene: Rainbow Colors and Prism - Acceleration: CPU
M samples/sec, More Is Better
Clear Linux 34770
SE +/- 0.31, N = 15
MIN: 15.46 / MAX: 18.92
17.48
Debian 10.10
SE +/- 0.30, N = 15
MIN: 14.81 / MAX: 19.08
17.14
CentOS Stream
SE +/- 0.29, N = 15
MIN: 14.75 / MAX: 19.11
17.01
Debian Bullseye
SE +/- 0.26, N = 15
MIN: 14.5 / MAX: 18.42
16.75
openSUSE Tumbleweed
SE +/- 0.23, N = 15
MIN: 14.72 / MAX: 18.77
16.71
Ubuntu 20.04.2 LTS
SE +/- 0.19, N = 15
MIN: 14.52 / MAX: 18.74
16.38
Ubuntu 21.04
SE +/- 0.18, N = 15
MIN: 14.52 / MAX: 18.28
16.29
openSUSE Leap 15.3
SE +/- 0.40, N = 15
MIN: 10.7 / MAX: 18.45
16.16
Fedora Server 34
SE +/- 0.10, N = 3
MIN: 14.68 / MAX: 16.32
16.11
Arch Linux
SE +/- 0.10, N = 3
MIN: 14.57 / MAX: 16.34
15.96
4
8
12
16
20

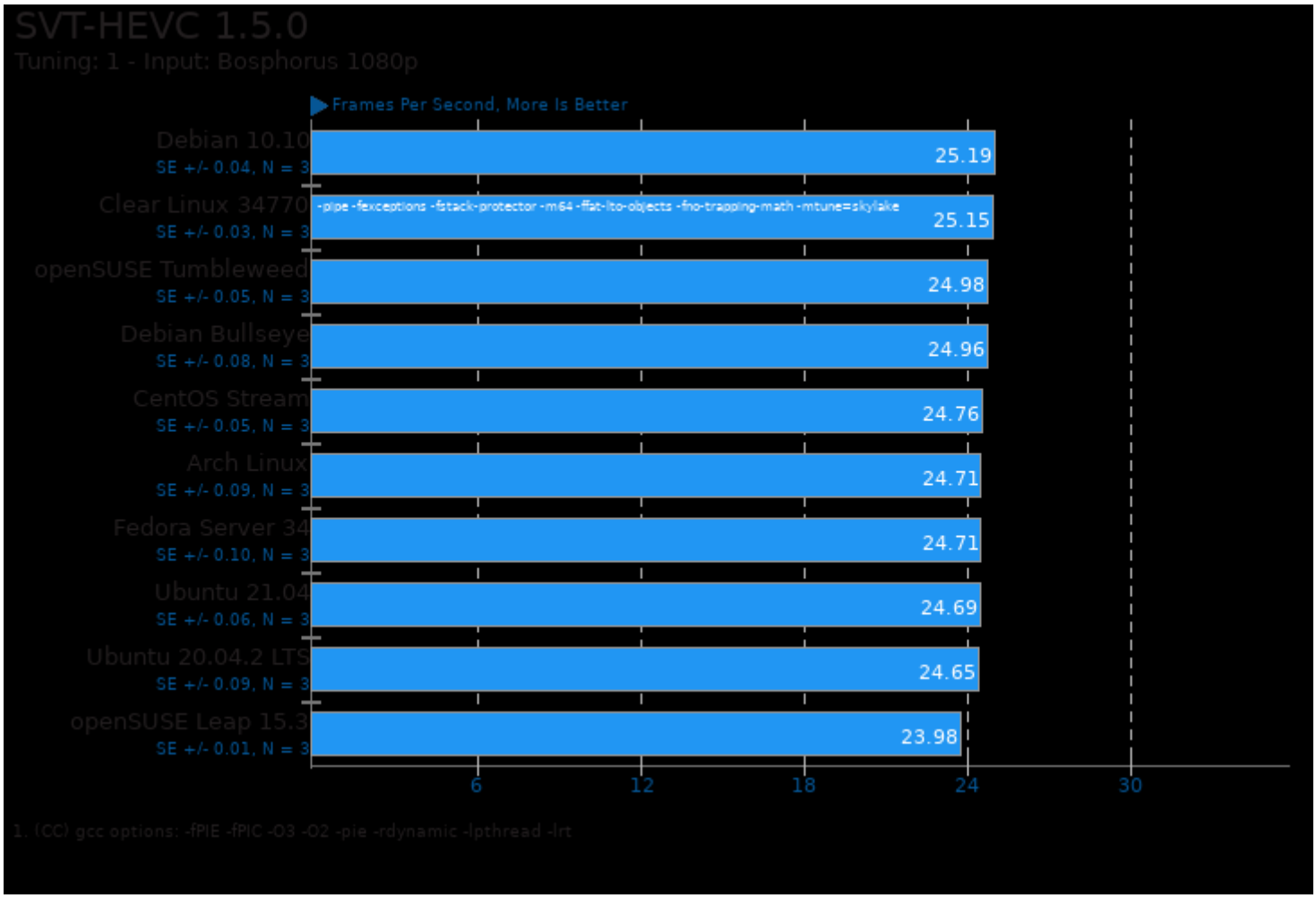

OSPray 1.8.5
Demo: San Miguel - Renderer: Path Tracer
FPS, More Is Better
openSUSE Tumbleweed
SE +/- 0.00, N = 3
MIN: 3.58 / MAX: 3.8
3.78
Debian Bullseye
SE +/- 0.00, N = 3
MIN: 2.73 / MAX: 3.8
3.78
openSUSE Leap 15.3
SE +/- 0.00, N = 3
MIN: 2.82 / MAX: 3.79
3.77
Clear Linux 34770
SE +/- 0.00, N = 3
MIN: 2.79 / MAX: 3.79
3.76
CentOS Stream
SE +/- 0.03, N = 3
MIN: 3.23 / MAX: 3.79
3.74
Debian 10.10
SE +/- 0.00, N = 3
MIN: 2.99 / MAX: 3.75
3.73
Arch Linux
SE +/- 0.00, N = 3
MIN: 3.27 / MAX: 3.75
3.72
Ubuntu 20.04.2 LTS
SE +/- 0.00, N = 3
MIN: 2.87 / MAX: 3.75
3.72
Ubuntu 21.04
SE +/- 0.00, N = 3
MIN: 3.53 / MAX: 3.73
3.70
Fedora Server 34
SE +/- 0.01, N = 3
MIN: 3.01 / MAX: 3.73
3.70
0.8505
1.701
2.5515
3.402
4.2525
OSPray 1.8.5
Demo: NASA Streamlines - Renderer: Path Tracer
FPS, More Is Better
Debian Bullseye
SE +/- 0.00, N = 3
MIN: 9.8 / MAX: 12.82
12.66
openSUSE Tumbleweed
SE +/- 0.00, N = 3
MIN: 10.2 / MAX: 12.82
12.50
openSUSE Leap 15.3
SE +/- 0.00, N = 3
MIN: 9.9 / MAX: 12.66
12.50
Clear Linux 34770
SE +/- 0.00, N = 3
MIN: 10.1 / MAX: 12.66
12.50
CentOS Stream
SE +/- 0.00, N = 3
MIN: 9.71 / MAX: 12.66
12.50
Debian 10.10
SE +/- 0.00, N = 3
MIN: 9.8 / MAX: 12.66
12.50
Arch Linux
SE +/- 0.00, N = 3
MIN: 9.09 / MAX: 12.5
12.35
Ubuntu 21.04
SE +/- 0.00, N = 3
MIN: 9.26 / MAX: 12.5
12.35
Fedora Server 34
SE +/- 0.00, N = 3
MIN: 9.26 / MAX: 12.5
12.35
Ubuntu 20.04.2 LTS
SE +/- 0.00, N = 3
MIN: 9.26 / MAX: 12.5
12.35
3
6
9
12
15

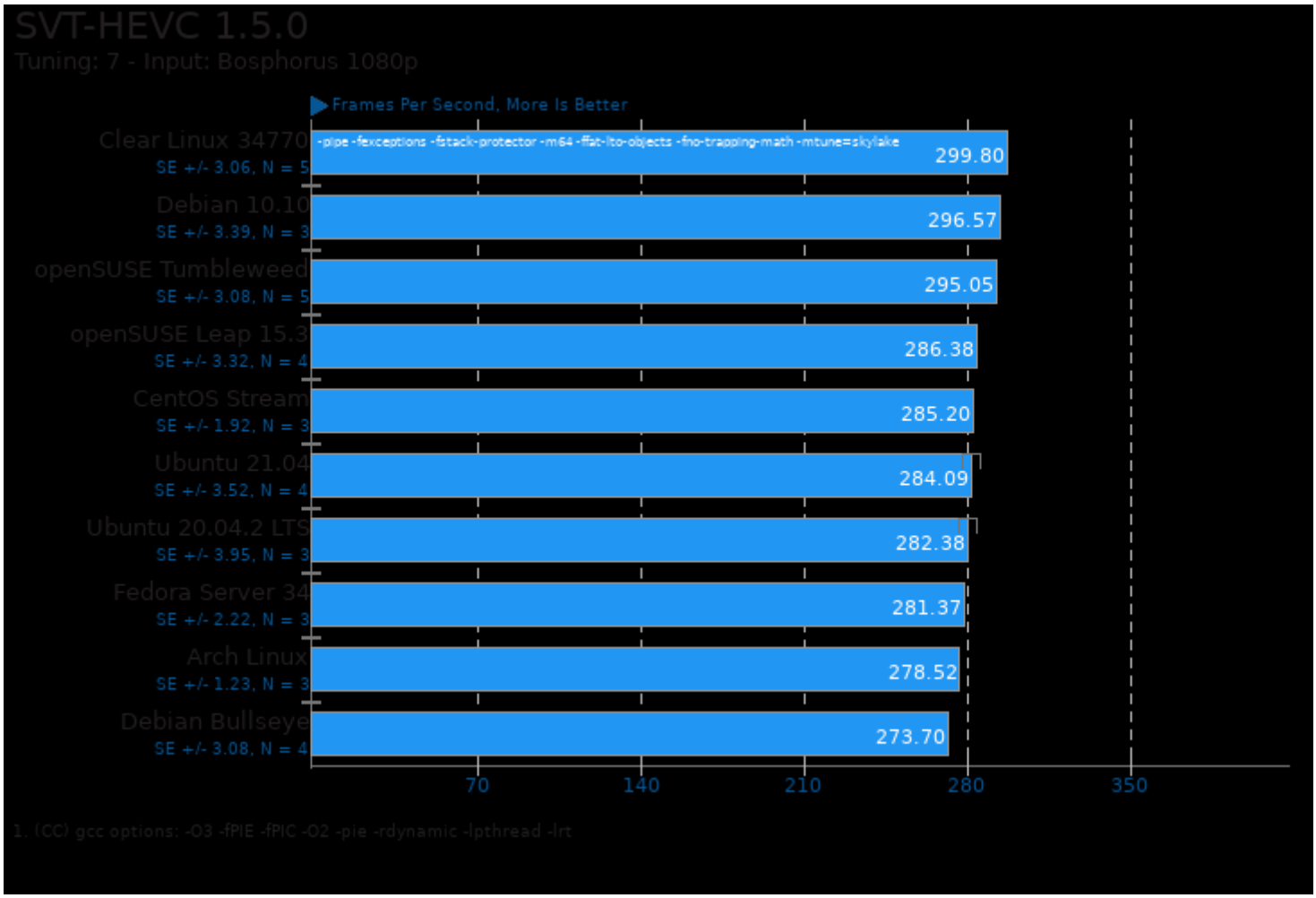

OSPray 1.8.5
Demo: Magnetic Reconnection - Renderer: Path Tracer
FPS, More Is Better
Arch Linux
SE +/- 0.00, N = 3
MIN: 250
500.00
openSUSE Leap 15.3
MIN: 333.33
500.00
Ubuntu 21.04
MIN: 250
500.00
Clear Linux 34770
SE +/- 0.00, N = 3
MIN: 250
500.00
CentOS Stream
MIN: 333.33
500.00
Fedora Server 34
MIN: 250
500.00
Ubuntu 20.04.2 LTS
MIN: 250
500.00
openSUSE Tumbleweed
SE +/- 13.89, N = 12
MIN: 250 / MAX: 500
486.11
Debian 10.10
SE +/- 21.00, N = 15
MIN: 250 / MAX: 500
444.44
Debian Bullseye
SE +/- 22.22, N = 15
MIN: 200 / MAX: 500
422.22
110
220
330
440
550
Embree 3.13
Binary: Pathtracer ISPC - Model: Crown
Frames Per Second, More Is Better
Arch Linux
SE +/- 0.04, N = 3
MIN: 33.09 / MAX: 34.23
33.55
Debian Bullseye
SE +/- 0.07, N = 3
MIN: 33.02 / MAX: 34.41
33.52
Clear Linux 34770
SE +/- 0.03, N = 3
MIN: 33.01 / MAX: 34.11
33.49
openSUSE Tumbleweed
SE +/- 0.05, N = 3
MIN: 33.04 / MAX: 34.48
33.44
Fedora Server 34
SE +/- 0.05, N = 3
MIN: 32.92 / MAX: 34.19
33.39
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
MIN: 32.96 / MAX: 33.96
33.32
CentOS Stream
SE +/- 0.07, N = 3
MIN: 32.81 / MAX: 34.03
33.30
openSUSE Leap 15.3
SE +/- 0.02, N = 3
MIN: 32.85 / MAX: 34.24
33.29
Ubuntu 21.04
SE +/- 0.05, N = 3
MIN: 32.8 / MAX: 34.12
33.26
Debian 10.10
SE +/- 0.12, N = 3
MIN: 32.08 / MAX: 33.4
32.59
8
16
24
32
40

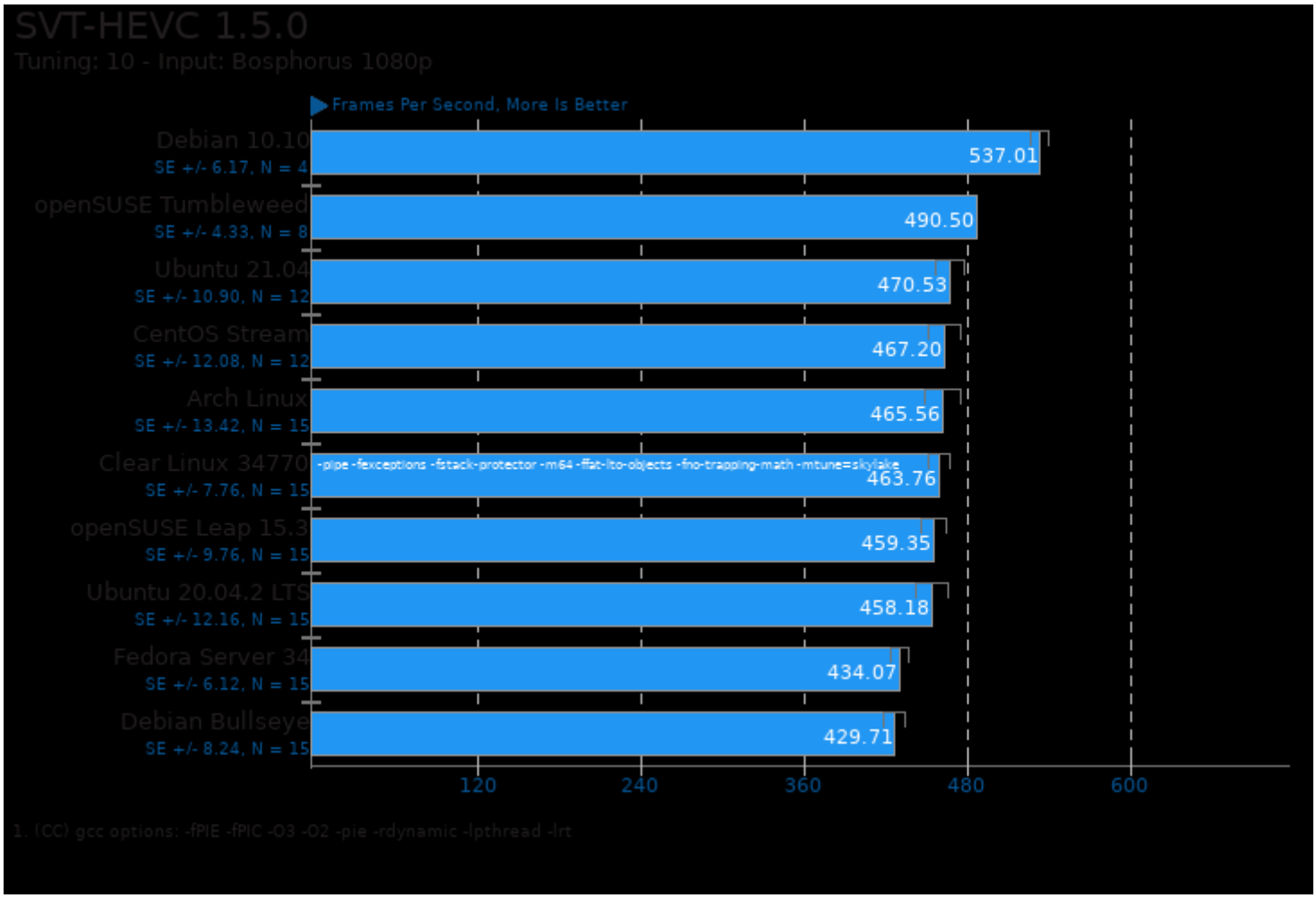

Embree 3.13
Binary: Pathtracer ISPC - Model: Asian Dragon
Frames Per Second, More Is Better
openSUSE Leap 15.3
SE +/- 0.06, N = 3
MIN: 37.45 / MAX: 38.42
37.78
openSUSE Tumbleweed
SE +/- 0.24, N = 3
MIN: 37.01 / MAX: 38.58
37.55
Arch Linux
SE +/- 0.18, N = 3
MIN: 36.85 / MAX: 38.16
37.42
Fedora Server 34
SE +/- 0.15, N = 3
MIN: 36.85 / MAX: 38.17
37.38
Clear Linux 34770
SE +/- 0.26, N = 3
MIN: 36.8 / MAX: 38.26
37.35
Debian Bullseye
SE +/- 0.22, N = 3
MIN: 36.86 / MAX: 38.33
37.32
CentOS Stream
SE +/- 0.10, N = 3
MIN: 36.83 / MAX: 37.88
37.23
Ubuntu 20.04.2 LTS
SE +/- 0.26, N = 3
MIN: 36.46 / MAX: 37.99
37.19
Ubuntu 21.04
SE +/- 0.23, N = 3
MIN: 36.35 / MAX: 38.08
37.01
Debian 10.10
SE +/- 0.64, N = 15
MIN: 29.11 / MAX: 37.15
32.44
9
18
27
36
45

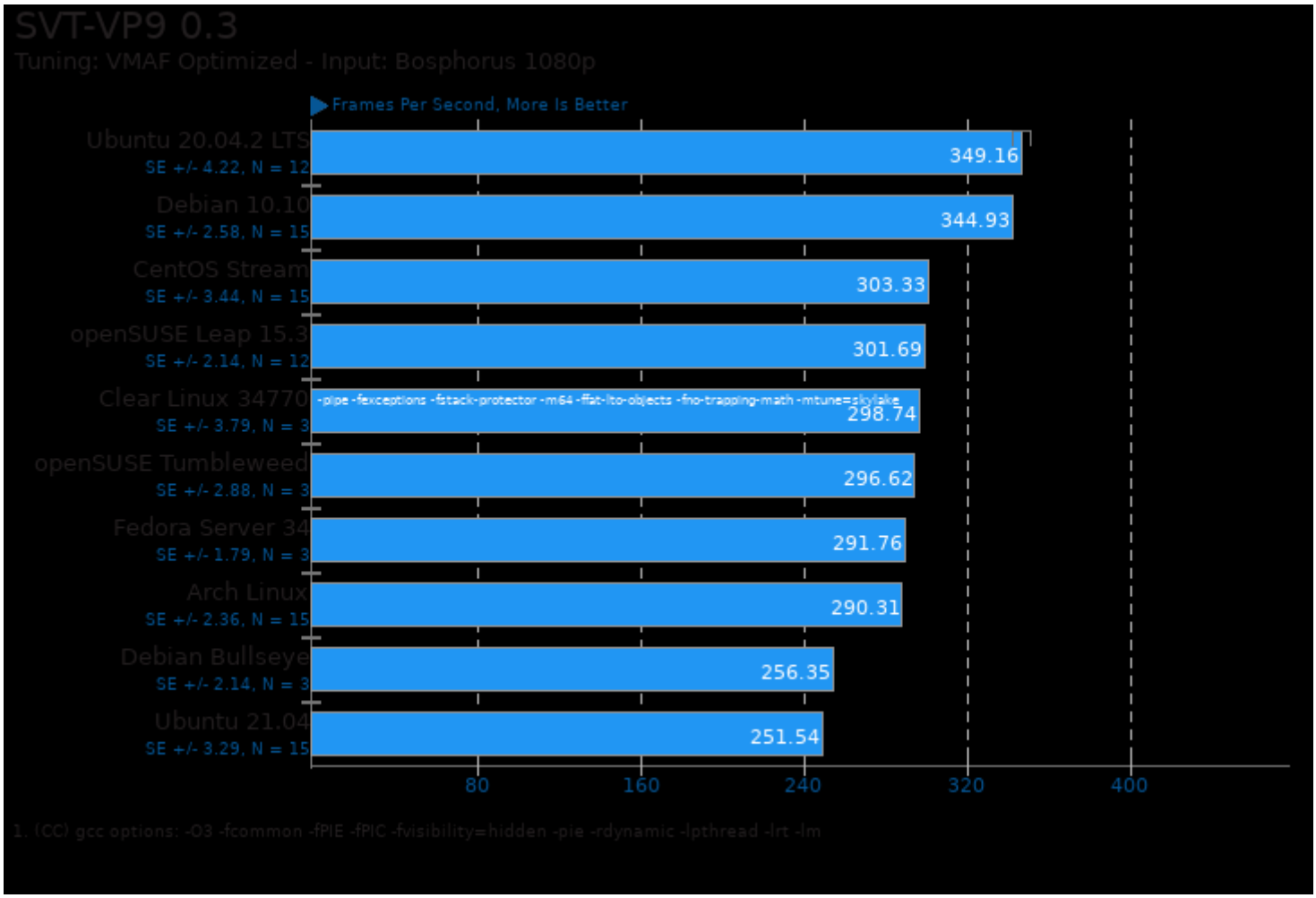

SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Clear Linux 34770
SE +/- 0.005, N = 3
-O3 -pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
2.071
CentOS Stream
SE +/- 0.008, N = 3
1.959
openSUSE Leap 15.3
SE +/- 0.002, N = 3
1.940
openSUSE Tumbleweed
SE +/- 0.004, N = 3
1.939
Ubuntu 20.04.2 LTS
SE +/- 0.001, N = 3
1.931
Arch Linux
SE +/- 0.004, N = 3
1.922
Fedora Server 34
SE +/- 0.004, N = 3
1.913
Ubuntu 21.04
SE +/- 0.004, N = 3
1.875
Debian 10.10
SE +/- 0.003, N = 3
1.852
Debian Bullseye
SE +/- 0.005, N = 3
1.707
0.466
0.932
1.398
1.864
2.33
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

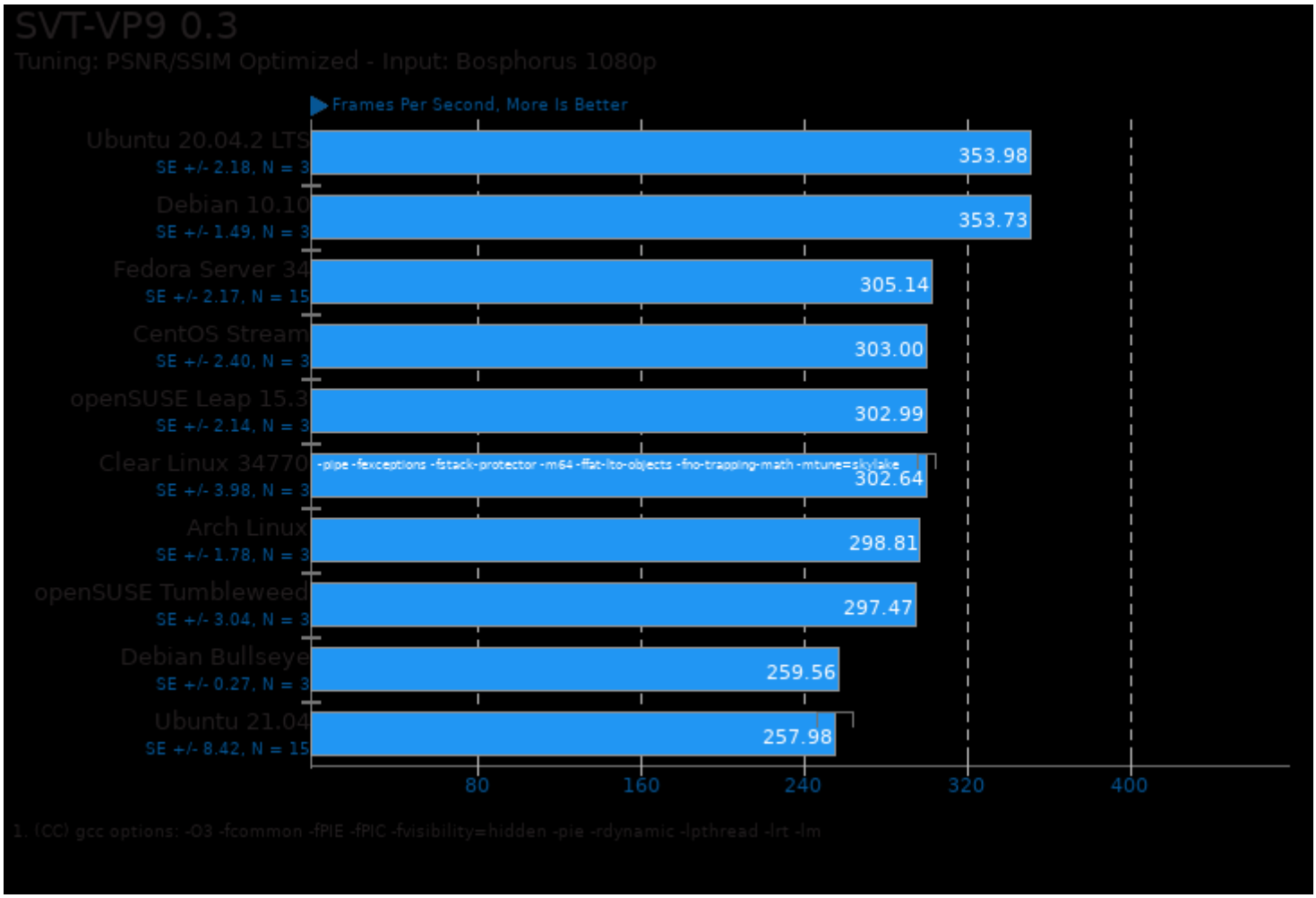

SVT-AV1 0.8.7
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
-O3 -pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
Clear Linux 34770
SE +/- 0.07, N = 3
23.92
CentOS Stream
SE +/- 0.07, N = 3
22.40
openSUSE Leap 15.3
SE +/- 0.12, N = 3
21.46
Ubuntu 20.04.2 LTS
SE +/- 0.12, N = 3
20.85
Debian 10.10
SE +/- 0.11, N = 3
20.72
openSUSE Tumbleweed
SE +/- 0.15, N = 3
19.17
Arch Linux
SE +/- 0.11, N = 3
18.45
Fedora Server 34
SE +/- 0.11, N = 3
18.35
Ubuntu 21.04
SE +/- 0.06, N = 3
17.81
Debian Bullseye
SE +/- 0.12, N = 3
14.88
6
12
18
24
30
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

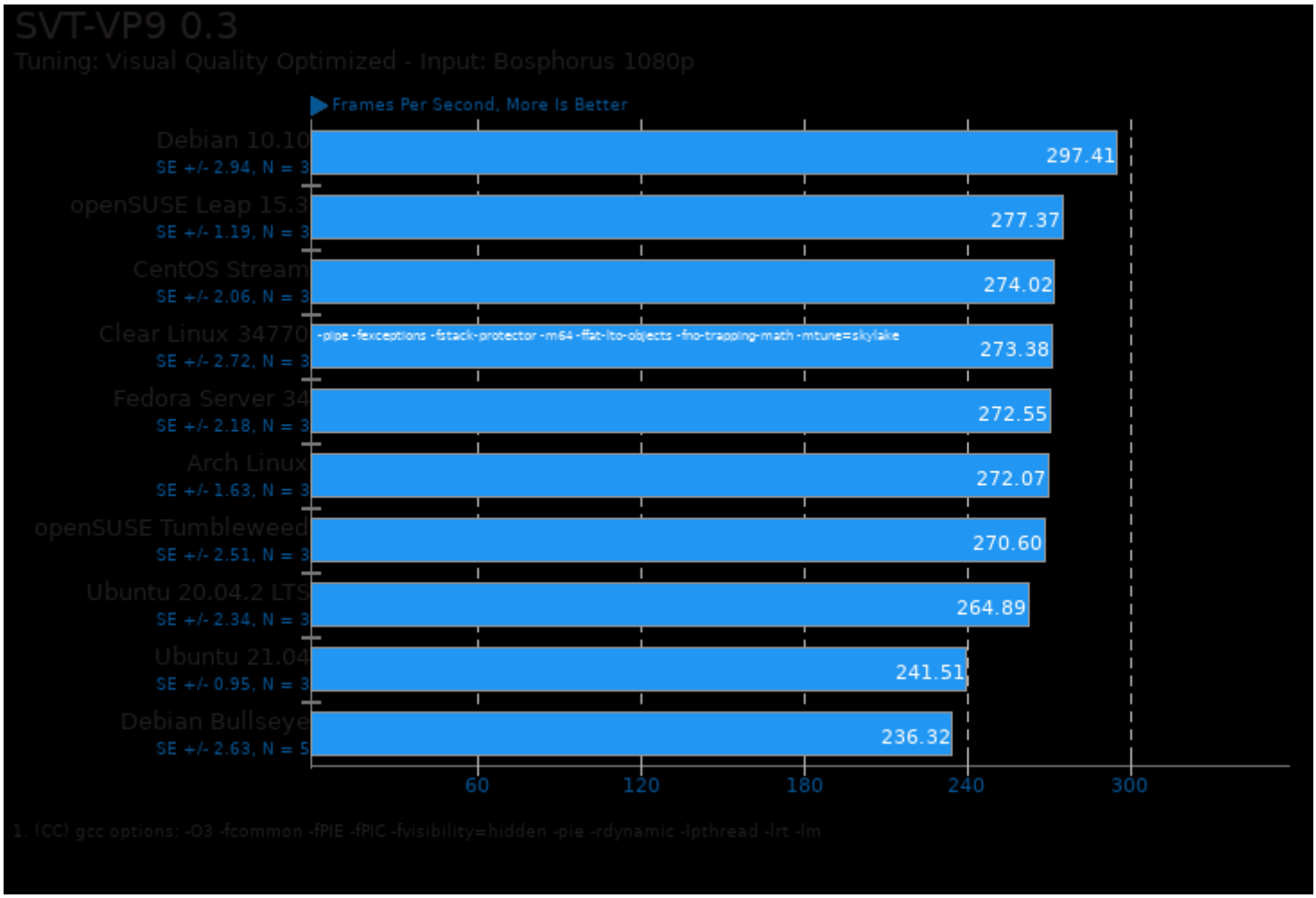

SVT-HEVC 1.5.0
Tuning: 1 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Debian 10.10
SE +/- 0.04, N = 3
25.19
Clear Linux 34770
SE +/- 0.03, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
25.15
openSUSE Tumbleweed
SE +/- 0.05, N = 3
24.98
Debian Bullseye
SE +/- 0.08, N = 3
24.96
CentOS Stream
SE +/- 0.05, N = 3
24.76
Arch Linux
SE +/- 0.09, N = 3
24.71
Fedora Server 34
SE +/- 0.10, N = 3
24.71
Ubuntu 21.04
SE +/- 0.06, N = 3
24.69
Ubuntu 20.04.2 LTS
SE +/- 0.09, N = 3
24.65
openSUSE Leap 15.3
SE +/- 0.01, N = 3
23.98
6
12
18
24
30
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

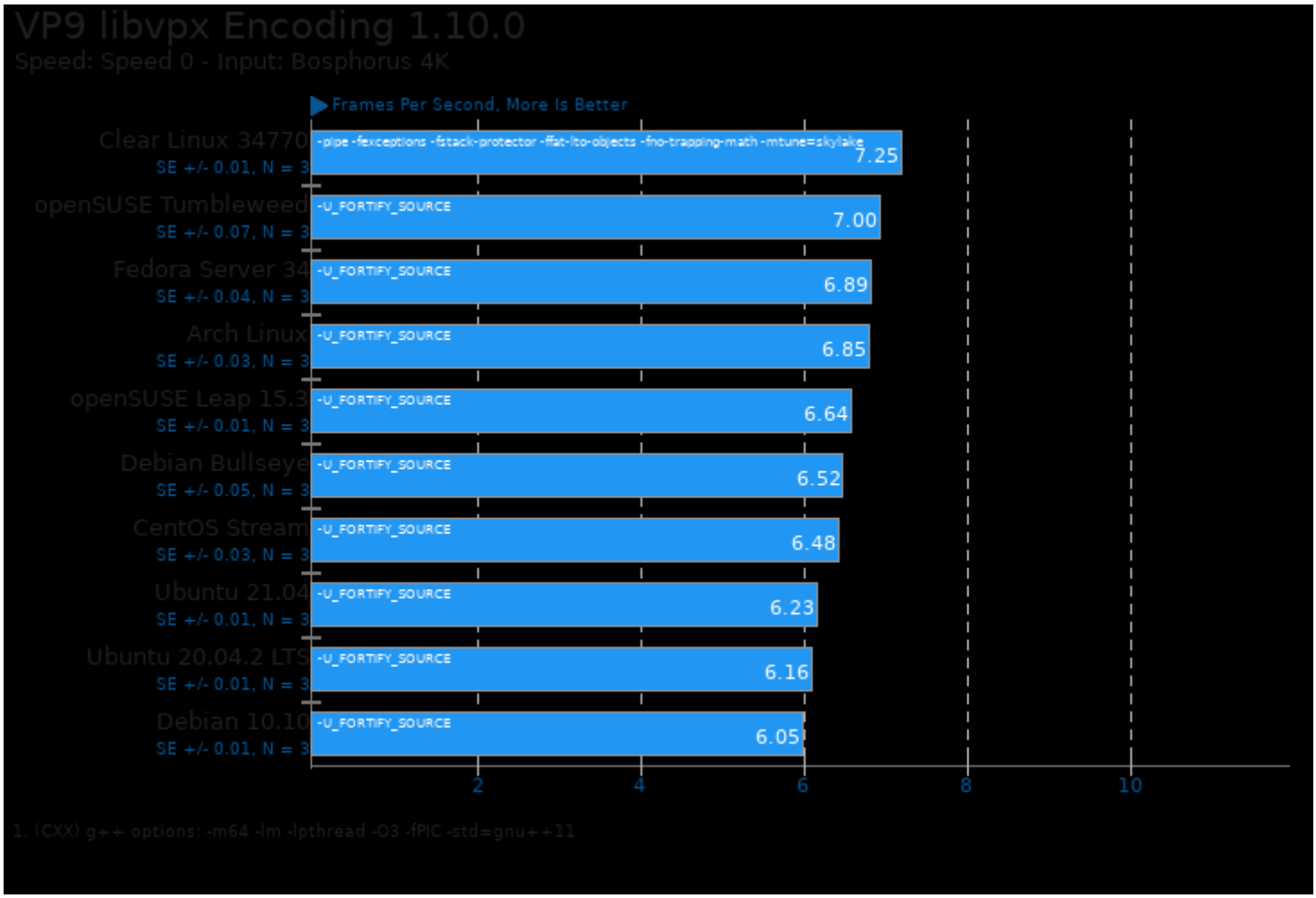

SVT-HEVC 1.5.0
Tuning: 7 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Clear Linux 34770
SE +/- 3.06, N = 5
-pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake
299.80
Debian 10.10
SE +/- 3.39, N = 3
296.57
openSUSE Tumbleweed
SE +/- 3.08, N = 5
295.05
openSUSE Leap 15.3
SE +/- 3.32, N = 4
286.38
CentOS Stream
SE +/- 1.92, N = 3
285.20
Ubuntu 21.04
SE +/- 3.52, N = 4
284.09
Ubuntu 20.04.2 LTS
SE +/- 3.95, N = 3
282.38
Fedora Server 34
SE +/- 2.22, N = 3
281.37
Arch Linux
SE +/- 1.23, N = 3
278.52
Debian Bullseye
SE +/- 3.08, N = 4
273.70
70
140
210
280
350
1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

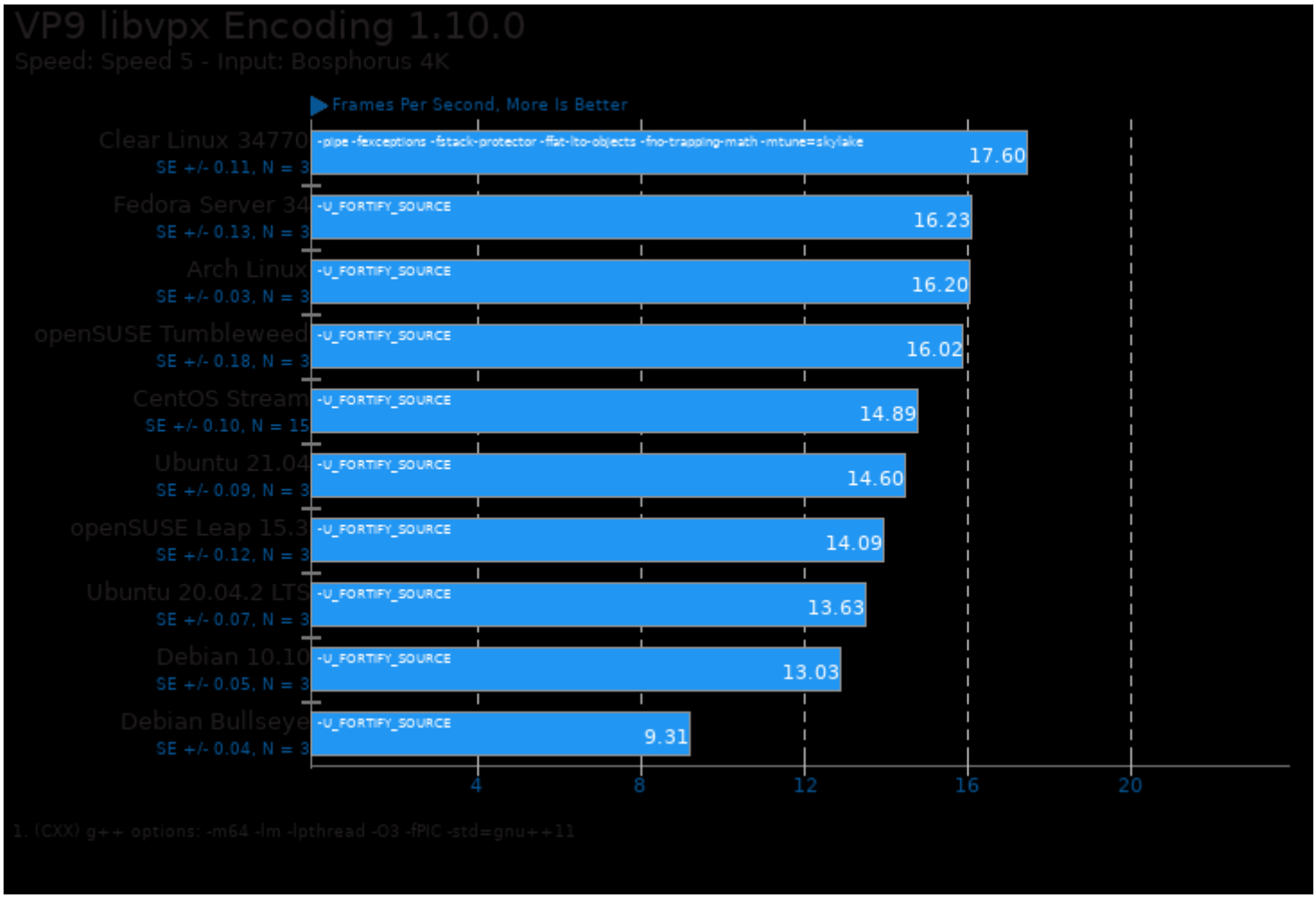

SVT-HEVC 1.5.0
Tuning: 10 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Debian 10.10
SE +/- 6.17, N = 4
537.01
openSUSE Tumbleweed
SE +/- 4.33, N = 8
490.50
Ubuntu 21.04
SE +/- 10.90, N = 12
470.53
CentOS Stream
SE +/- 12.08, N = 12
467.20
Arch Linux
SE +/- 13.42, N = 15
465.56
Clear Linux 34770
SE +/- 7.76, N = 15
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
463.76
openSUSE Leap 15.3
SE +/- 9.76, N = 15
459.35
Ubuntu 20.04.2 LTS
SE +/- 12.16, N = 15
458.18
Fedora Server 34
SE +/- 6.12, N = 15
434.07
Debian Bullseye
SE +/- 8.24, N = 15
429.71
120
240
360
480
600
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

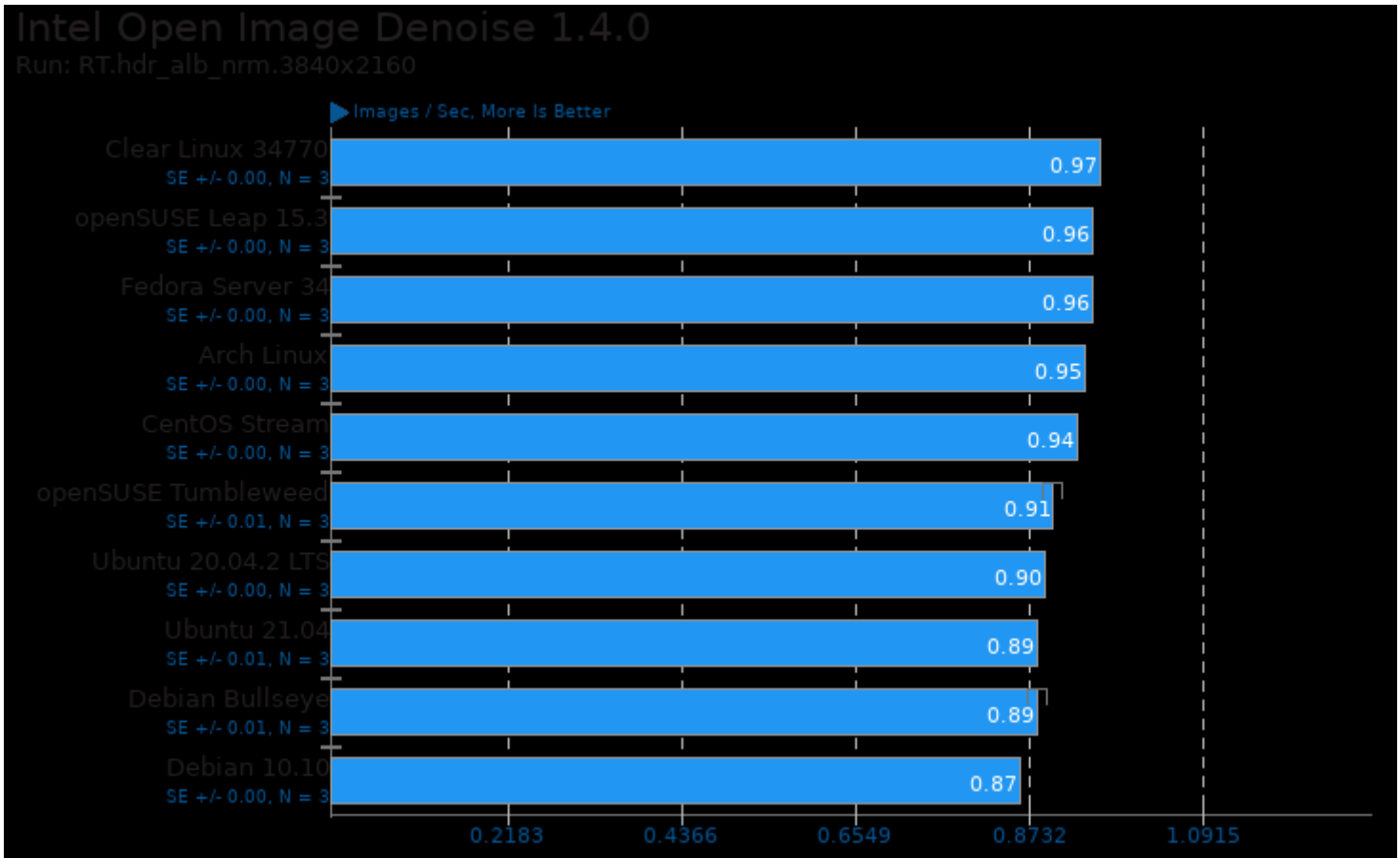

SVT-VP9 0.3
Tuning: VMAF Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ubuntu 20.04.2 LTS
SE +/- 4.22, N = 12
349.16
Debian 10.10
SE +/- 2.58, N = 15
344.93
CentOS Stream
SE +/- 3.44, N = 15
303.33
openSUSE Leap 15.3
SE +/- 2.14, N = 12
301.69
Clear Linux 34770
SE +/- 3.79, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
298.74
openSUSE Tumbleweed
SE +/- 2.88, N = 3
296.62
Fedora Server 34
SE +/- 1.79, N = 3
291.76
Arch Linux
SE +/- 2.36, N = 15
290.31
Debian Bullseye
SE +/- 2.14, N = 3
256.35
Ubuntu 21.04
SE +/- 3.29, N = 15
251.54
80
160
240
320
400
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

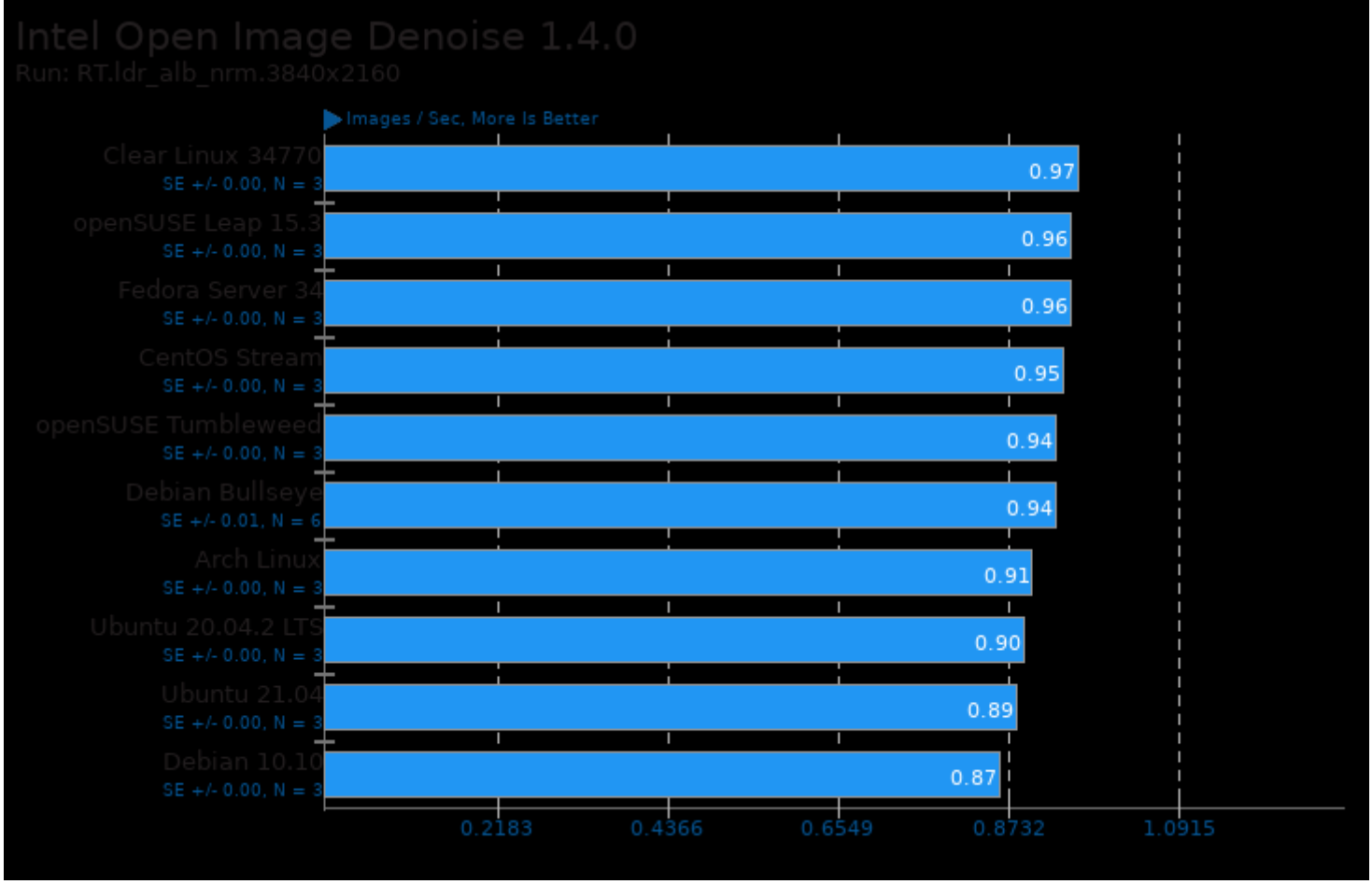

SVT-VP9 0.3
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ubuntu 20.04.2 LTS
SE +/- 2.18, N = 3
353.98
Debian 10.10
SE +/- 1.49, N = 3
353.73
Fedora Server 34
SE +/- 2.17, N = 15
305.14
CentOS Stream
SE +/- 2.40, N = 3
303.00
openSUSE Leap 15.3
SE +/- 2.14, N = 3
302.99
Clear Linux 34770
SE +/- 3.98, N = 3
-pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake
302.64
Arch Linux
SE +/- 1.78, N = 3
298.81
openSUSE Tumbleweed
SE +/- 3.04, N = 3
297.47
Debian Bullseye
SE +/- 0.27, N = 3
259.56
Ubuntu 21.04
SE +/- 8.42, N = 15
257.98
80
160
240
320
400
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

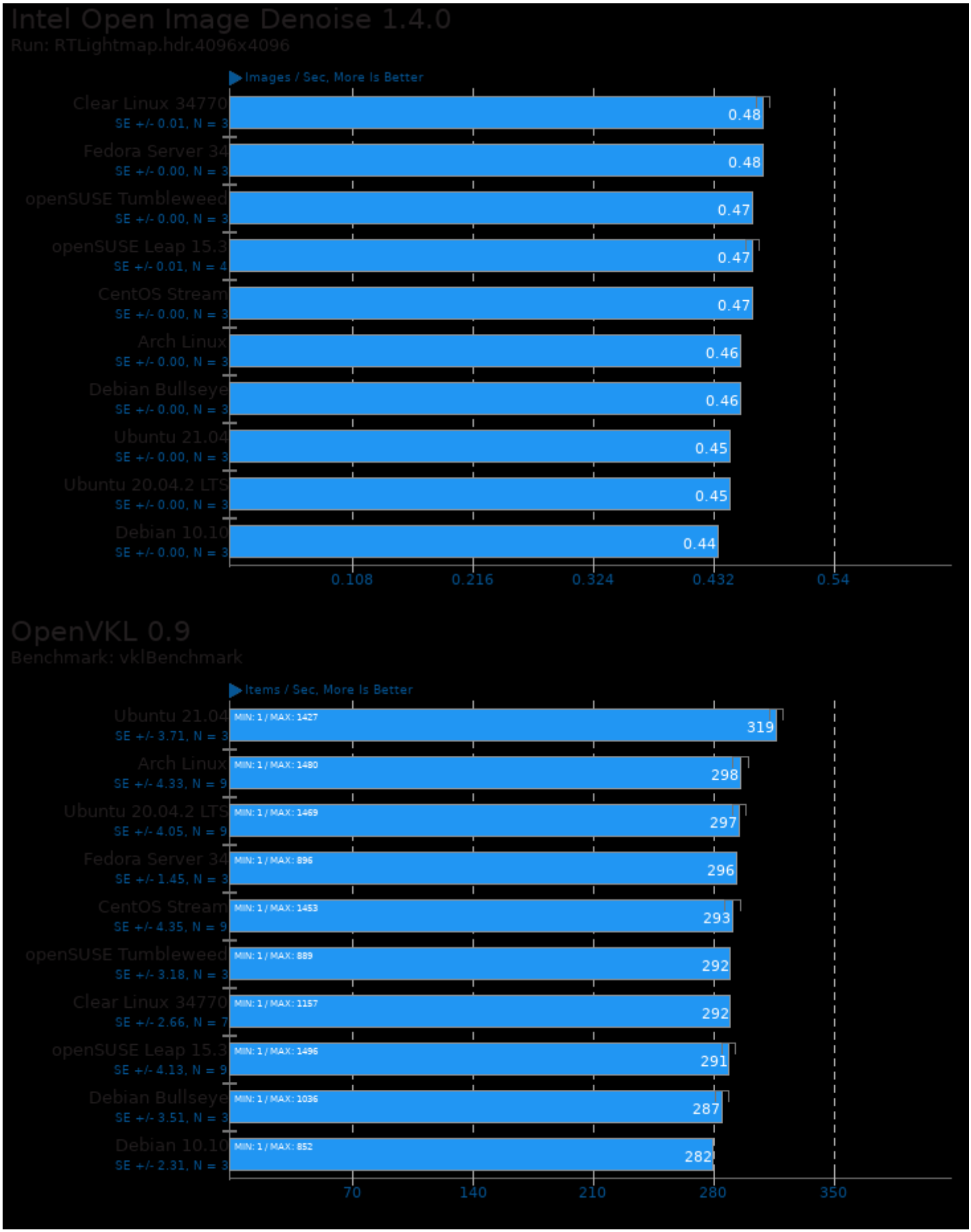

SVT-VP9 0.3
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Debian 10.10
SE +/- 2.94, N = 3
297.41
openSUSE Leap 15.3
SE +/- 1.19, N = 3
277.37
CentOS Stream
SE +/- 2.06, N = 3
274.02
Clear Linux 34770
SE +/- 2.72, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
273.38
Fedora Server 34
SE +/- 2.18, N = 3
272.55
Arch Linux
SE +/- 1.63, N = 3
272.07
openSUSE Tumbleweed
SE +/- 2.51, N = 3
270.60
Ubuntu 20.04.2 LTS
SE +/- 2.34, N = 3
264.89
Ubuntu 21.04
SE +/- 0.95, N = 3
241.51
Debian Bullseye
SE +/- 2.63, N = 5
236.32
60
120
180
240
300
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

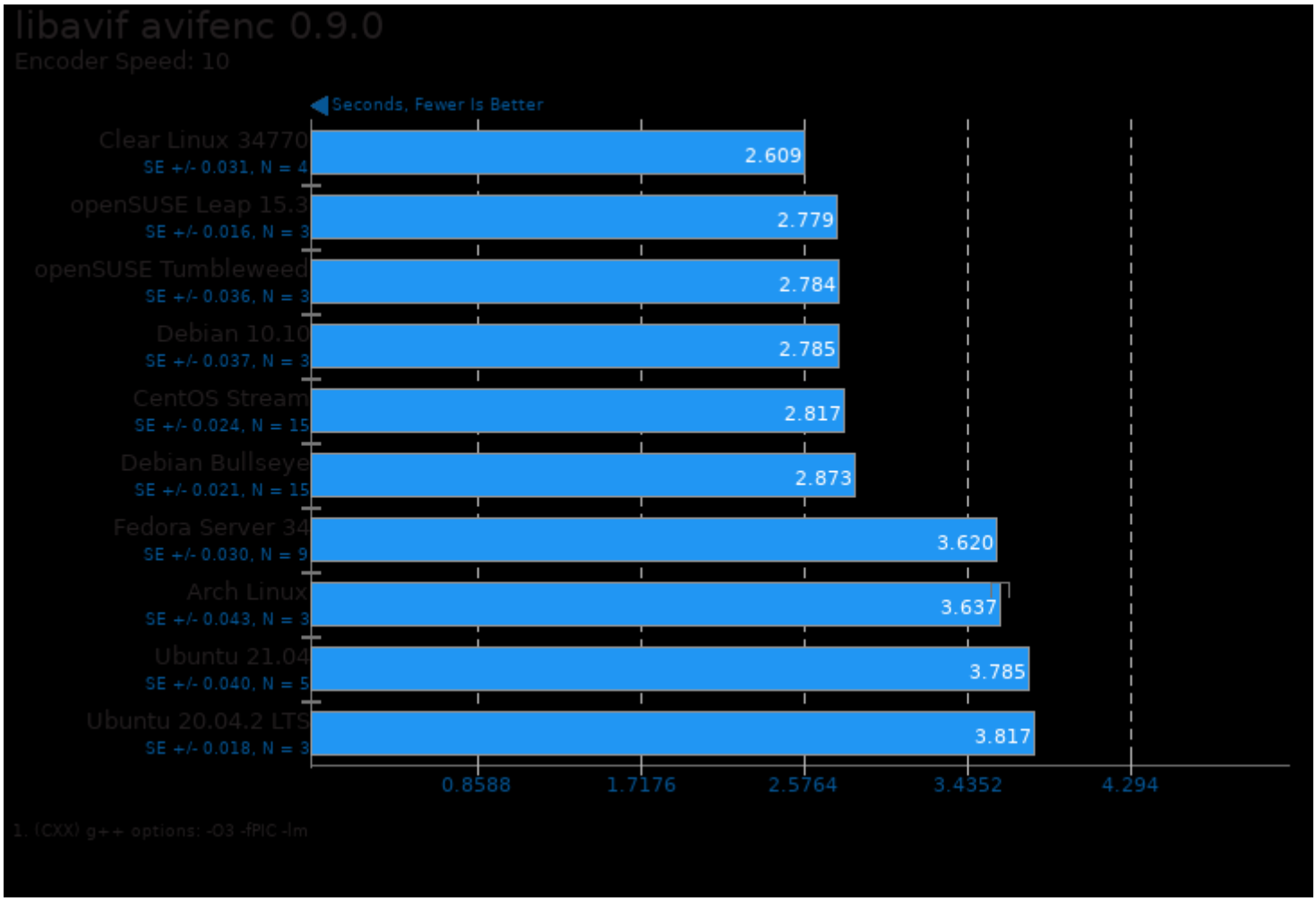

VP9 libvpx Encoding 1.10.0
Speed: Speed 0 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Clear Linux 34770
SE +/- 0.01, N = 3
-pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake
7.25
openSUSE Tumbleweed
SE +/- 0.07, N = 3
-U_FORTIFY_SOURCE
7.00
Fedora Server 34
SE +/- 0.04, N = 3
-U_FORTIFY_SOURCE
6.89
Arch Linux
SE +/- 0.03, N = 3
-U_FORTIFY_SOURCE
6.85
openSUSE Leap 15.3
SE +/- 0.01, N = 3
-U_FORTIFY_SOURCE
6.64
Debian Bullseye
SE +/- 0.05, N = 3
-U_FORTIFY_SOURCE
6.52
CentOS Stream
SE +/- 0.03, N = 3
-U_FORTIFY_SOURCE
6.48
Ubuntu 21.04
SE +/- 0.01, N = 3
-U_FORTIFY_SOURCE
6.23
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
-U_FORTIFY_SOURCE
6.16
Debian 10.10
SE +/- 0.01, N = 3
-U_FORTIFY_SOURCE
6.05
2
4
6
8
10
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -std=gnu++11

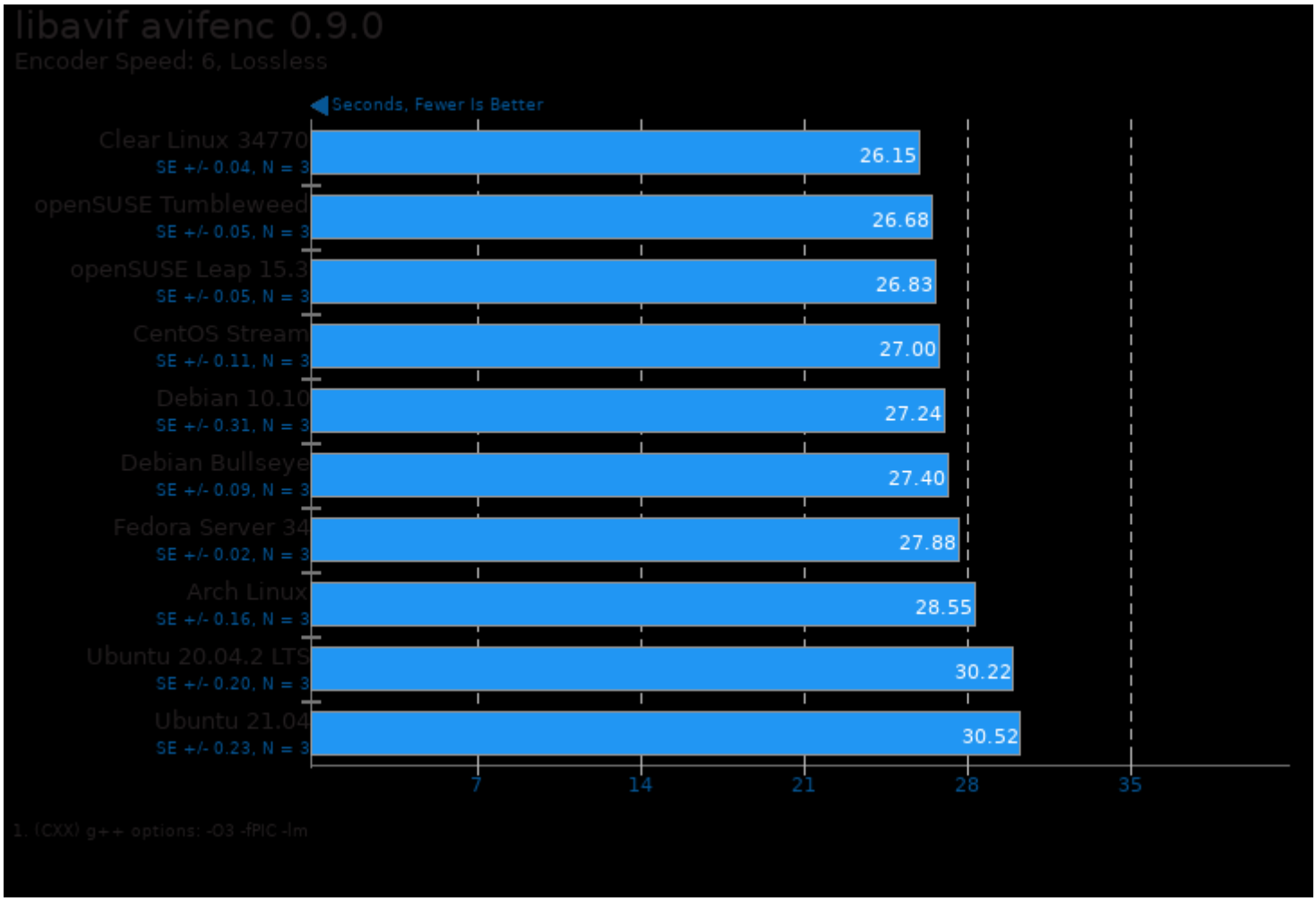

VP9 libvpx Encoding 1.10.0
Speed: Speed 5 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Clear Linux 34770
SE +/- 0.11, N = 3
-pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake
17.60
Fedora Server 34
SE +/- 0.13, N = 3
-U_FORTIFY_SOURCE
16.23
Arch Linux
SE +/- 0.03, N = 3
-U_FORTIFY_SOURCE
16.20
openSUSE Tumbleweed
SE +/- 0.18, N = 3
-U_FORTIFY_SOURCE
16.02
CentOS Stream
SE +/- 0.10, N = 15
-U_FORTIFY_SOURCE
14.89
Ubuntu 21.04
SE +/- 0.09, N = 3
-U_FORTIFY_SOURCE
14.60
openSUSE Leap 15.3
SE +/- 0.12, N = 3
-U_FORTIFY_SOURCE
14.09
Ubuntu 20.04.2 LTS
SE +/- 0.07, N = 3
-U_FORTIFY_SOURCE
13.63
Debian 10.10
SE +/- 0.05, N = 3
-U_FORTIFY_SOURCE
13.03
Debian Bullseye
SE +/- 0.04, N = 3
-U_FORTIFY_SOURCE
9.31
4
8
12
16
20
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -std=gnu++11

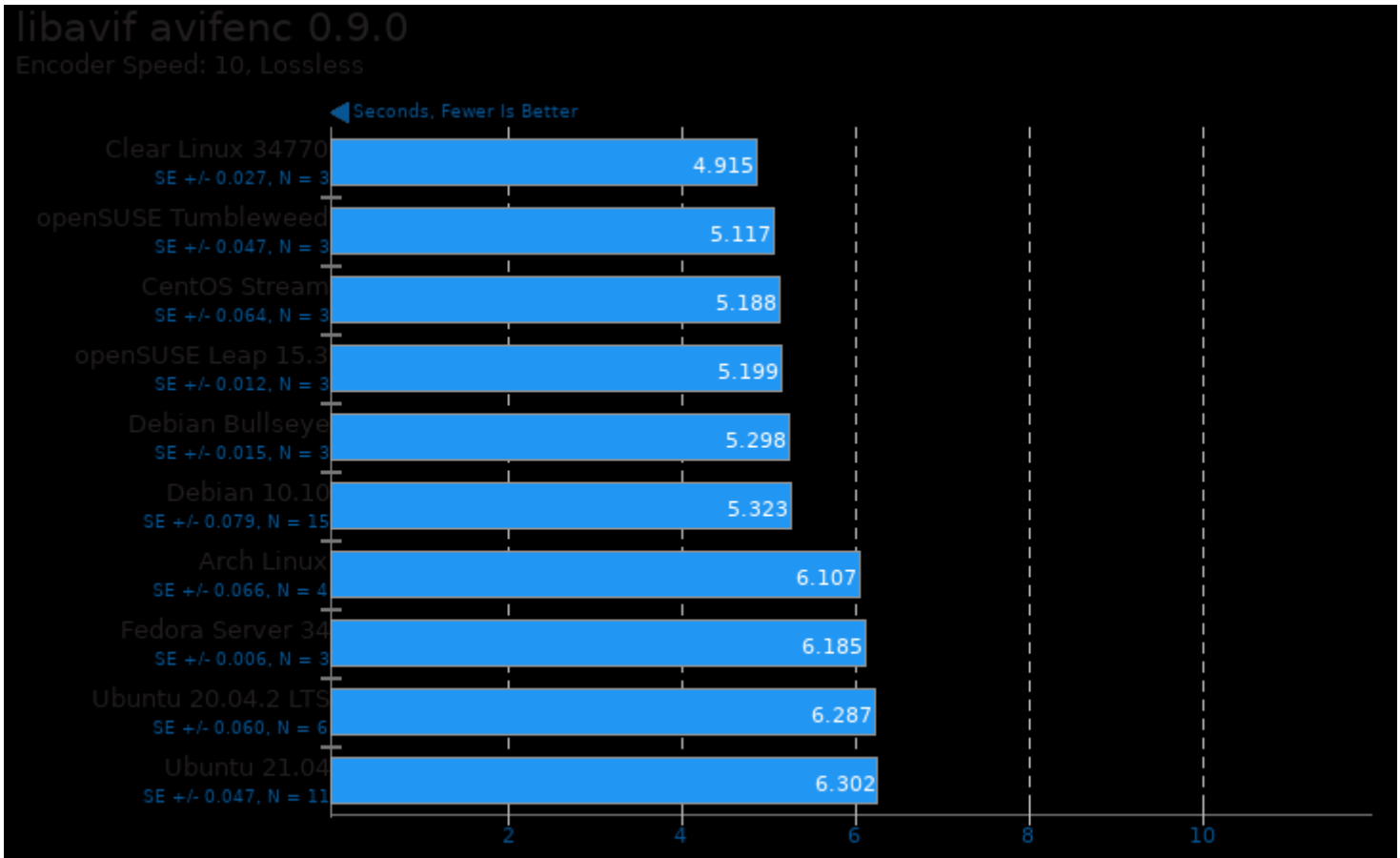

Intel Open Image Denoise 1.4.0
Run: RT.hdr_alb_nrm.3840x2160
Images / Sec, More Is Better
Clear Linux 34770
SE +/- 0.00, N = 3
0.97
openSUSE Leap 15.3
SE +/- 0.00, N = 3
0.96
Fedora Server 34
SE +/- 0.00, N = 3
0.96
Arch Linux
SE +/- 0.00, N = 3
0.95
CentOS Stream
SE +/- 0.00, N = 3
0.94
openSUSE Tumbleweed
SE +/- 0.01, N = 3
0.91
Ubuntu 20.04.2 LTS
SE +/- 0.00, N = 3
0.90
Ubuntu 21.04
SE +/- 0.01, N = 3
0.89
Debian Bullseye
SE +/- 0.01, N = 3
0.89
Debian 10.10
SE +/- 0.00, N = 3
0.87
0.2183
0.4366
0.6549
0.8732
1.0915

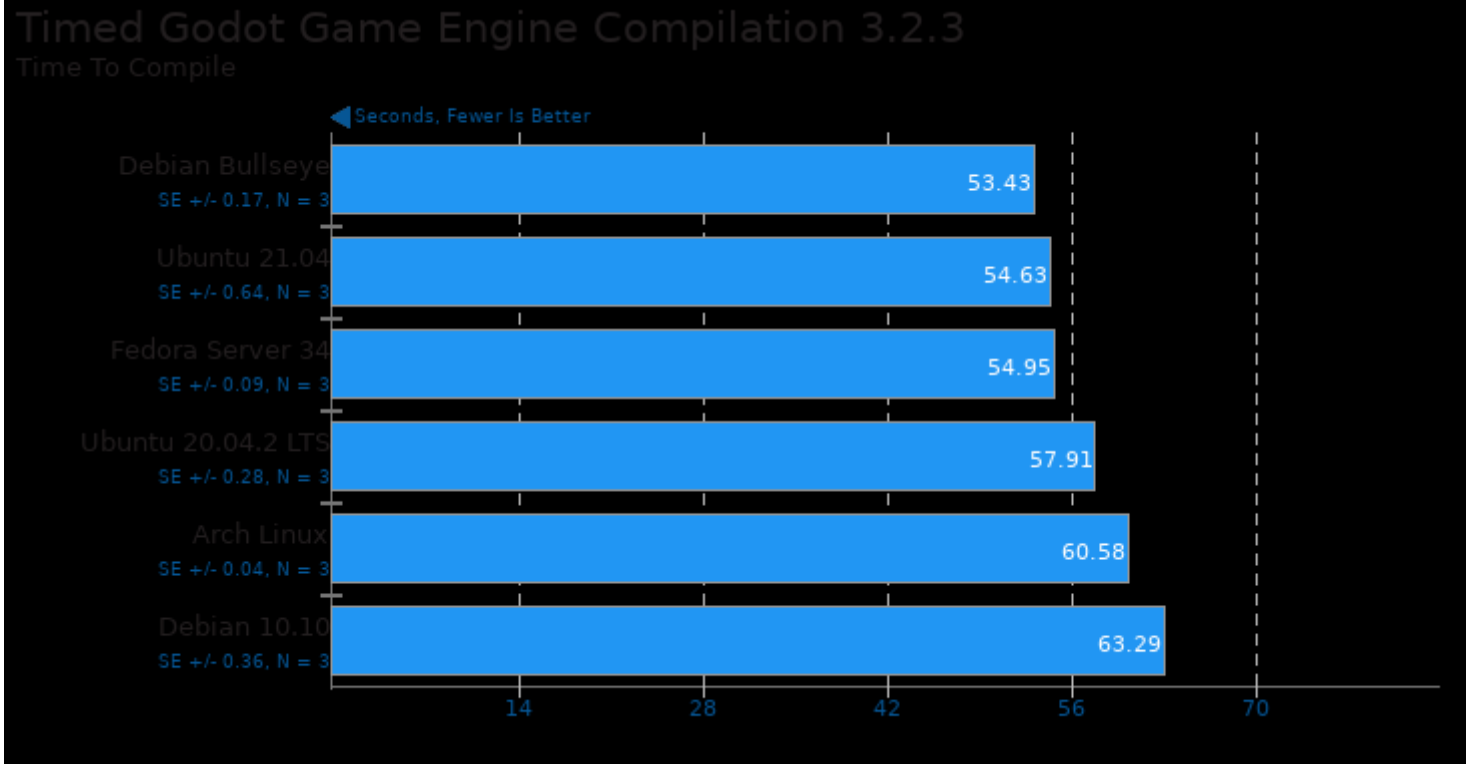

Intel Open Image Denoise 1.4.0
Run: RT.ldr_alb_nrm.3840x2160
Images / Sec, More Is Better
Clear Linux 34770
SE +/- 0.00, N = 3
0.97
openSUSE Leap 15.3
SE +/- 0.00, N = 3
0.96
Fedora Server 34
SE +/- 0.00, N = 3
0.96
CentOS Stream
SE +/- 0.00, N = 3
0.95
openSUSE Tumbleweed
SE +/- 0.00, N = 3
0.94
Debian Bullseye
SE +/- 0.01, N = 6
0.94
Arch Linux
SE +/- 0.00, N = 3
0.91
Ubuntu 20.04.2 LTS
SE +/- 0.00, N = 3
0.90
Ubuntu 21.04
SE +/- 0.00, N = 3
0.89
Debian 10.10
SE +/- 0.00, N = 3
0.87
0.2183
0.4366
0.6549
0.8732
1.0915

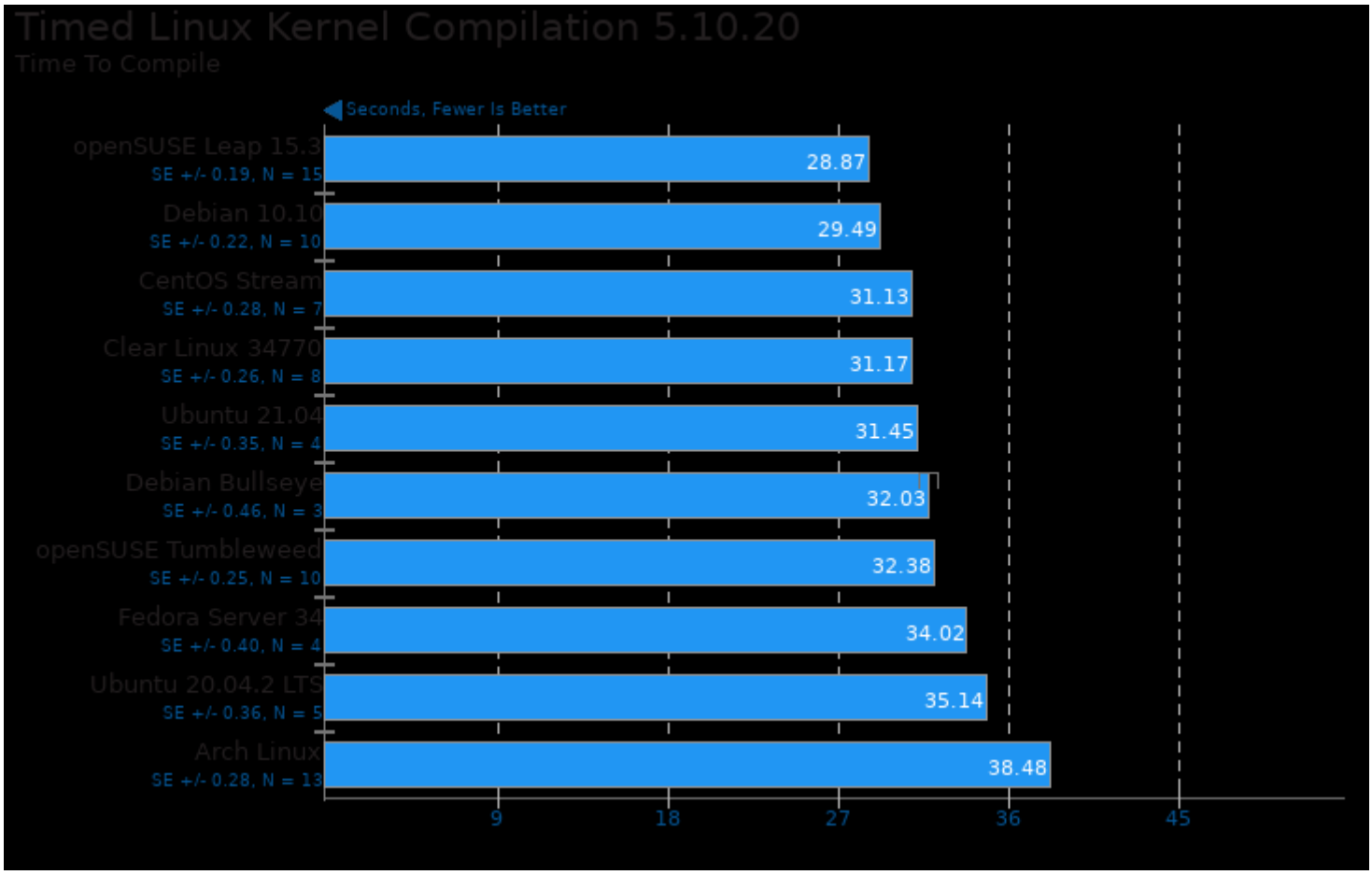

Intel Open Image Denoise 1.4.0
Run: RTLightmap.hdr.4096x4096
Images / Sec, More Is Better
Clear Linux 34770
SE +/- 0.01, N = 3
0.48
Fedora Server 34
SE +/- 0.00, N = 3
0.48
openSUSE Tumbleweed
SE +/- 0.00, N = 3
0.47
openSUSE Leap 15.3
SE +/- 0.01, N = 4
0.47
CentOS Stream
SE +/- 0.00, N = 3
0.47
Arch Linux
SE +/- 0.00, N = 3
0.46
Debian Bullseye
SE +/- 0.00, N = 3
0.46
Ubuntu 21.04
SE +/- 0.00, N = 3
0.45
Ubuntu 20.04.2 LTS
SE +/- 0.00, N = 3
0.45
Debian 10.10
SE +/- 0.00, N = 3
0.44
0.108
0.216
0.324
0.432
0.54
OpenVKL 0.9
Benchmark: vklBenchmark
Items / Sec, More Is Better
Ubuntu 21.04
SE +/- 3.71, N = 3
MIN: 1 / MAX: 1427
319
Arch Linux
SE +/- 4.33, N = 9
MIN: 1 / MAX: 1480
298
Ubuntu 20.04.2 LTS
SE +/- 4.05, N = 9
MIN: 1 / MAX: 1469
297
Fedora Server 34
SE +/- 1.45, N = 3
MIN: 1 / MAX: 896
296
CentOS Stream
SE +/- 4.35, N = 9
MIN: 1 / MAX: 1453
293
openSUSE Tumbleweed
SE +/- 3.18, N = 3
MIN: 1 / MAX: 889
292
Clear Linux 34770
SE +/- 2.66, N = 7
MIN: 1 / MAX: 1157
292
openSUSE Leap 15.3
SE +/- 4.13, N = 9
MIN: 1 / MAX: 1496
291
Debian Bullseye
SE +/- 3.51, N = 3
MIN: 1 / MAX: 1036
287
Debian 10.10
SE +/- 2.31, N = 3
MIN: 1 / MAX: 852
282
70
140
210
280
350

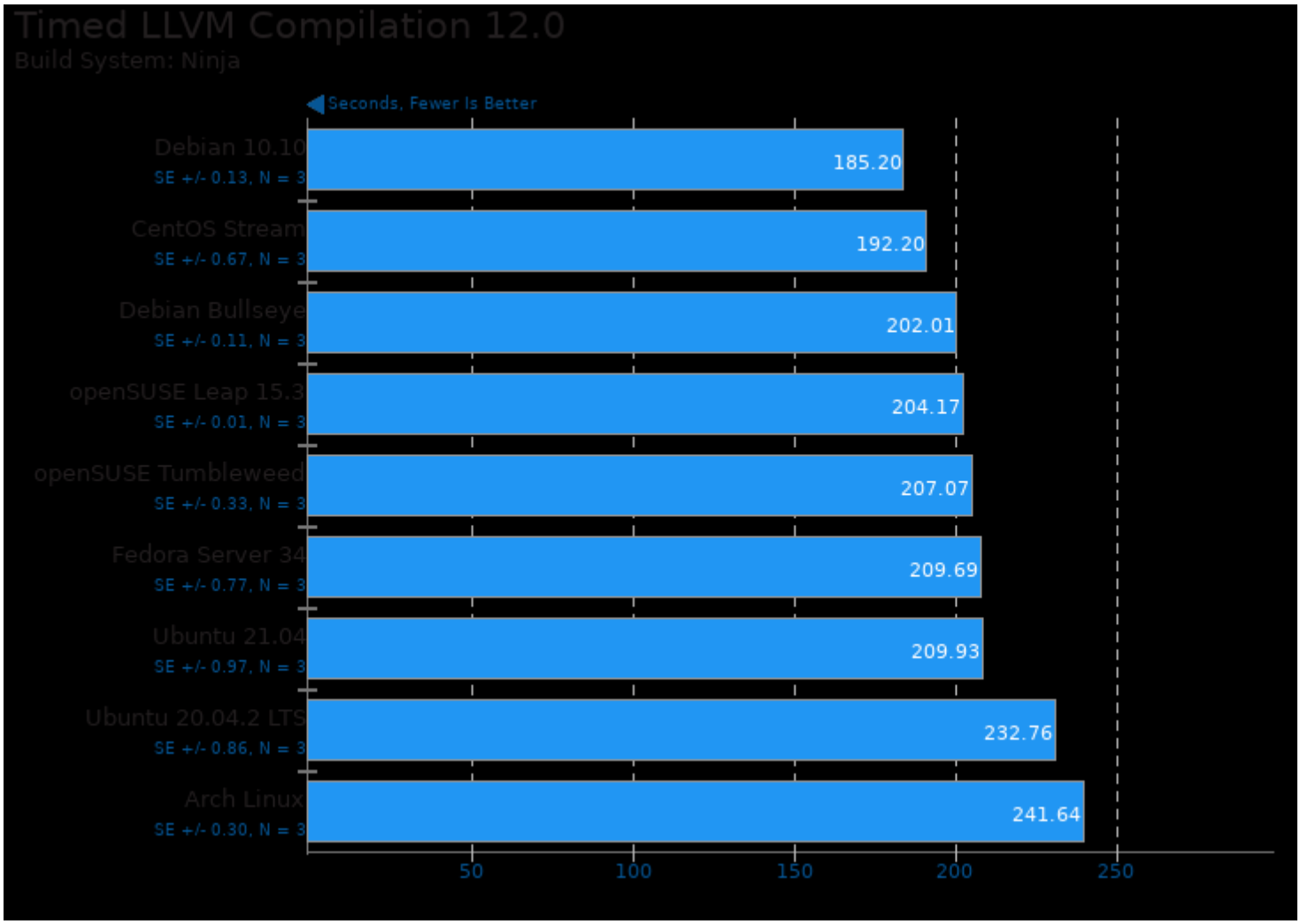

libavif avifenc 0.9.0
Encoder Speed: 10
Seconds, Fewer Is Better
Clear Linux 34770
SE +/- 0.031, N = 4
2.609
openSUSE Leap 15.3
SE +/- 0.016, N = 3
2.779
openSUSE Tumbleweed
SE +/- 0.036, N = 3
2.784
Debian 10.10
SE +/- 0.037, N = 3
2.785
CentOS Stream
SE +/- 0.024, N = 15
2.817
Debian Bullseye
SE +/- 0.021, N = 15
2.873
Fedora Server 34
SE +/- 0.030, N = 9
3.620
Arch Linux
SE +/- 0.043, N = 3
3.637
Ubuntu 21.04
SE +/- 0.040, N = 5
3.785
Ubuntu 20.04.2 LTS
SE +/- 0.018, N = 3
3.817
0.8588
1.7176
2.5764
3.4352
4.294
1. (CXX) g++ options: -O3 -fPIC -lm

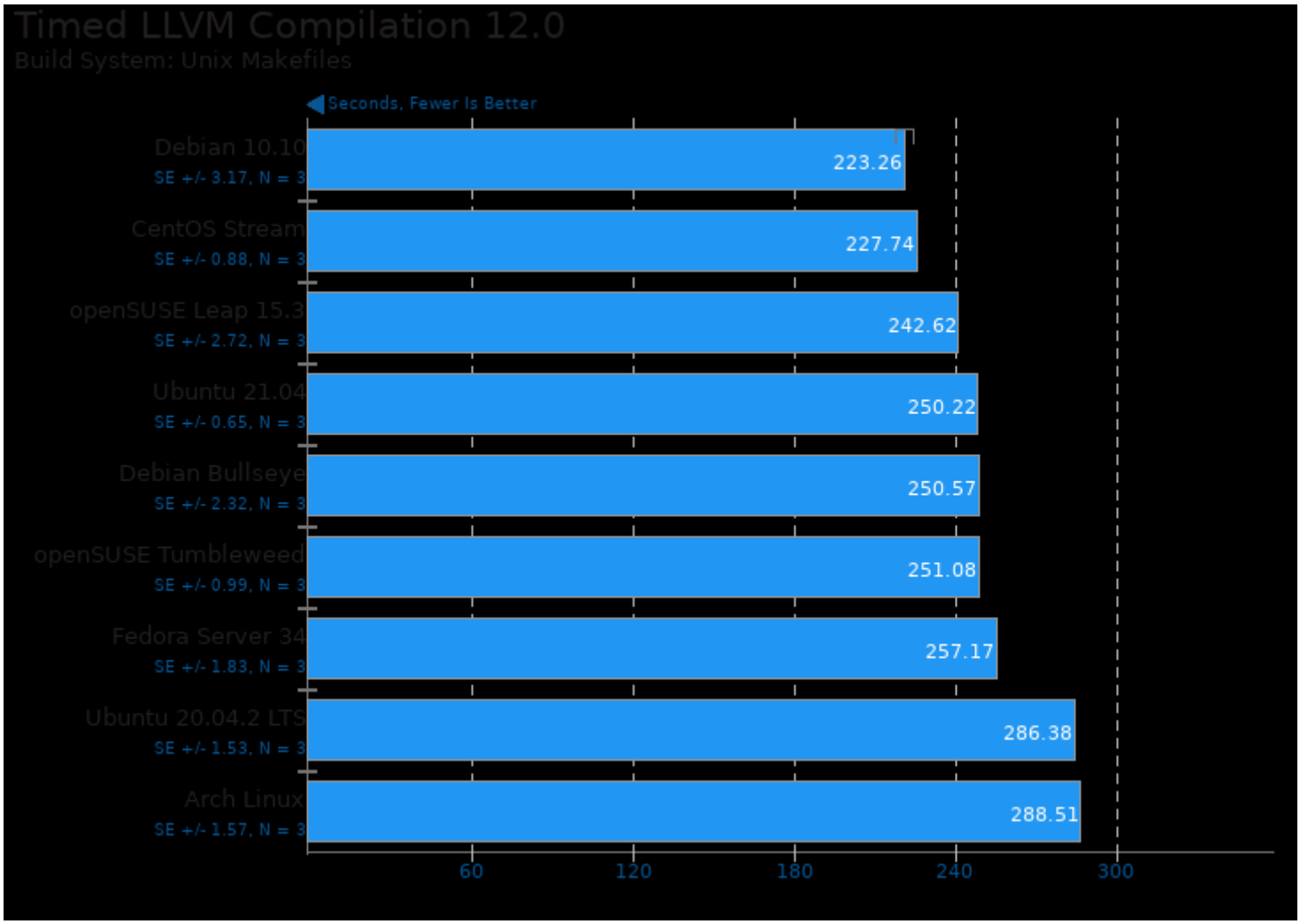

libavif avifenc 0.9.0
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
Clear Linux 34770
SE +/- 0.04, N = 3
26.15
openSUSE Tumbleweed
SE +/- 0.05, N = 3
26.68
openSUSE Leap 15.3
SE +/- 0.05, N = 3
26.83
CentOS Stream
SE +/- 0.11, N = 3
27.00
Debian 10.10
SE +/- 0.31, N = 3
27.24
Debian Bullseye
SE +/- 0.09, N = 3
27.40
Fedora Server 34
SE +/- 0.02, N = 3
27.88
Arch Linux
SE +/- 0.16, N = 3
28.55
Ubuntu 20.04.2 LTS
SE +/- 0.20, N = 3
30.22
Ubuntu 21.04
SE +/- 0.23, N = 3
30.52
7
14
21
28
35
1. (CXX) g++ options: -O3 -fPIC -lm

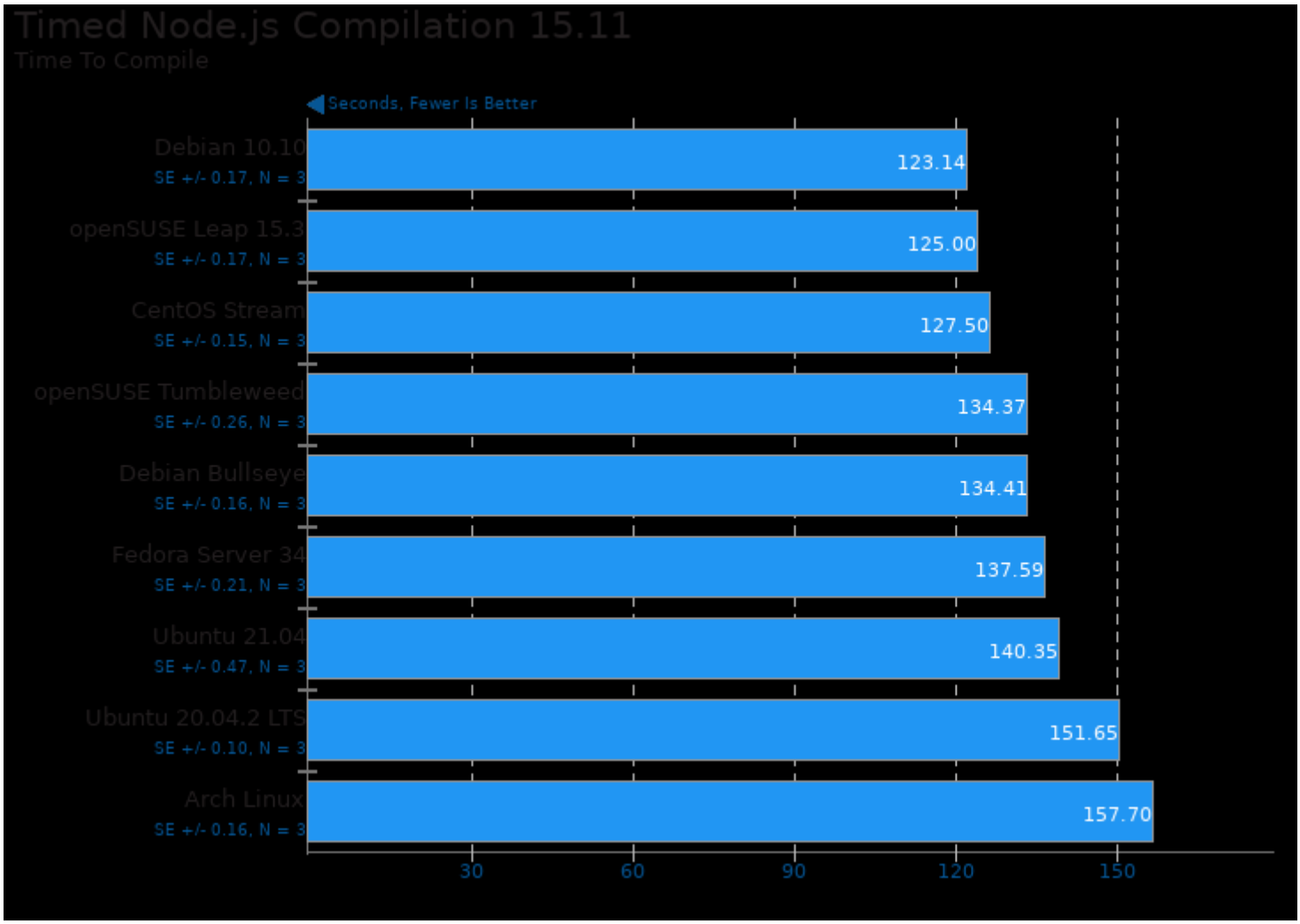

libavif avifenc 0.9.0
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
Clear Linux 34770
SE +/- 0.027, N = 3
4.915
openSUSE Tumbleweed
SE +/- 0.047, N = 3
5.117
CentOS Stream
SE +/- 0.064, N = 3
5.188
openSUSE Leap 15.3
SE +/- 0.012, N = 3
5.199
Debian Bullseye
SE +/- 0.015, N = 3
5.298
Debian 10.10
SE +/- 0.079, N = 15
5.323
Arch Linux
SE +/- 0.066, N = 4
6.107
Fedora Server 34
SE +/- 0.006, N = 3
6.185
Ubuntu 20.04.2 LTS
SE +/- 0.060, N = 6
6.287
Ubuntu 21.04
SE +/- 0.047, N = 11
6.302
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm

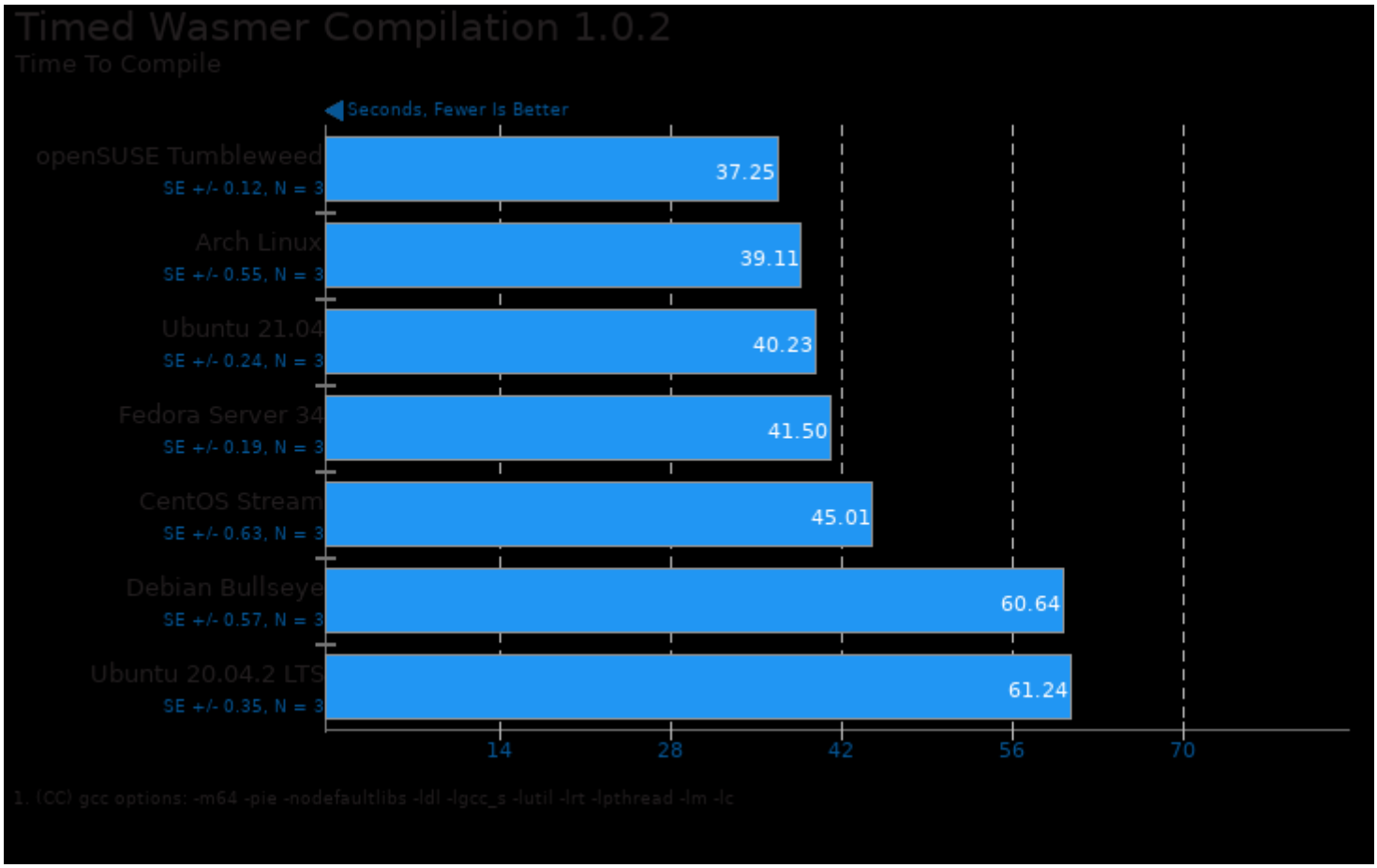

Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
Debian Bullseye
SE +/- 0.17, N = 3
53.43
Ubuntu 21.04
SE +/- 0.64, N = 3
54.63
Fedora Server 34
SE +/- 0.09, N = 3
54.95
Ubuntu 20.04.2 LTS
SE +/- 0.28, N = 3
57.91
Arch Linux
SE +/- 0.04, N = 3
60.58
Debian 10.10
SE +/- 0.36, N = 3
63.29
14
28
42
56
70

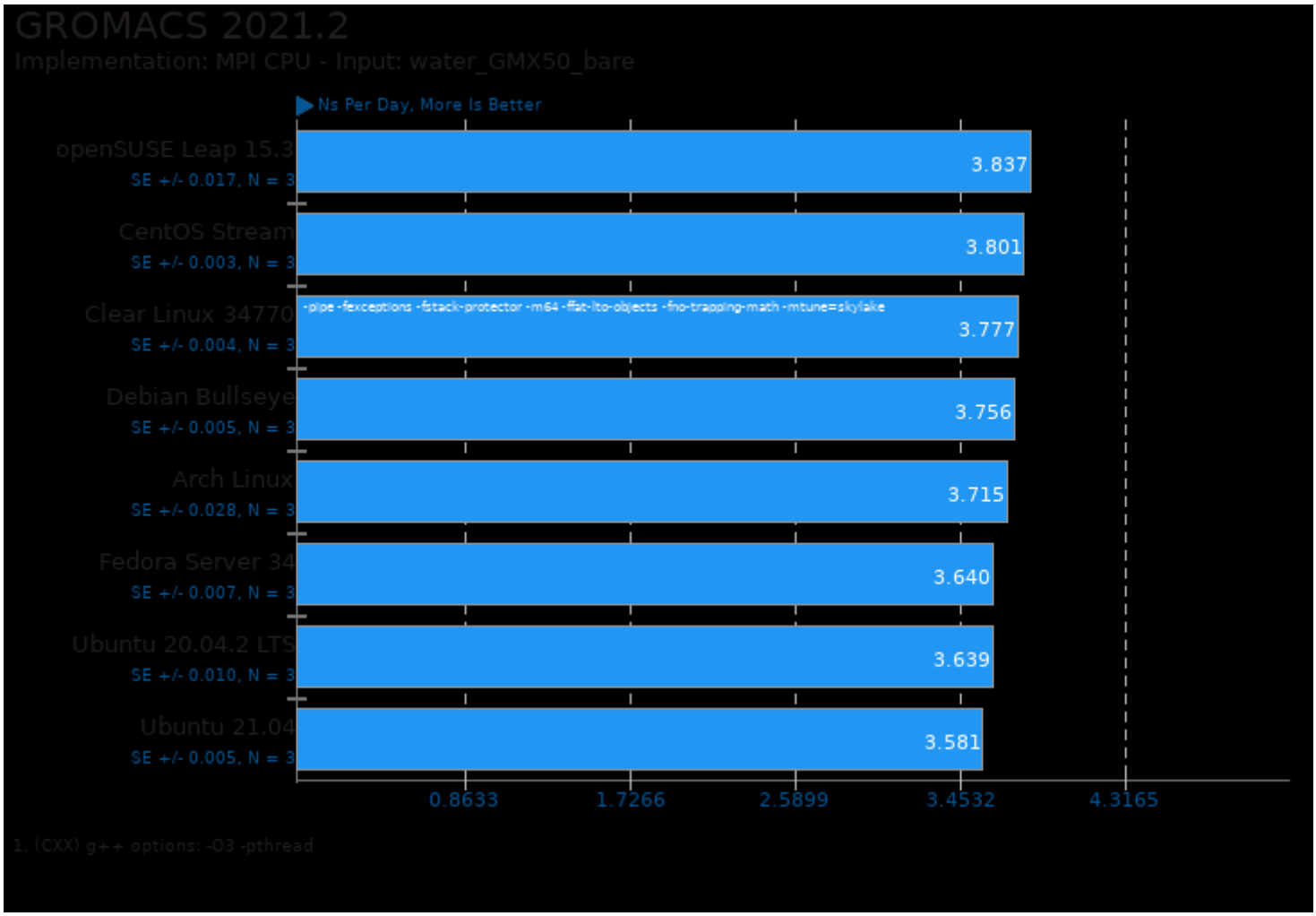

Timed Linux Kernel Compilation 5.10.20
Time To Compile
Seconds, Fewer Is Better
openSUSE Leap 15.3
SE +/- 0.19, N = 15
28.87
Debian 10.10
SE +/- 0.22, N = 10
29.49
CentOS Stream
SE +/- 0.28, N = 7
31.13
Clear Linux 34770
SE +/- 0.26, N = 8
31.17
Ubuntu 21.04
SE +/- 0.35, N = 4
31.45
Debian Bullseye
SE +/- 0.46, N = 3
32.03
openSUSE Tumbleweed
SE +/- 0.25, N = 10
32.38
Fedora Server 34
SE +/- 0.40, N = 4
34.02
Ubuntu 20.04.2 LTS
SE +/- 0.36, N = 5
35.14
Arch Linux
SE +/- 0.28, N = 13
38.48
9
18
27
36
45

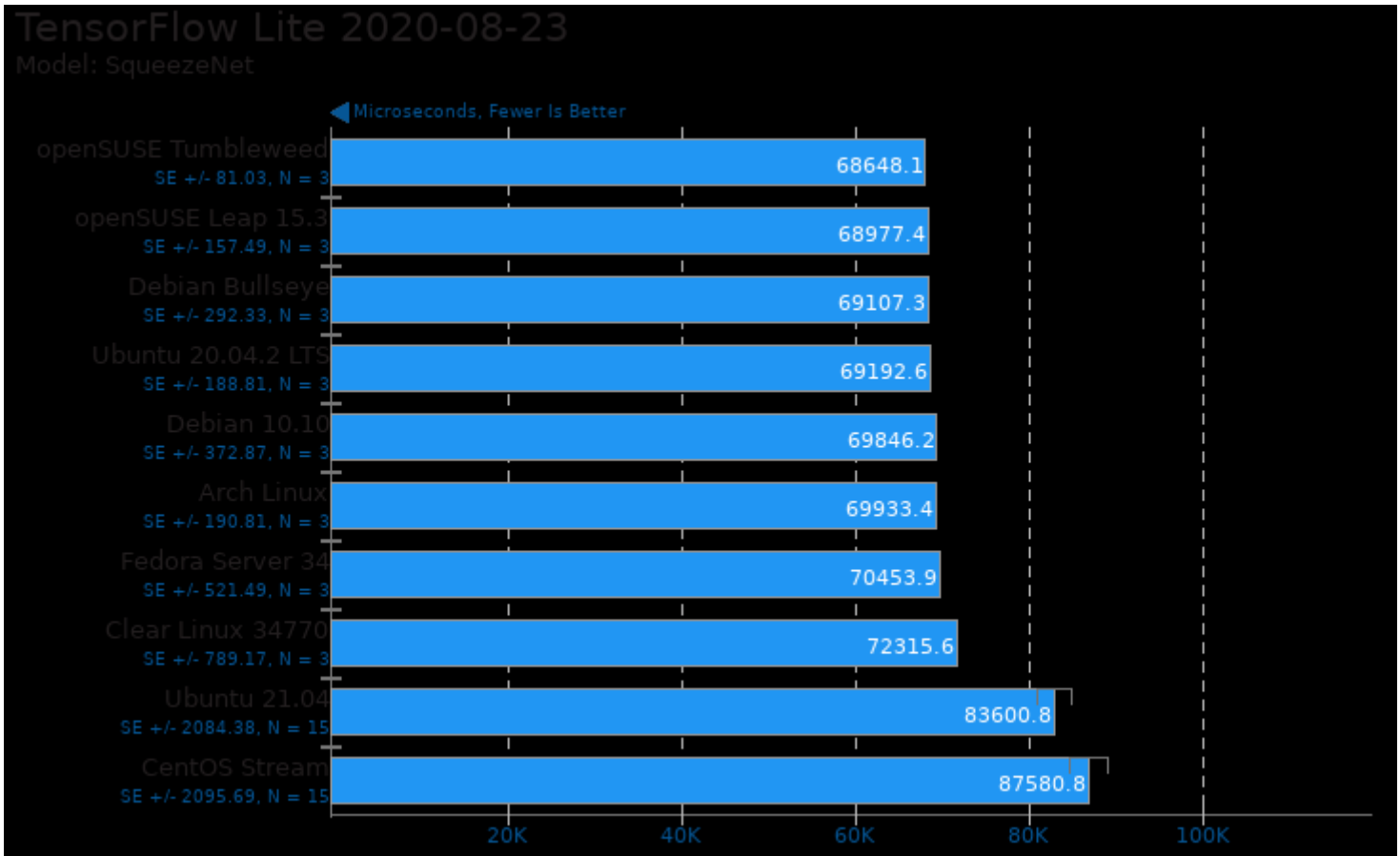

Timed LLVM Compilation 12.0
Build System: Ninja
Seconds, Fewer Is Better
Debian 10.10
SE +/- 0.13, N = 3
185.20
CentOS Stream
SE +/- 0.67, N = 3
192.20
Debian Bullseye
SE +/- 0.11, N = 3
202.01
openSUSE Leap 15.3
SE +/- 0.01, N = 3
204.17
openSUSE Tumbleweed
SE +/- 0.33, N = 3
207.07
Fedora Server 34
SE +/- 0.77, N = 3
209.69
Ubuntu 21.04
SE +/- 0.97, N = 3
209.93
Ubuntu 20.04.2 LTS
SE +/- 0.86, N = 3
232.76
Arch Linux
SE +/- 0.30, N = 3
241.64
50
100
150
200
250

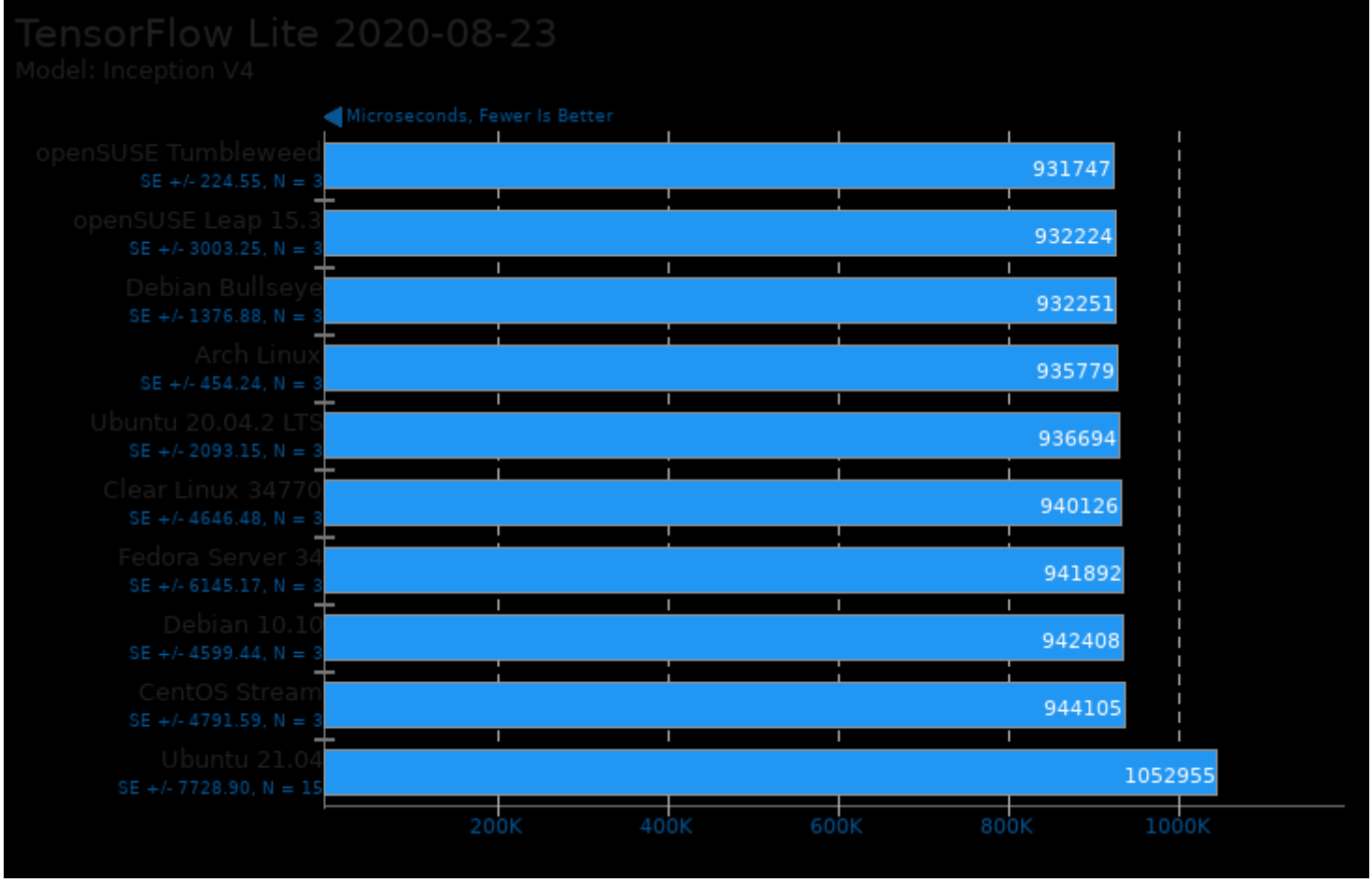

Timed LLVM Compilation 12.0
Build System: Unix Makefiles
Seconds, Fewer Is Better
Debian 10.10
SE +/- 3.17, N = 3
223.26
CentOS Stream
SE +/- 0.88, N = 3
227.74
openSUSE Leap 15.3
SE +/- 2.72, N = 3
242.62
Ubuntu 21.04
SE +/- 0.65, N = 3
250.22
Debian Bullseye
SE +/- 2.32, N = 3
250.57
openSUSE Tumbleweed
SE +/- 0.99, N = 3
251.08
Fedora Server 34
SE +/- 1.83, N = 3
257.17
Ubuntu 20.04.2 LTS
SE +/- 1.53, N = 3
286.38
Arch Linux
SE +/- 1.57, N = 3
288.51
60
120
180
240
300

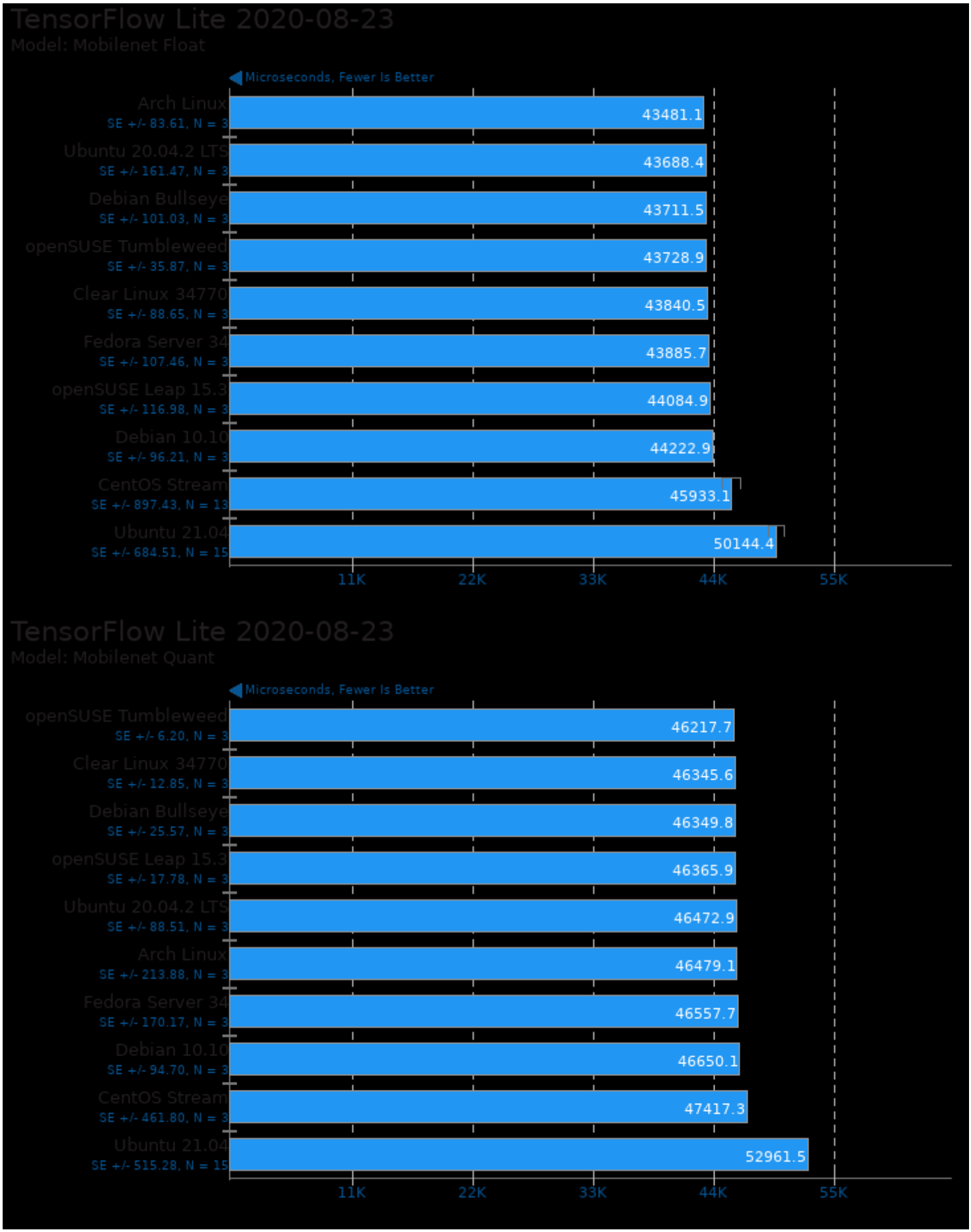

Timed Node.js Compilation 15.11
Time To Compile
Seconds, Fewer Is Better
Debian 10.10
SE +/- 0.17, N = 3
123.14
openSUSE Leap 15.3
SE +/- 0.17, N = 3
125.00
CentOS Stream
SE +/- 0.15, N = 3
127.50
openSUSE Tumbleweed
SE +/- 0.26, N = 3
134.37
Debian Bullseye
SE +/- 0.16, N = 3
134.41
Fedora Server 34
SE +/- 0.21, N = 3
137.59
Ubuntu 21.04
SE +/- 0.47, N = 3
140.35
Ubuntu 20.04.2 LTS
SE +/- 0.10, N = 3
151.65
Arch Linux
SE +/- 0.16, N = 3
157.70
30
60
90
120
150

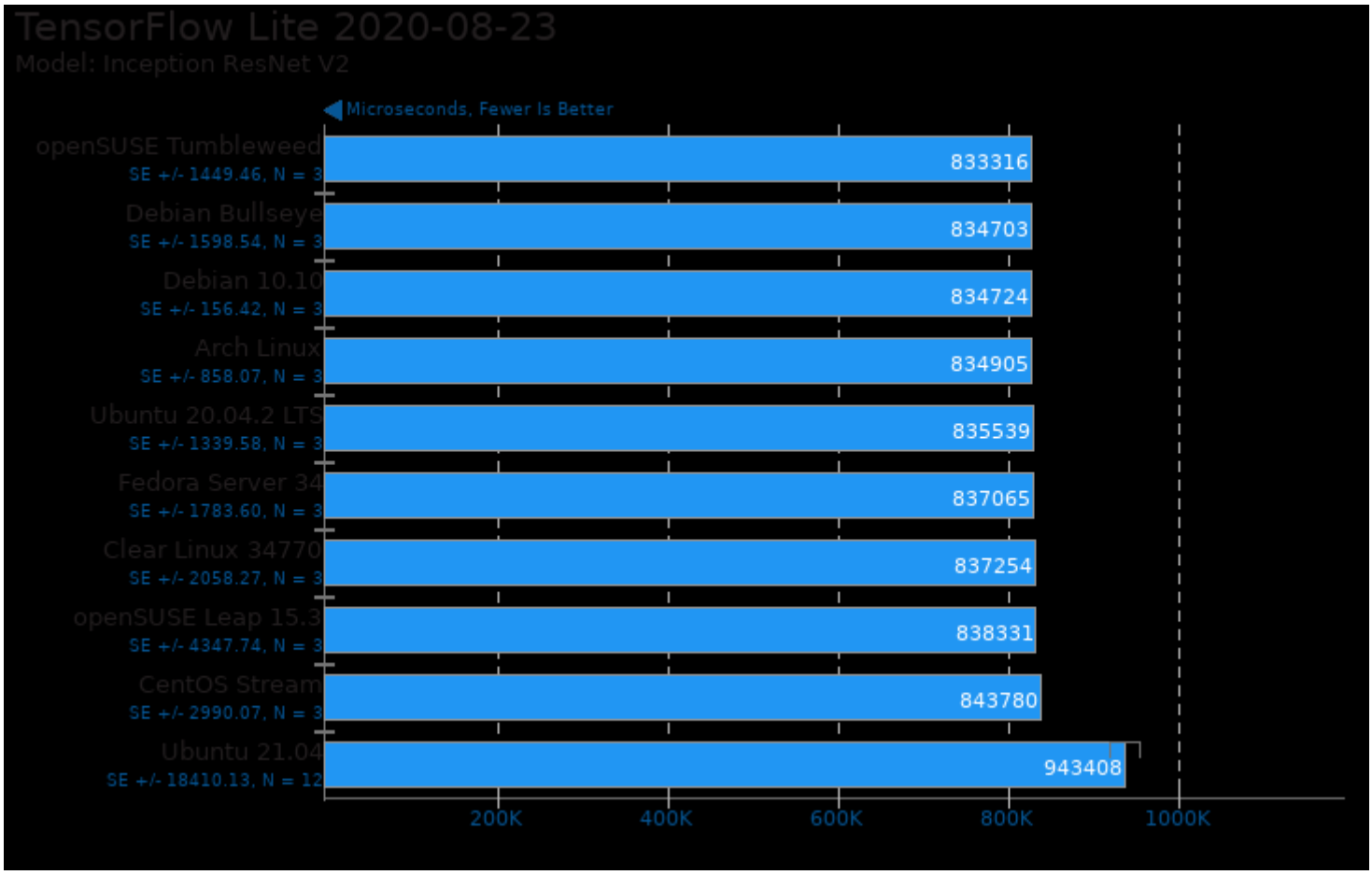

Timed Wasmer Compilation 1.0.2
Time To Compile
Seconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 0.12, N = 3
37.25
Arch Linux
SE +/- 0.55, N = 3
39.11
Ubuntu 21.04
SE +/- 0.24, N = 3
40.23
Fedora Server 34
SE +/- 0.19, N = 3
41.50
CentOS Stream
SE +/- 0.63, N = 3
45.01
Debian Bullseye
SE +/- 0.57, N = 3
60.64
Ubuntu 20.04.2 LTS
SE +/- 0.35, N = 3
61.24
14
28
42
56
70
1. (CC) gcc options: -m64 -pie -nodefaultlibs -ldl -lgcc_s -lutil -lrt -lpthread -lm -lc

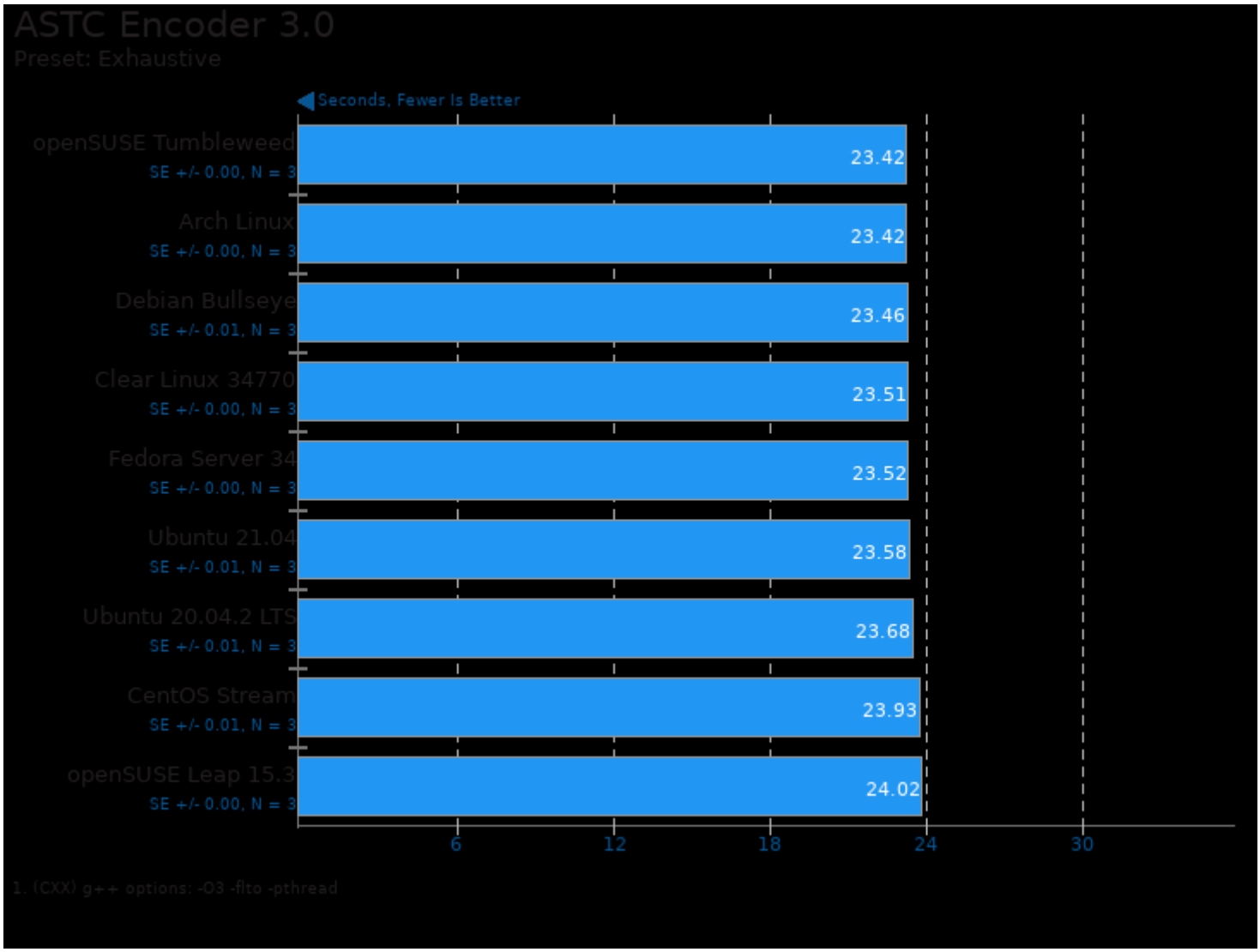

GROMACS 2021.2
Implementation: MPI CPU - Input: water_GMX50_bare
Ns Per Day, More Is Better
openSUSE Leap 15.3
SE +/- 0.017, N = 3
3.837
CentOS Stream
SE +/- 0.003, N = 3
3.801
Clear Linux 34770
SE +/- 0.004, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake
3.777
Debian Bullseye
SE +/- 0.005, N = 3
3.756
Arch Linux
SE +/- 0.028, N = 3
3.715
Fedora Server 34
SE +/- 0.007, N = 3
3.640
Ubuntu 20.04.2 LTS
SE +/- 0.010, N = 3
3.639
Ubuntu 21.04
SE +/- 0.005, N = 3
3.581
0.8633
1.7266
2.5899
3.4532
4.3165
1. (CXX) g++ options: -O3 -pthread

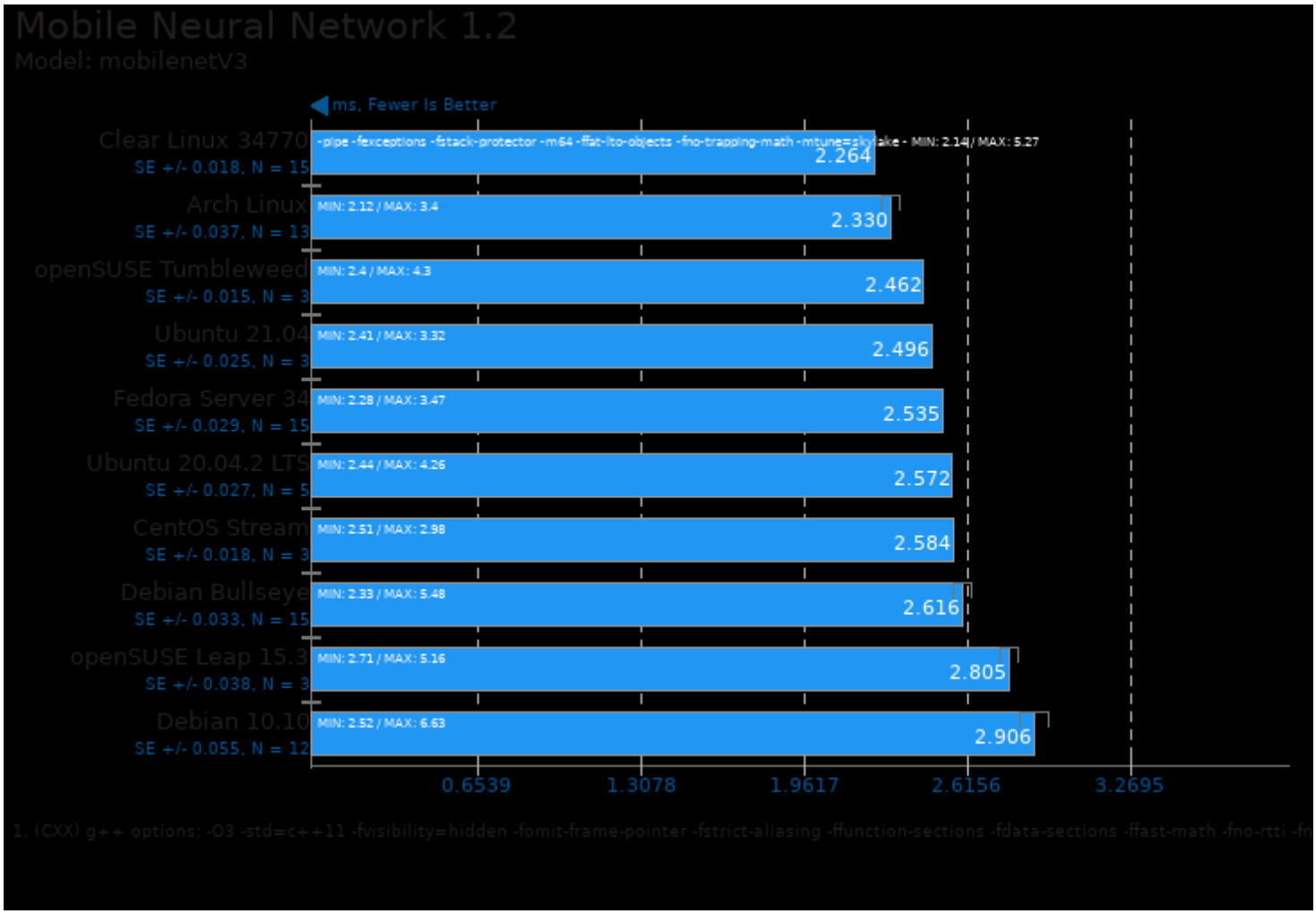

TensorFlow Lite 2020-08-23
Model: SqueezeNet
Microseconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 81.03, N = 3
68648.1
openSUSE Leap 15.3
SE +/- 157.49, N = 3
68977.4
Debian Bullseye
SE +/- 292.33, N = 3
69107.3
Ubuntu 20.04.2 LTS
SE +/- 188.81, N = 3
69192.6
Debian 10.10
SE +/- 372.87, N = 3
69846.2
Arch Linux
SE +/- 190.81, N = 3
69933.4
Fedora Server 34
SE +/- 521.49, N = 3
70453.9
Clear Linux 34770
SE +/- 789.17, N = 3
72315.6
Ubuntu 21.04
SE +/- 2084.38, N = 15
83600.8
CentOS Stream
SE +/- 2095.69, N = 15
87580.8
20K
40K
60K
80K
100K

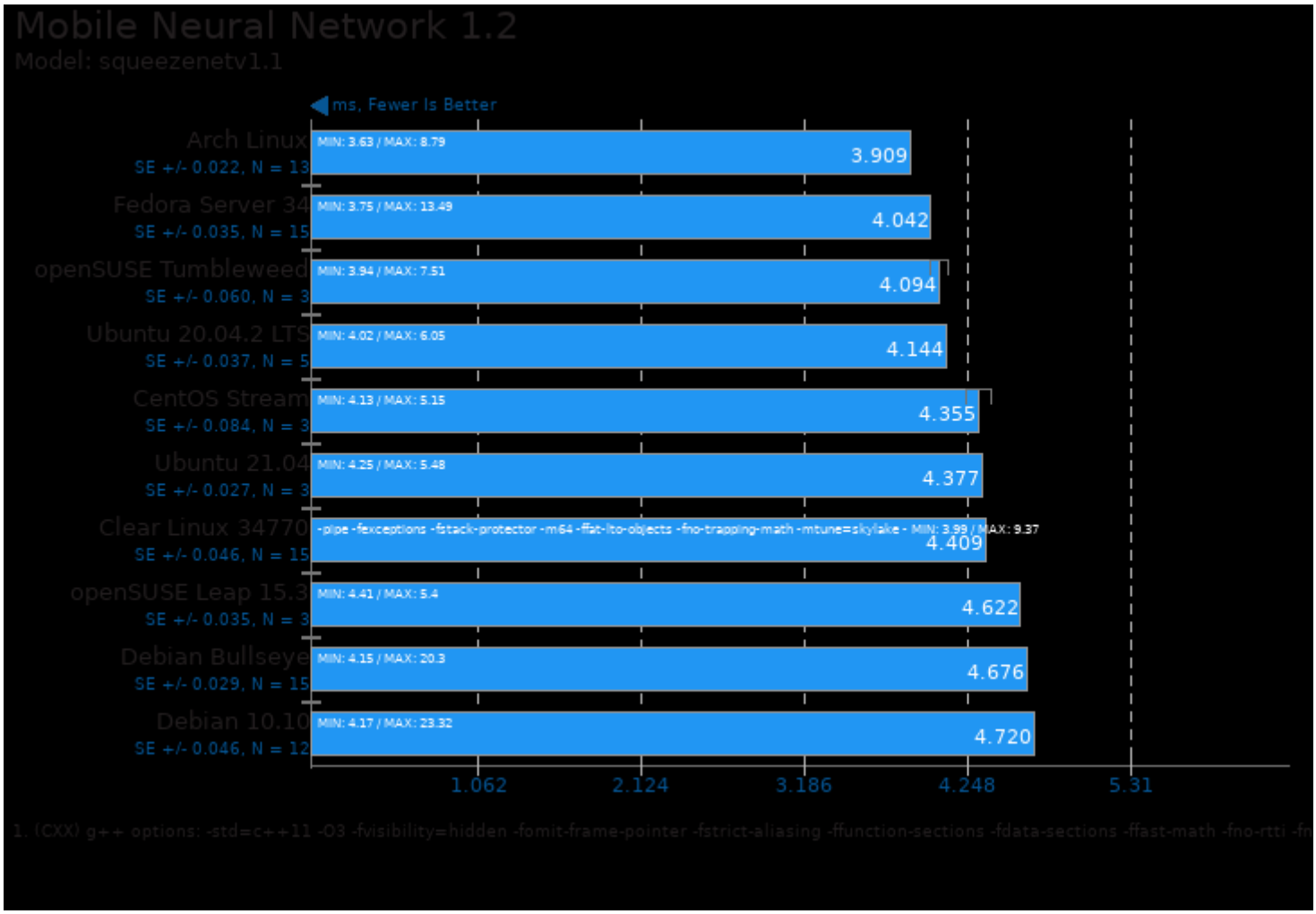

TensorFlow Lite 2020-08-23
Model: Inception V4
Microseconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 224.55, N = 3
931747
openSUSE Leap 15.3
SE +/- 3003.25, N = 3
932224
Debian Bullseye
SE +/- 1376.88, N = 3
932251
Arch Linux
SE +/- 454.24, N = 3
935779
Ubuntu 20.04.2 LTS
SE +/- 2093.15, N = 3
936694
Clear Linux 34770
SE +/- 4646.48, N = 3
940126
Fedora Server 34
SE +/- 6145.17, N = 3
941892
Debian 10.10
SE +/- 4599.44, N = 3
942408
CentOS Stream
SE +/- 4791.59, N = 3
944105
Ubuntu 21.04
SE +/- 7728.90, N = 15
1052955
200K
400K
600K
800K
1000K

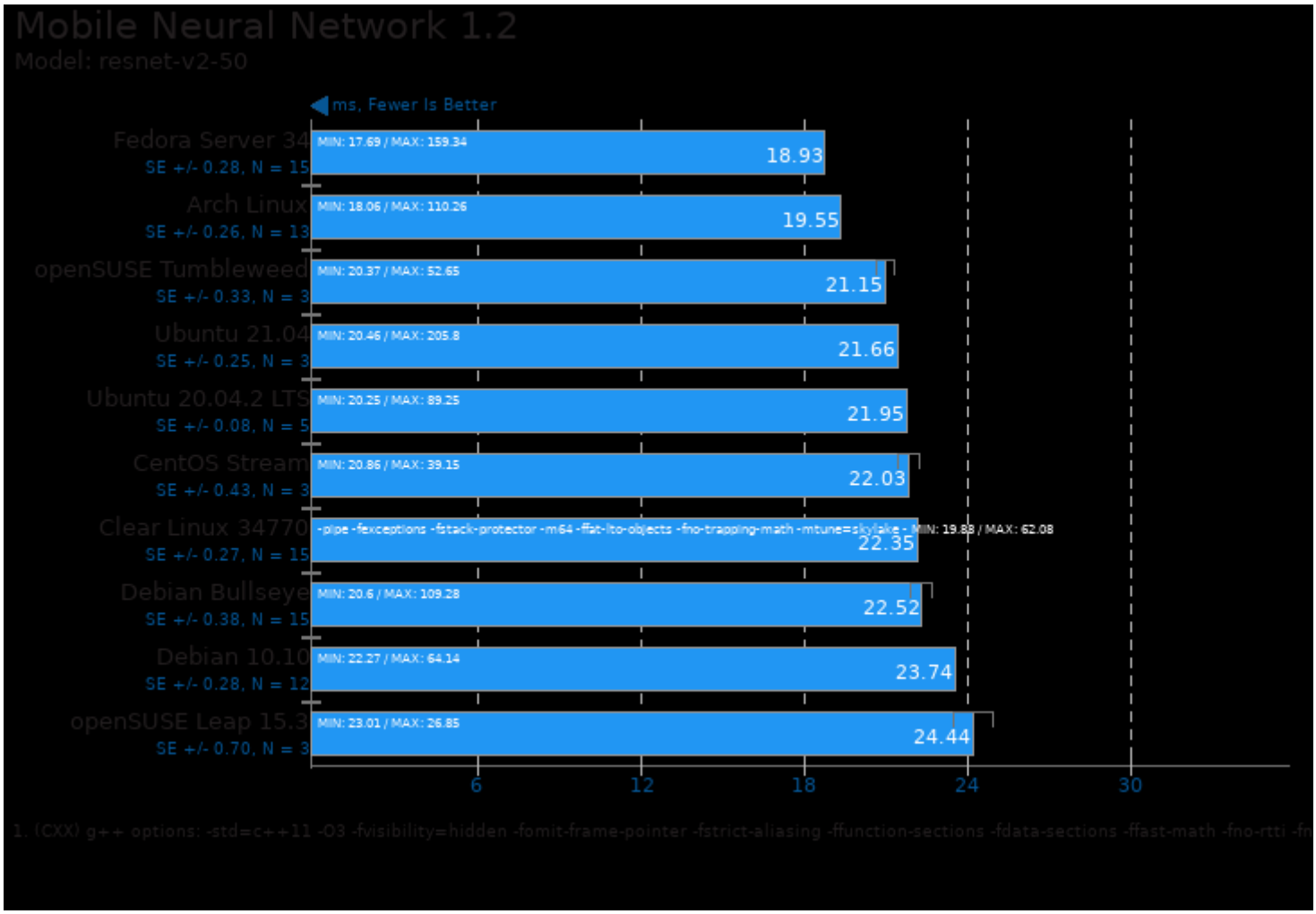

TensorFlow Lite 2020-08-23
Model: Mobilenet Float
Microseconds, Fewer Is Better
Arch Linux
SE +/- 83.61, N = 3
43481.1
Ubuntu 20.04.2 LTS
SE +/- 161.47, N = 3
43688.4
Debian Bullseye
SE +/- 101.03, N = 3
43711.5
openSUSE Tumbleweed
SE +/- 35.87, N = 3
43728.9
Clear Linux 34770
SE +/- 88.65, N = 3
43840.5
Fedora Server 34
SE +/- 107.46, N = 3
43885.7
openSUSE Leap 15.3
SE +/- 116.98, N = 3
44084.9
Debian 10.10
SE +/- 96.21, N = 3
44222.9
CentOS Stream
SE +/- 897.43, N = 13
45933.1
Ubuntu 21.04
SE +/- 684.51, N = 15
50144.4
11K
22K
33K
44K
55K
TensorFlow Lite 2020-08-23
Model: Mobilenet Quant
Microseconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 6.20, N = 3
46217.7
Clear Linux 34770
SE +/- 12.85, N = 3
46345.6
Debian Bullseye
SE +/- 25.57, N = 3
46349.8
openSUSE Leap 15.3
SE +/- 17.78, N = 3
46365.9
Ubuntu 20.04.2 LTS
SE +/- 88.51, N = 3
46472.9
Arch Linux
SE +/- 213.88, N = 3
46479.1
Fedora Server 34
SE +/- 170.17, N = 3
46557.7
Debian 10.10
SE +/- 94.70, N = 3
46650.1
CentOS Stream
SE +/- 461.80, N = 3
47417.3
Ubuntu 21.04
SE +/- 515.28, N = 15
52961.5
11K
22K
33K
44K
55K

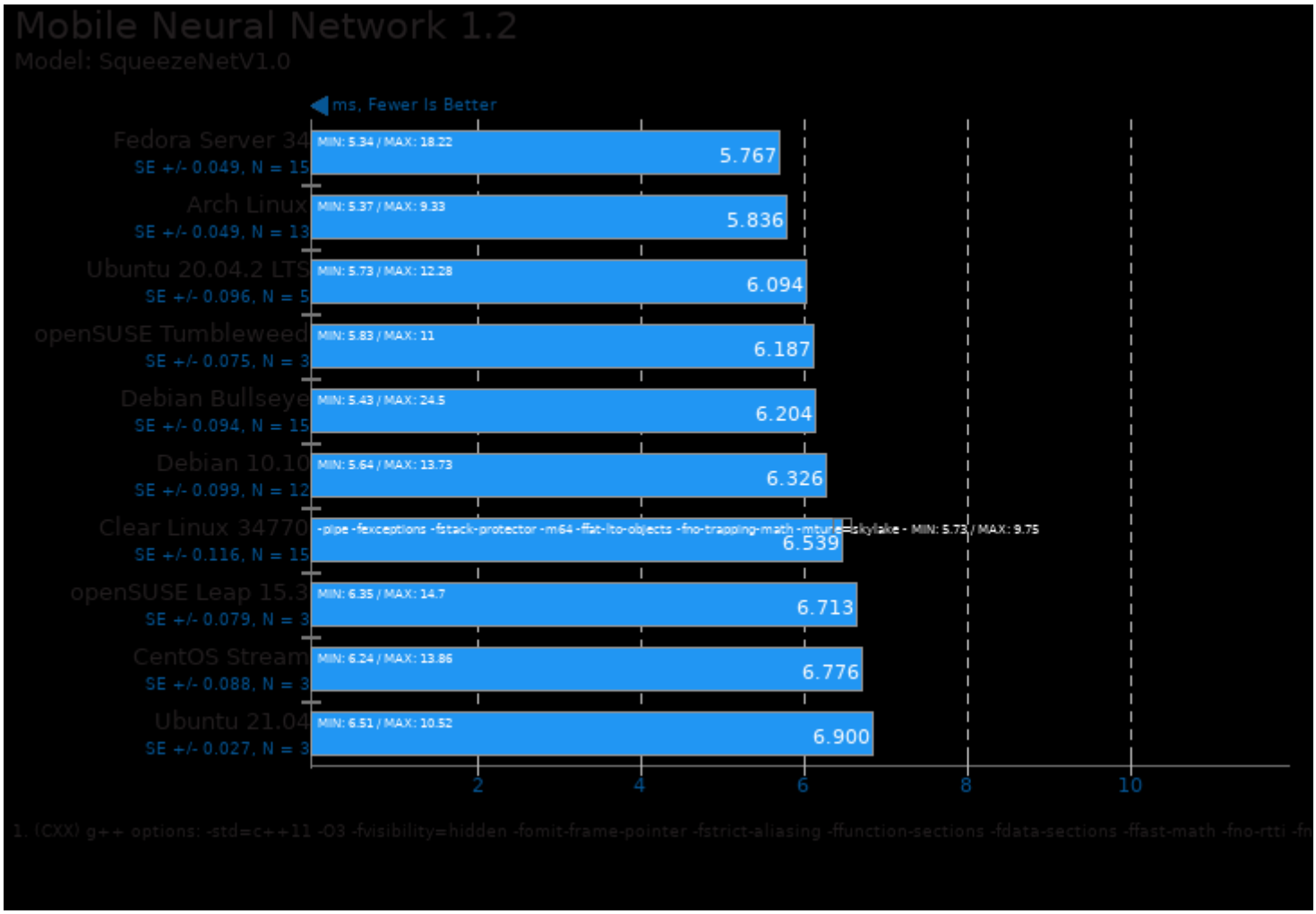

TensorFlow Lite 2020-08-23
Model: Inception ResNet V2
Microseconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 1449.46, N = 3
833316
Debian Bullseye
SE +/- 1598.54, N = 3
834703
Debian 10.10
SE +/- 156.42, N = 3
834724
Arch Linux
SE +/- 858.07, N = 3
834905
Ubuntu 20.04.2 LTS
SE +/- 1339.58, N = 3
835539
Fedora Server 34
SE +/- 1783.60, N = 3
837065
Clear Linux 34770
SE +/- 2058.27, N = 3
837254
openSUSE Leap 15.3
SE +/- 4347.74, N = 3
838331
CentOS Stream
SE +/- 2990.07, N = 3
843780
Ubuntu 21.04
SE +/- 18410.13, N = 12
943408
200K
400K
600K
800K
1000K

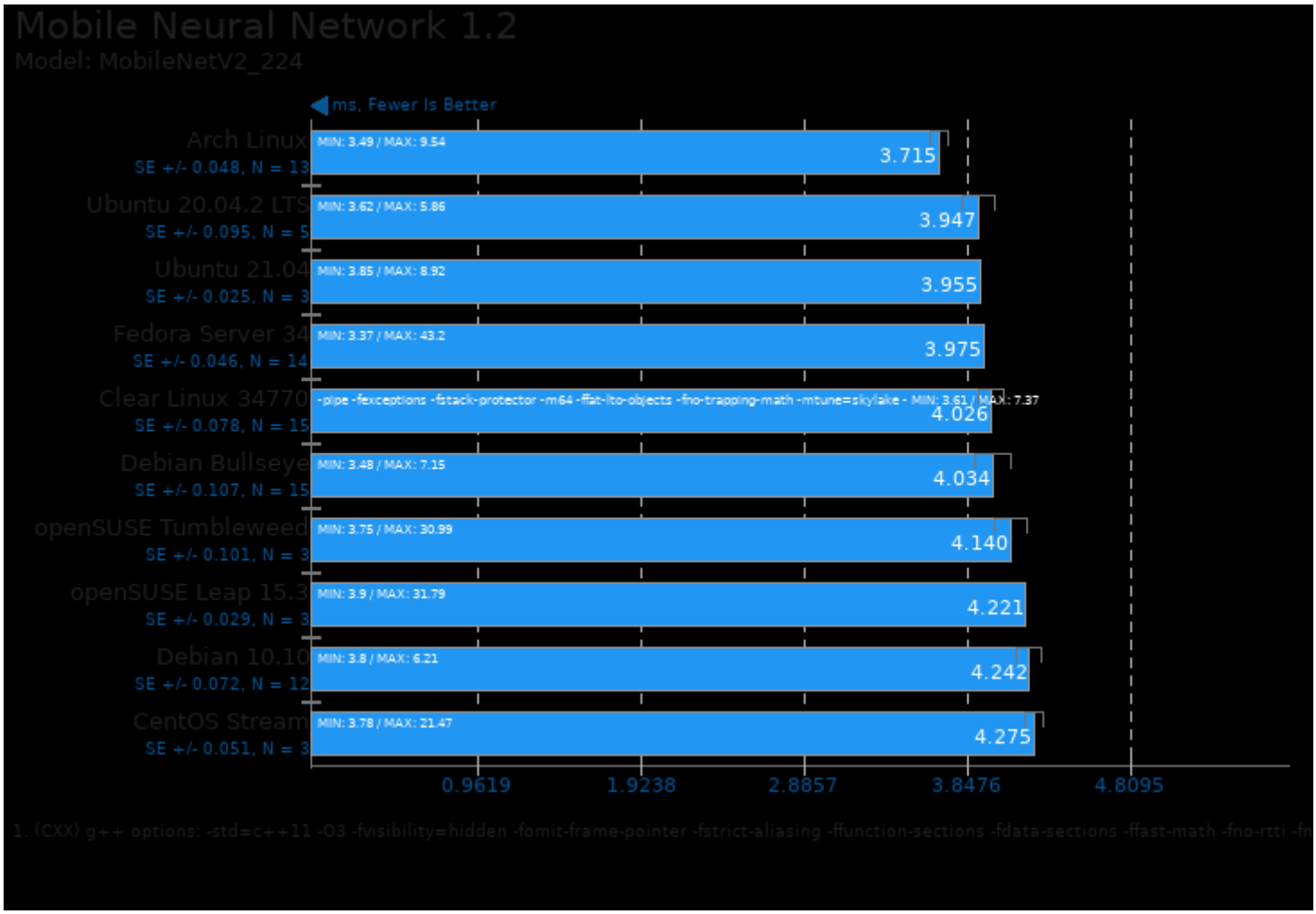

ASTC Encoder 3.0
Preset: Exhaustive
Seconds, Fewer Is Better
openSUSE Tumbleweed
SE +/- 0.00, N = 3
23.42
Arch Linux
SE +/- 0.00, N = 3
23.42
Debian Bullseye
SE +/- 0.01, N = 3
23.46
Clear Linux 34770
SE +/- 0.00, N = 3
23.51
Fedora Server 34
SE +/- 0.00, N = 3
23.52
Ubuntu 21.04
SE +/- 0.01, N = 3
23.58
Ubuntu 20.04.2 LTS
SE +/- 0.01, N = 3
23.68
CentOS Stream
SE +/- 0.01, N = 3
23.93
openSUSE Leap 15.3
SE +/- 0.00, N = 3
24.02
6
12
18
24
30
1. (CXX) g++ options: -O3 -flto -pthread

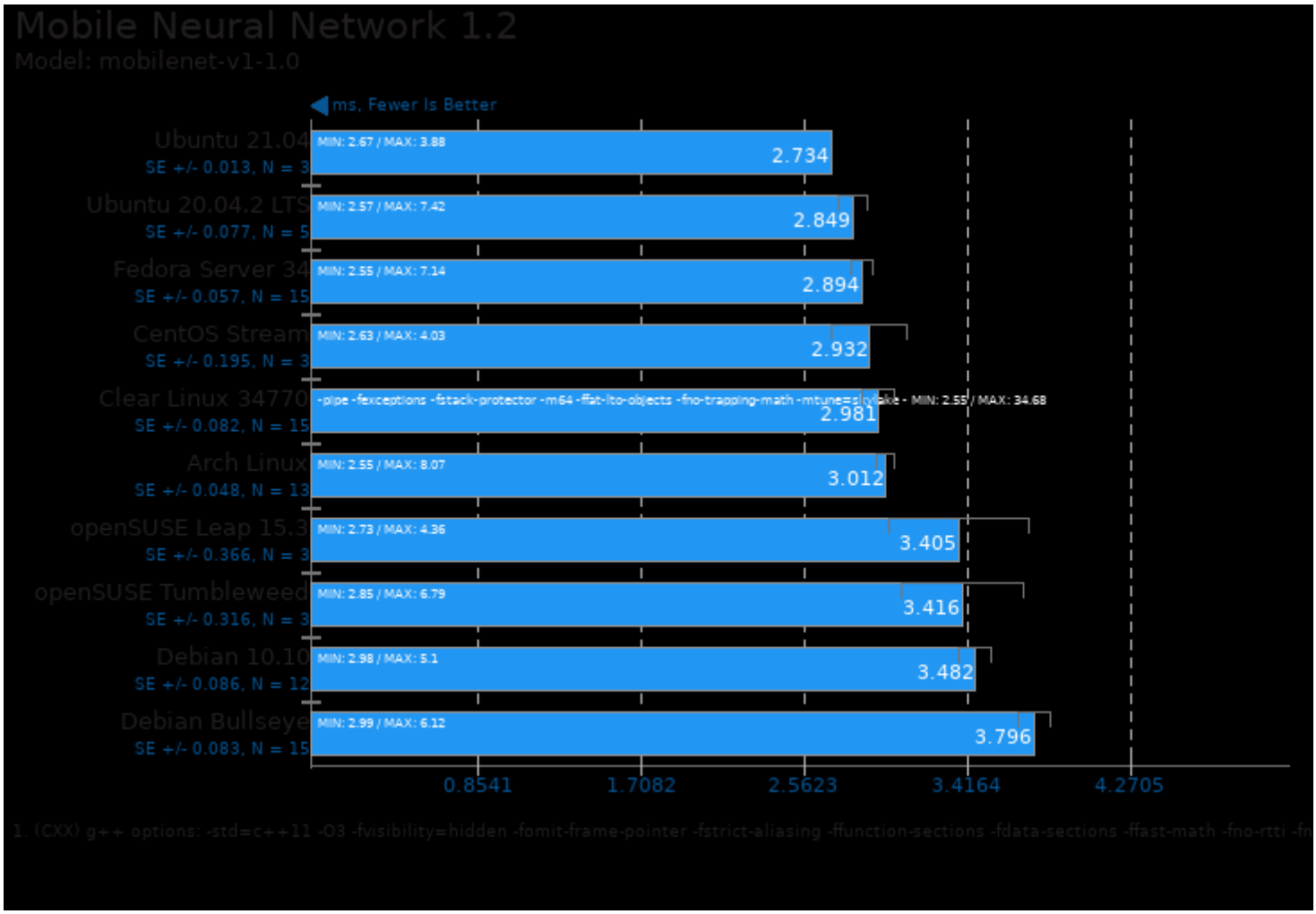

Mobile Neural Network 1.2
Model: mobilenetV3
ms, Fewer Is Better
Clear Linux 34770
SE +/- 0.018, N = 15
-pipe -fexceptions -fstack-protector -m64 -flto-objects -fno-trapping-math -mtune=skylake - MIN: 2.14 / MAX: 5.27
2.264
Arch Linux
SE +/- 0.037, N = 13
MIN: 2.12 / MAX: 3.4
2.330
openSUSE Tumbleweed
SE +/- 0.015, N = 3
MIN: 2.4 / MAX: 4.3
2.462
Ubuntu 21.04
SE +/- 0.025, N = 3
MIN: 2.41 / MAX: 3.32
2.496
Fedora Server 34
SE +/- 0.029, N = 15
MIN: 2.28 / MAX: 3.47
2.535
Ubuntu 20.04.2 LTS
SE +/- 0.027, N = 5
MIN: 2.44 / MAX: 4.26
2.572
CentOS Stream
SE +/- 0.018, N = 3
MIN: 2.51 / MAX: 2.98
2.584
Debian Bullseye
SE +/- 0.033, N = 15
MIN: 2.33 / MAX: 5.48
2.616
openSUSE Leap 15.3
SE +/- 0.038, N = 3
MIN: 2.71 / MAX: 5.16
2.805
Debian 10.10
SE +/- 0.055, N = 12
MIN: 2.52 / MAX: 6.63
2.906
0.6539
1.3078
1.9617
2.6156
3.2695
1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

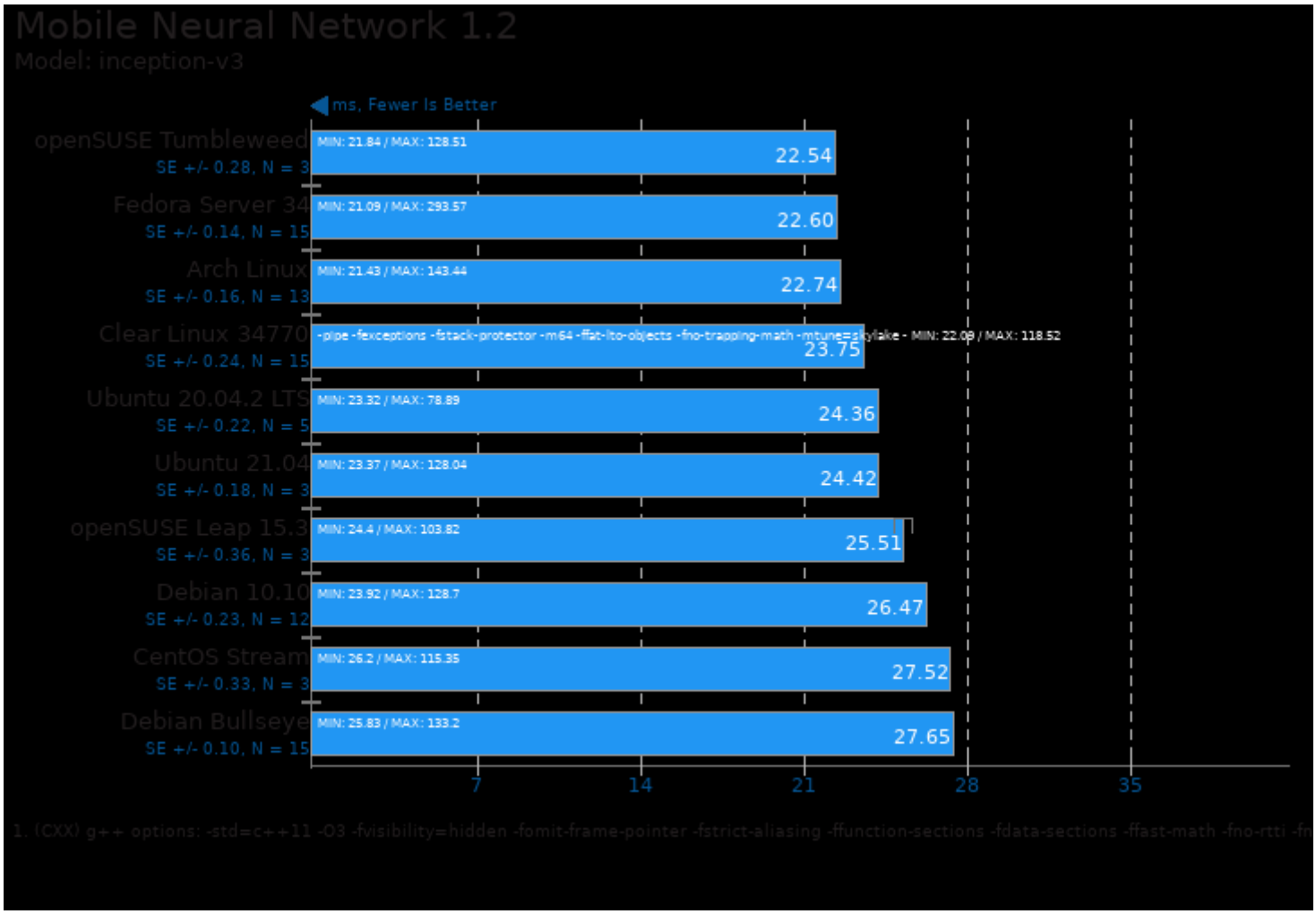

Mobile Neural Network 1.2
Model: squeezenetv1.1
ms, Fewer Is Better
Arch Linux
SE +/- 0.022, N = 13
MIN: 3.63 / MAX: 8.79
3.909
Fedora Server 34
SE +/- 0.035, N = 15
MIN: 3.75 / MAX: 13.49
4.042
openSUSE Tumbleweed
SE +/- 0.060, N = 3
MIN: 3.94 / MAX: 7.51
4.094
Ubuntu 20.04.2 LTS
SE +/- 0.037, N = 5
MIN: 4.02 / MAX: 6.05
4.144
CentOS Stream
SE +/- 0.084, N = 3
MIN: 4.13 / MAX: 5.15
4.355
Ubuntu 21.04
SE +/- 0.027, N = 3
MIN: 4.25 / MAX: 5.48
4.377
Clear Linux 34770
SE +/- 0.046, N = 15
-pipe -fexceptions -fstack-protector -m64 -flto=4 -flto-odr-type-merging -fno-trapping-math -mtune=skylake
MIN: 3.99 / MAX: 9.37
4.409
openSUSE Leap 15.3
SE +/- 0.035, N = 3
MIN: 4.41 / MAX: 5.4
4.622
Debian Bullseye
SE +/- 0.029, N = 15
MIN: 4.15 / MAX: 20.3
4.676
Debian 10.10
SE +/- 0.046, N = 12
MIN: 4.17 / MAX: 23.32
4.720
1.062
2.124
3.186
4.248
5.31
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-exceptions -fno-stack-protector -mtune=skylake -pie -fPIE -lpthread

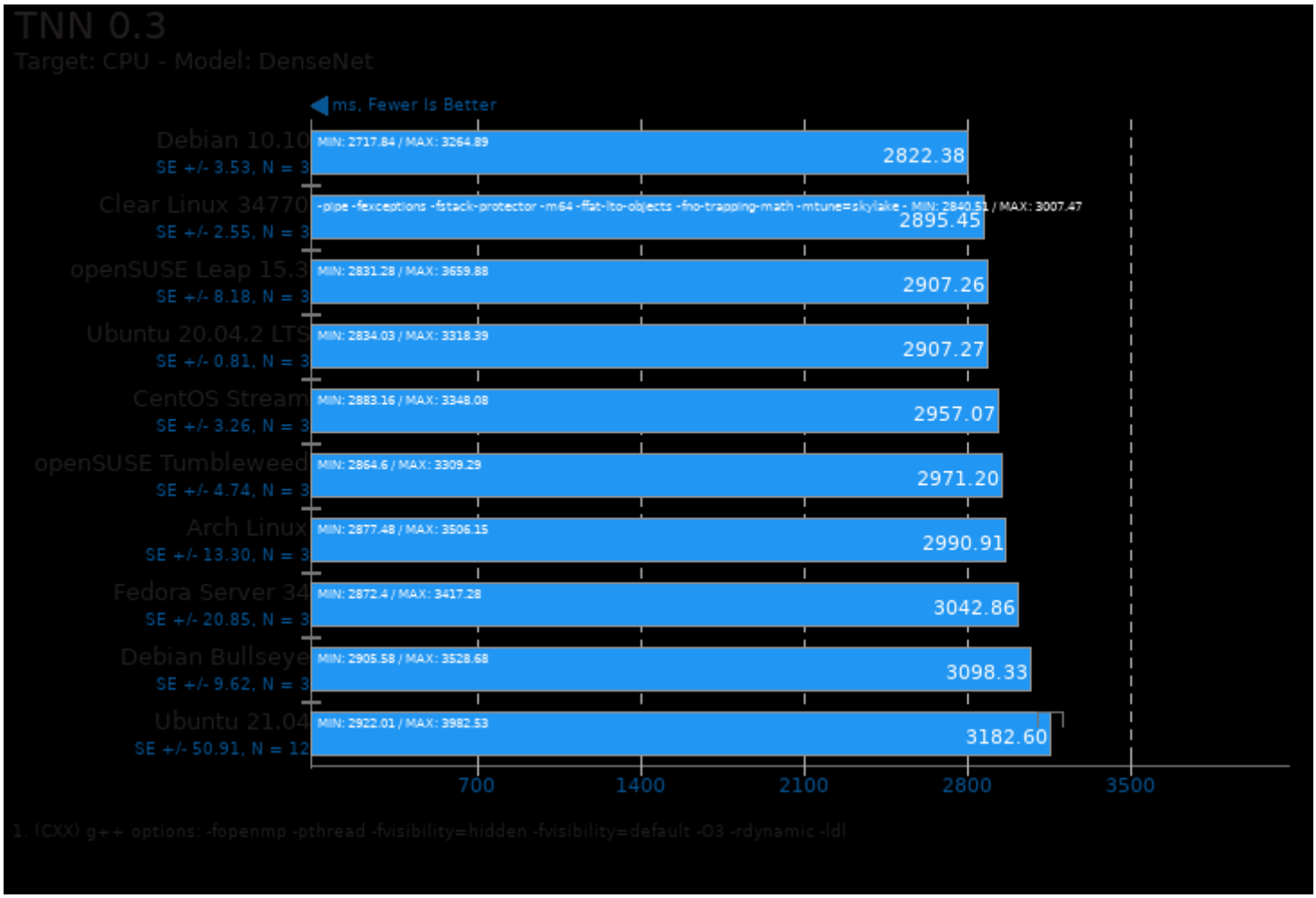

Mobile Neural Network 1.2
Model: resnet-v2-50
ms, Fewer Is Better
Fedora Server 34
SE +/- 0.28, N = 15
MIN: 17.69 / MAX: 159.34
18.93
Arch Linux
SE +/- 0.26, N = 13
MIN: 18.06 / MAX: 110.26
19.55
openSUSE Tumbleweed
SE +/- 0.33, N = 3
MIN: 20.37 / MAX: 52.65
21.15
Ubuntu 21.04
SE +/- 0.25, N = 3
MIN: 20.46 / MAX: 205.8
21.66
Ubuntu 20.04.2 LTS
SE +/- 0.08, N = 5
MIN: 20.25 / MAX: 89.25
21.95
CentOS Stream
SE +/- 0.43, N = 3
MIN: 20.86 / MAX: 39.15
22.03
Clear Linux 34770
SE +/- 0.27, N = 15
-pipe -fexceptions -fstack-protector -m64 -flto=4 -flto-odr-type-merging -fno-trapping-math -mtune=skylake
MIN: 19.88 / MAX: 62.08
22.35
Debian Bullseye
SE +/- 0.38, N = 15
MIN: 20.6 / MAX: 109.28
22.52
Debian 10.10
SE +/- 0.28, N = 12
MIN: 22.27 / MAX: 64.14
23.74
openSUSE Leap 15.3
SE +/- 0.70, N = 3
MIN: 23.01 / MAX: 26.85
24.44
6
12
18
24
30
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti

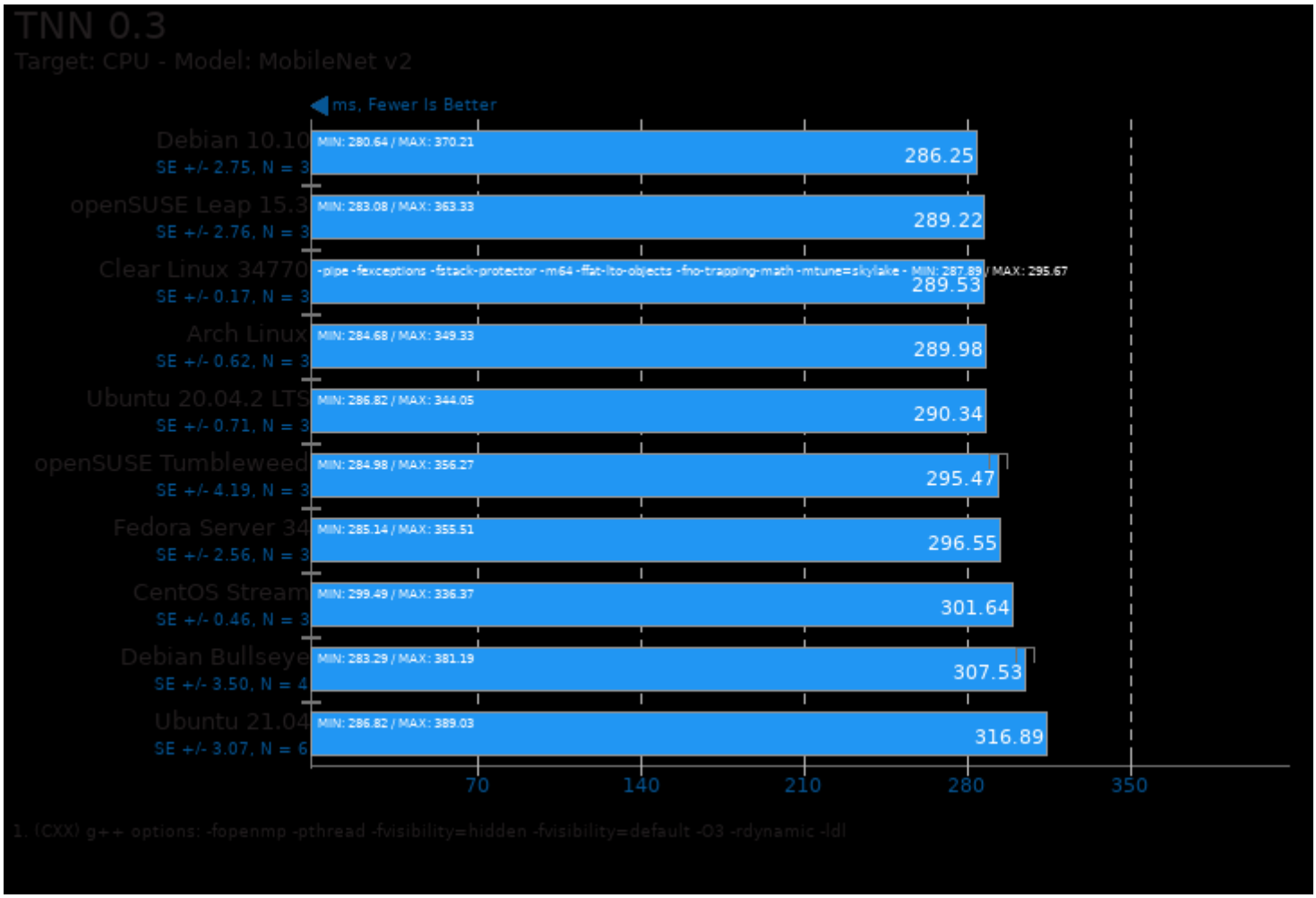

Mobile Neural Network 1.2
Model: SqueezeNetV1.0
ms, Fewer Is Better
Fedora Server 34
SE +/- 0.049, N = 15
MIN: 5.34 / MAX: 18.22
5.767
Arch Linux
SE +/- 0.049, N = 13
MIN: 5.37 / MAX: 9.33
5.836
Ubuntu 20.04.2 LTS
SE +/- 0.096, N = 5
MIN: 5.73 / MAX: 12.28
6.094
openSUSE Tumbleweed
SE +/- 0.075, N = 3
MIN: 5.83 / MAX: 11
6.187
Debian Bullseye
SE +/- 0.094, N = 15
MIN: 5.43 / MAX: 24.5
6.204
Debian 10.10
SE +/- 0.099, N = 12
MIN: 5.64 / MAX: 13.73
6.326
Clear Linux 34770
SE +/- 0.116, N = 15
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 5.73 / MAX: 9.75
6.539
openSUSE Leap 15.3
SE +/- 0.079, N = 3
MIN: 6.35 / MAX: 14.7
6.713
CentOS Stream
SE +/- 0.088, N = 3
MIN: 6.24 / MAX: 13.86
6.776
Ubuntu 21.04
SE +/- 0.027, N = 3
MIN: 6.51 / MAX: 10.52
6.900
2
4
6
8
10
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

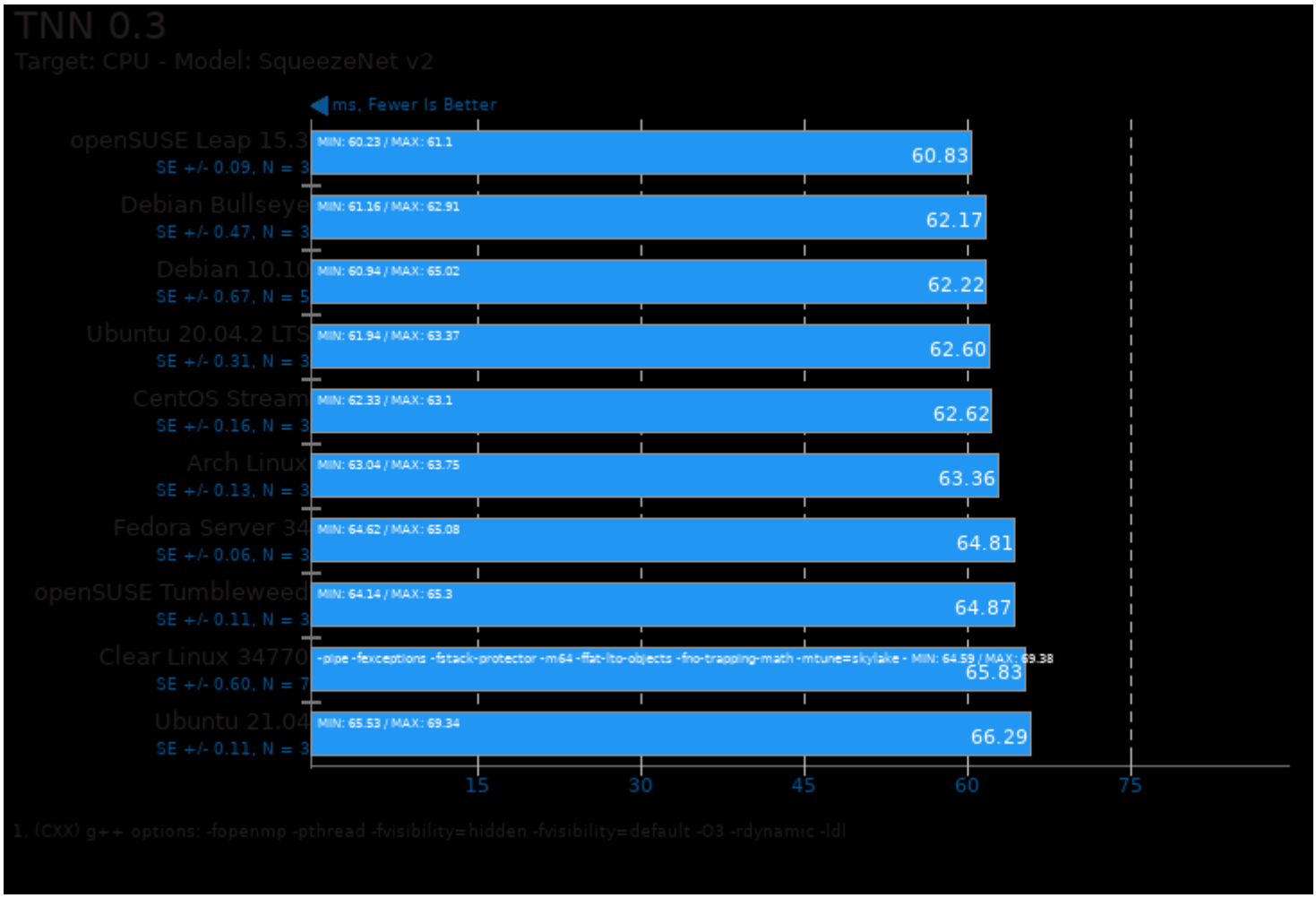

Mobile Neural Network 1.2
Model: MobileNetV2_224
ms, Fewer Is Better
Arch Linux
SE +/- 0.048, N = 13
MIN: 3.49 / MAX: 9.54
3.715
Ubuntu 20.04.2 LTS
SE +/- 0.095, N = 5
MIN: 3.62 / MAX: 5.86
3.947
Ubuntu 21.04
SE +/- 0.025, N = 3
MIN: 3.85 / MAX: 8.92
3.955
Fedora Server 34
SE +/- 0.046, N = 14
MIN: 3.37 / MAX: 43.2
3.975
Clear Linux 34770
SE +/- 0.078, N = 15
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 3.61 / MAX: 7.37
4.026
Debian Bullseye
SE +/- 0.107, N = 15
MIN: 3.48 / MAX: 7.15
4.034
openSUSE Tumbleweed
SE +/- 0.101, N = 3
MIN: 3.75 / MAX: 30.99
4.140
openSUSE Leap 15.3
SE +/- 0.029, N = 3
MIN: 3.9 / MAX: 31.79
4.221
Debian 10.10
SE +/- 0.072, N = 12
MIN: 3.8 / MAX: 6.21
4.242
CentOS Stream
SE +/- 0.051, N = 3
MIN: 3.78 / MAX: 21.47
4.275
0.9619
1.9238
2.8857
3.8476
4.8095
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

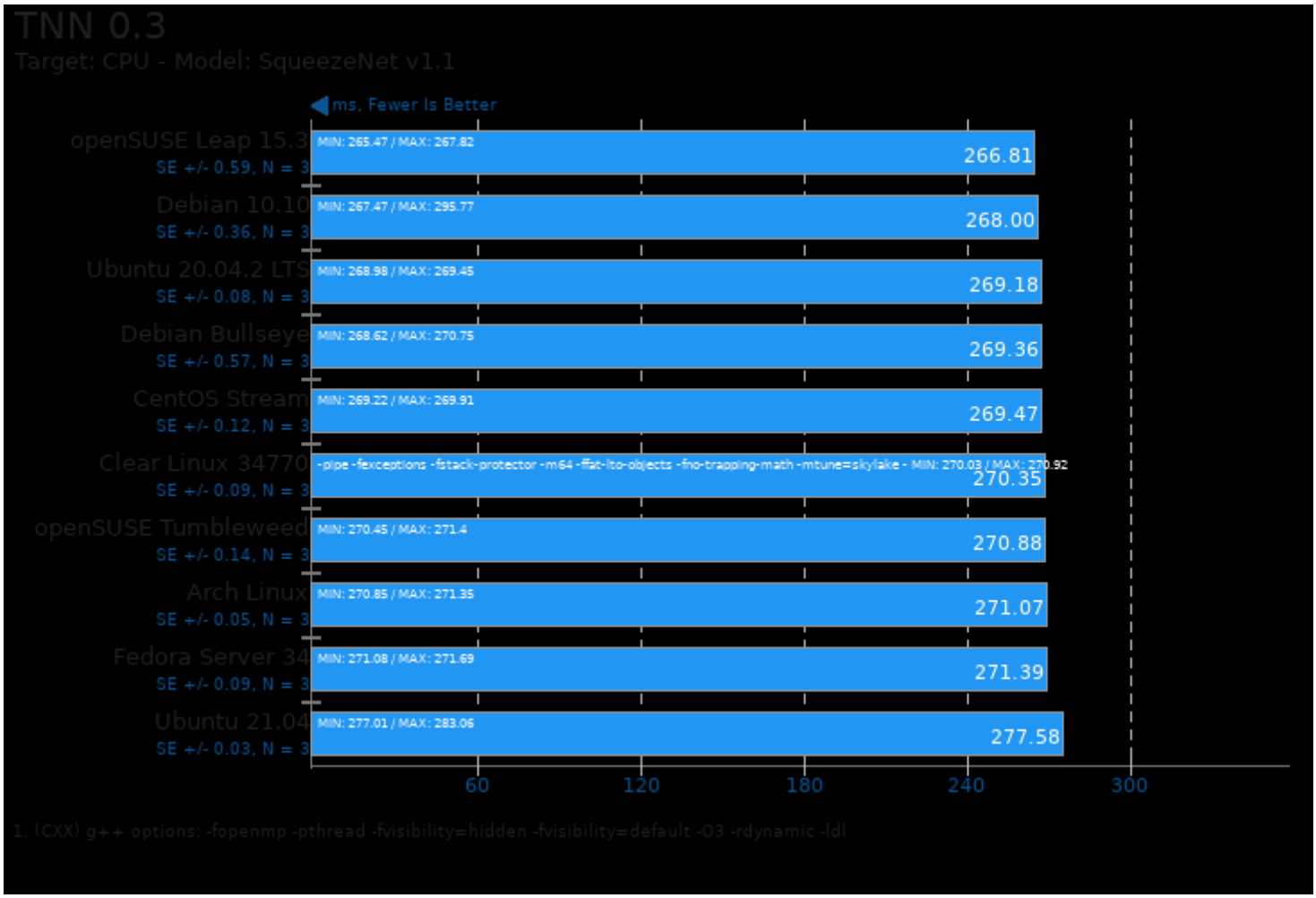

Mobile Neural Network 1.2
Model: mobilenet-v1-1.0
ms, Fewer Is Better
Ubuntu 21.04
SE +/- 0.013, N = 3
MIN: 2.67 / MAX: 3.88
2.734
Ubuntu 20.04.2 LTS
SE +/- 0.077, N = 5
MIN: 2.57 / MAX: 7.42
2.849
Fedora Server 34
SE +/- 0.057, N = 15
MIN: 2.55 / MAX: 7.14
2.894
CentOS Stream
SE +/- 0.195, N = 3
MIN: 2.63 / MAX: 4.03
2.932
Clear Linux 34770
SE +/- 0.082, N = 15
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 2.55 / MAX: 34.68
2.981
Arch Linux
SE +/- 0.048, N = 13
MIN: 2.55 / MAX: 8.07
3.012
openSUSE Leap 15.3
SE +/- 0.366, N = 3
MIN: 2.73 / MAX: 4.36
3.405
openSUSE Tumbleweed
SE +/- 0.316, N = 3
MIN: 2.85 / MAX: 6.79
3.416
Debian 10.10
SE +/- 0.086, N = 12
MIN: 2.98 / MAX: 5.1
3.482
Debian Bullseye
SE +/- 0.083, N = 15
MIN: 2.99 / MAX: 6.12
3.796
0.8541
1.7082
2.5623
3.4164
4.2705
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

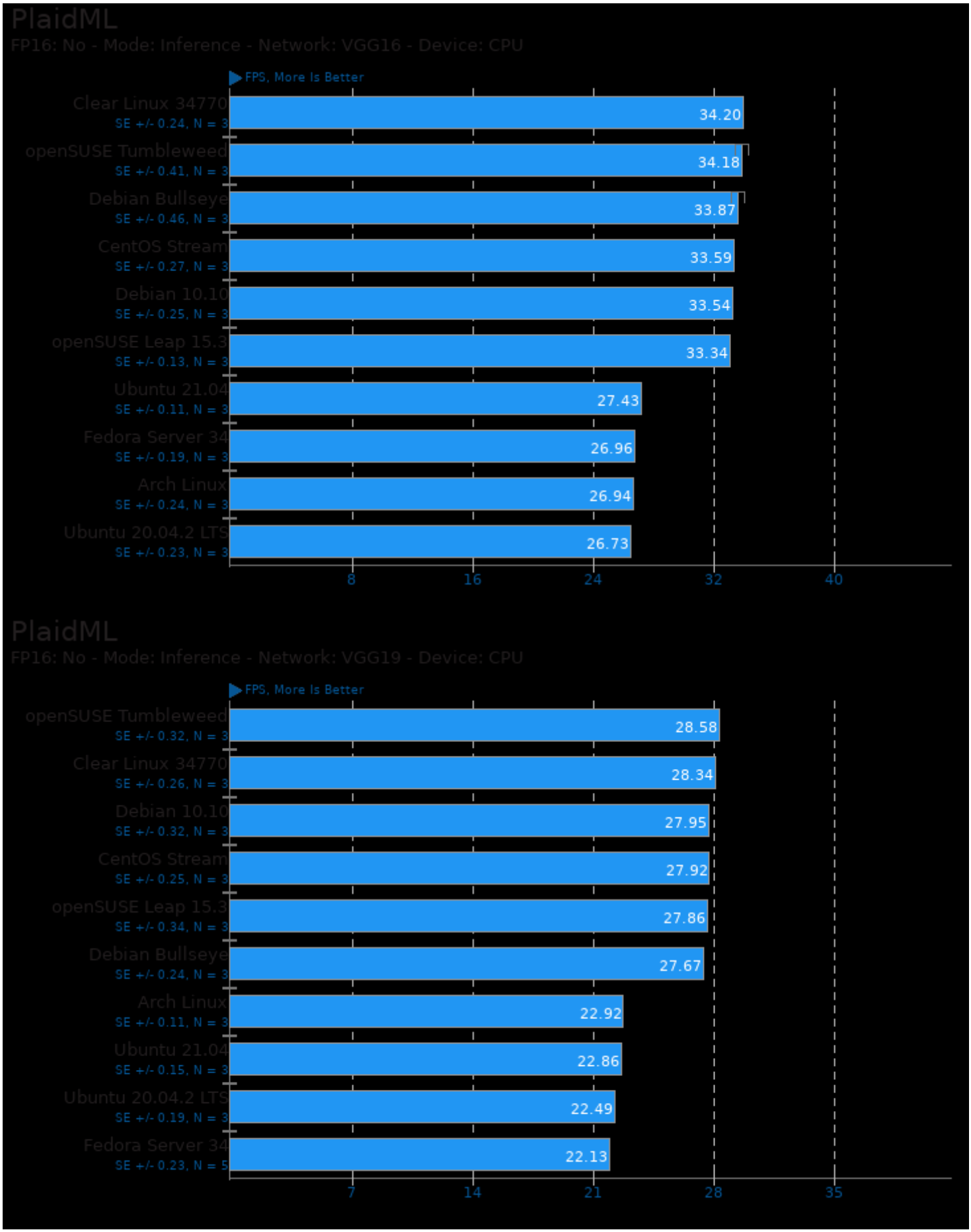

Mobile Neural Network 1.2
Model: inception-v3
ms, Fewer Is Better
openSUSE Tumbleweed
SE +/- 0.28, N = 3
MIN: 21.84 / MAX: 128.51
22.54
Fedora Server 34
SE +/- 0.14, N = 15
MIN: 21.09 / MAX: 293.57
22.60
Arch Linux
SE +/- 0.16, N = 13
MIN: 21.43 / MAX: 143.44
22.74
Clear Linux 34770
SE +/- 0.24, N = 15
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 22.09 / MAX: 118.52
23.75
Ubuntu 20.04.2 LTS
SE +/- 0.22, N = 5
MIN: 23.32 / MAX: 78.89
24.36
Ubuntu 21.04
SE +/- 0.18, N = 3
MIN: 23.37 / MAX: 128.04
24.42
openSUSE Leap 15.3
SE +/- 0.36, N = 3
MIN: 24.4 / MAX: 103.82
25.51
Debian 10.10
SE +/- 0.23, N = 12
MIN: 23.92 / MAX: 128.7
26.47
CentOS Stream
SE +/- 0.33, N = 3
MIN: 26.2 / MAX: 115.35
27.52
Debian Bullseye
SE +/- 0.10, N = 15
MIN: 25.83 / MAX: 133.2
27.65
7
14
21
28
35
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fv

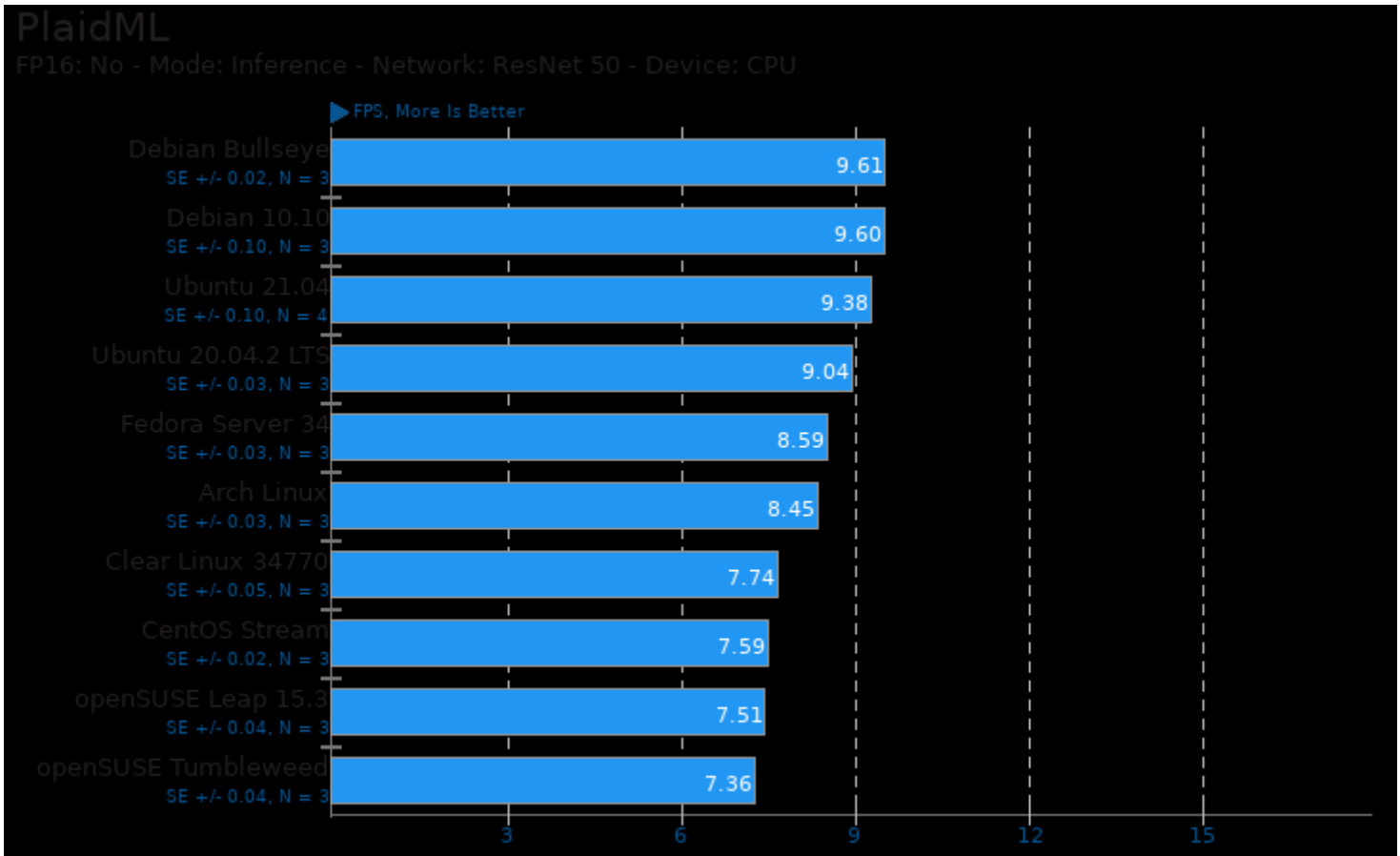

TNN 0.3
Target: CPU - Model: DenseNet
ms, Fewer Is Better
Debian 10.10
SE +/- 3.53, N = 3
MIN: 2717.84 / MAX: 3264.89
2822.38
Clear Linux 34770
SE +/- 2.55, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 2840.51 / MAX: 3007.47
2895.45
openSUSE Leap 15.3
SE +/- 8.18, N = 3
MIN: 2831.28 / MAX: 3659.88
2907.26
Ubuntu 20.04.2 LTS
SE +/- 0.81, N = 3
MIN: 2834.03 / MAX: 3318.39
2907.27
CentOS Stream
SE +/- 3.26, N = 3
MIN: 2883.16 / MAX: 3348.08
2957.07
openSUSE Tumbleweed
SE +/- 4.74, N = 3
MIN: 2864.6 / MAX: 3309.29
2971.20
Arch Linux
SE +/- 13.30, N = 3
MIN: 2877.48 / MAX: 3506.15
2990.91
Fedora Server 34
SE +/- 20.85, N = 3
MIN: 2872.4 / MAX: 3417.28
3042.86
Debian Bullseye
SE +/- 9.62, N = 3
MIN: 2905.58 / MAX: 3528.68
3098.33
Ubuntu 21.04
SE +/- 50.91, N = 12
MIN: 2922.01 / MAX: 3982.53
3182.60
700
1400
2100
2800
3500
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

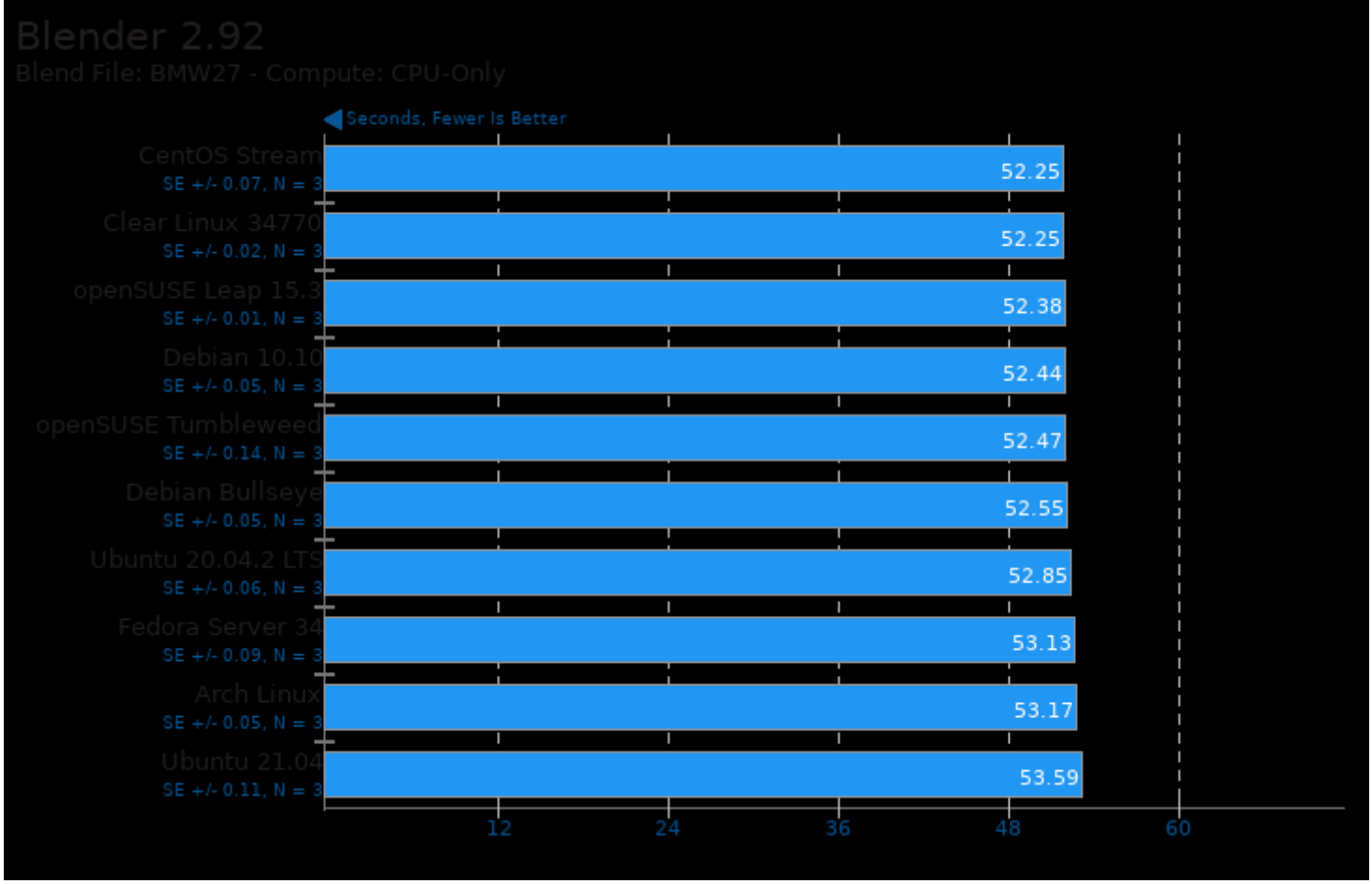

TNN 0.3
Target: CPU - Model: MobileNet v2
ms, Fewer Is Better
Debian 10.10
SE +/- 2.75, N = 3
MIN: 280.64 / MAX: 370.21
286.25
openSUSE Leap 15.3
SE +/- 2.76, N = 3
MIN: 283.08 / MAX: 363.33
289.22
Clear Linux 34770
SE +/- 0.17, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 287.89 / MAX: 295.67
289.53
Arch Linux
SE +/- 0.62, N = 3
MIN: 284.68 / MAX: 349.33
289.98
Ubuntu 20.04.2 LTS
SE +/- 0.71, N = 3
MIN: 286.82 / MAX: 344.05
290.34
openSUSE Tumbleweed
SE +/- 4.19, N = 3
MIN: 284.98 / MAX: 356.27
295.47
Fedora Server 34
SE +/- 2.56, N = 3
MIN: 285.14 / MAX: 355.51
296.55
CentOS Stream
SE +/- 0.46, N = 3
MIN: 299.49 / MAX: 336.37
301.64
Debian Bullseye
SE +/- 3.50, N = 4
MIN: 283.29 / MAX: 381.19
307.53
Ubuntu 21.04
SE +/- 3.07, N = 6
MIN: 286.82 / MAX: 389.03
316.89
70
140
210
280
350
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

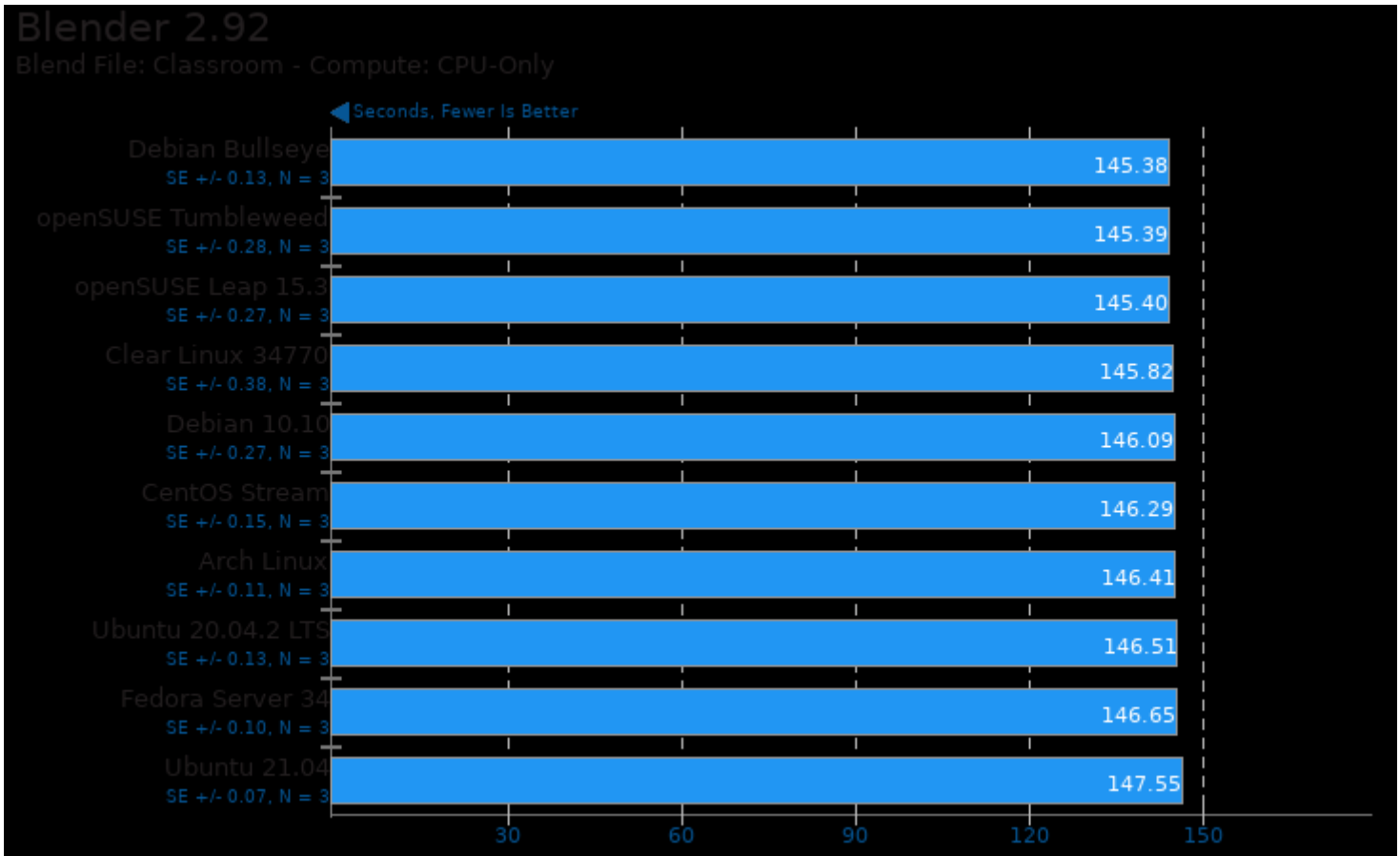

TNN 0.3
Target: CPU - Model: SqueezeNet v2
ms, Fewer Is Better
openSUSE Leap 15.3
SE +/- 0.09, N = 3
MIN: 60.23 / MAX: 61.1
60.83
Debian Bullseye
SE +/- 0.47, N = 3
MIN: 61.16 / MAX: 62.91
62.17
Debian 10.10
SE +/- 0.67, N = 5
MIN: 60.94 / MAX: 65.02
62.22
Ubuntu 20.04.2 LTS
SE +/- 0.31, N = 3
MIN: 61.94 / MAX: 63.37
62.60
CentOS Stream
SE +/- 0.16, N = 3
MIN: 62.33 / MAX: 63.1
62.62
Arch Linux
SE +/- 0.13, N = 3
MIN: 63.04 / MAX: 63.75
63.36
Fedora Server 34
SE +/- 0.06, N = 3
MIN: 64.62 / MAX: 65.08
64.81
openSUSE Tumbleweed
SE +/- 0.11, N = 3
MIN: 64.14 / MAX: 65.3
64.87
Clear Linux 34770
SE +/- 0.60, N = 7
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 64.59 / MAX: 69.38
65.83
Ubuntu 21.04
SE +/- 0.11, N = 3
MIN: 65.53 / MAX: 69.34
66.29
15
30
45
60
75
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

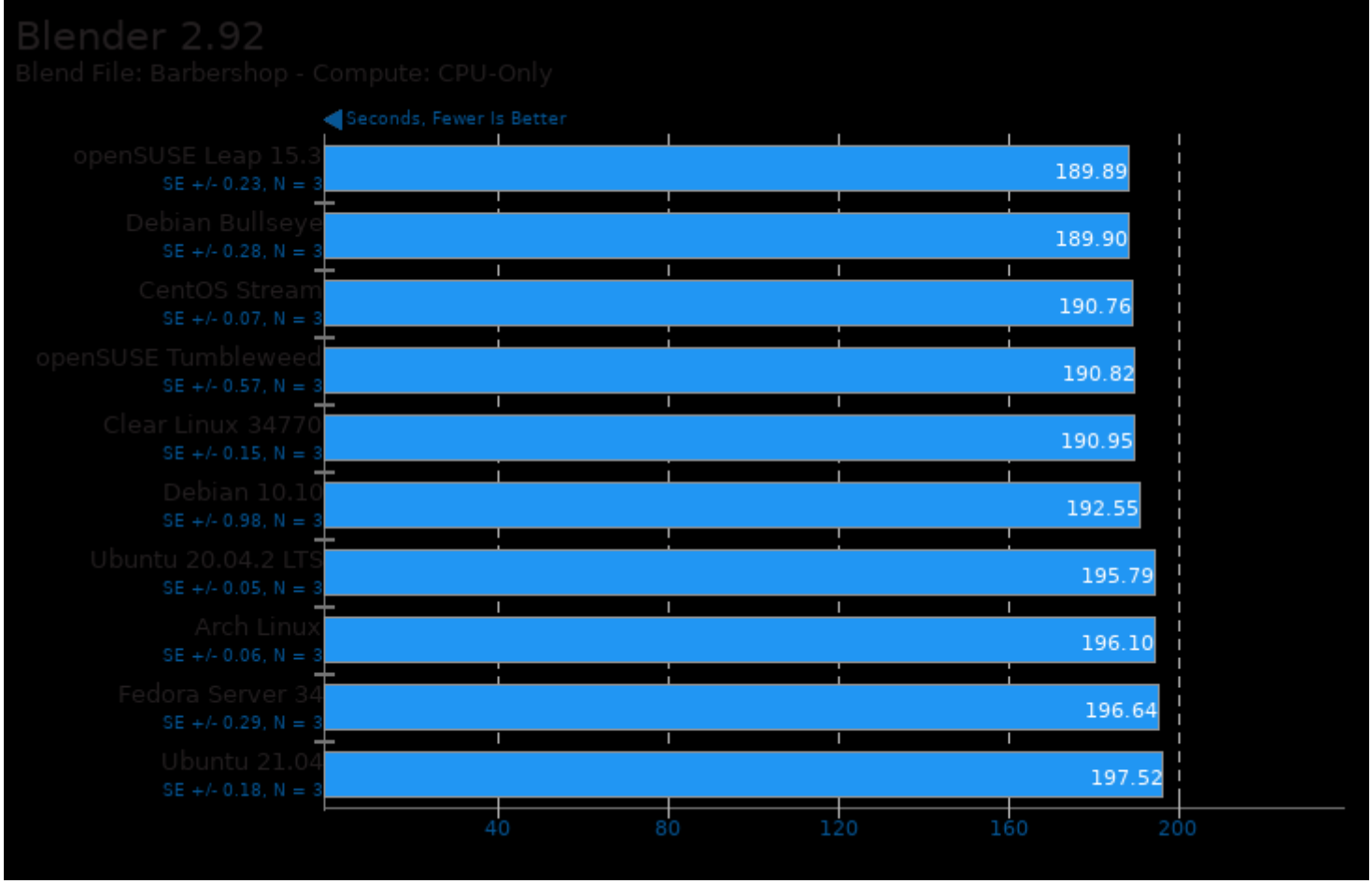

TNN 0.3
Target: CPU - Model: SqueezeNet v1.1
ms, Fewer Is Better
openSUSE Leap 15.3
SE +/- 0.59, N = 3
MIN: 265.47 / MAX: 267.82
266.81
Debian 10.10
SE +/- 0.36, N = 3
MIN: 267.47 / MAX: 295.77
268.00
Ubuntu 20.04.2 LTS
SE +/- 0.08, N = 3
MIN: 268.98 / MAX: 269.45
269.18
Debian Bullseye
SE +/- 0.57, N = 3
MIN: 268.62 / MAX: 270.75
269.36
CentOS Stream
SE +/- 0.12, N = 3
MIN: 269.22 / MAX: 269.91
269.47
Clear Linux 34770
SE +/- 0.09, N = 3
-pipe -fexceptions -fstack-protector -m64 -flat-lto-objects -fno-trapping-math -mtune=skylake - MIN: 270.03 / MAX: 270.92
270.35
openSUSE Tumbleweed
SE +/- 0.14, N = 3
MIN: 270.45 / MAX: 271.4
270.88
Arch Linux
SE +/- 0.05, N = 3
MIN: 270.85 / MAX: 271.35
271.07
Fedora Server 34
SE +/- 0.09, N = 3
MIN: 271.08 / MAX: 271.69
271.39
Ubuntu 21.04
SE +/- 0.03, N = 3
MIN: 277.01 / MAX: 283.06
277.58
60
120
180
240
300
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

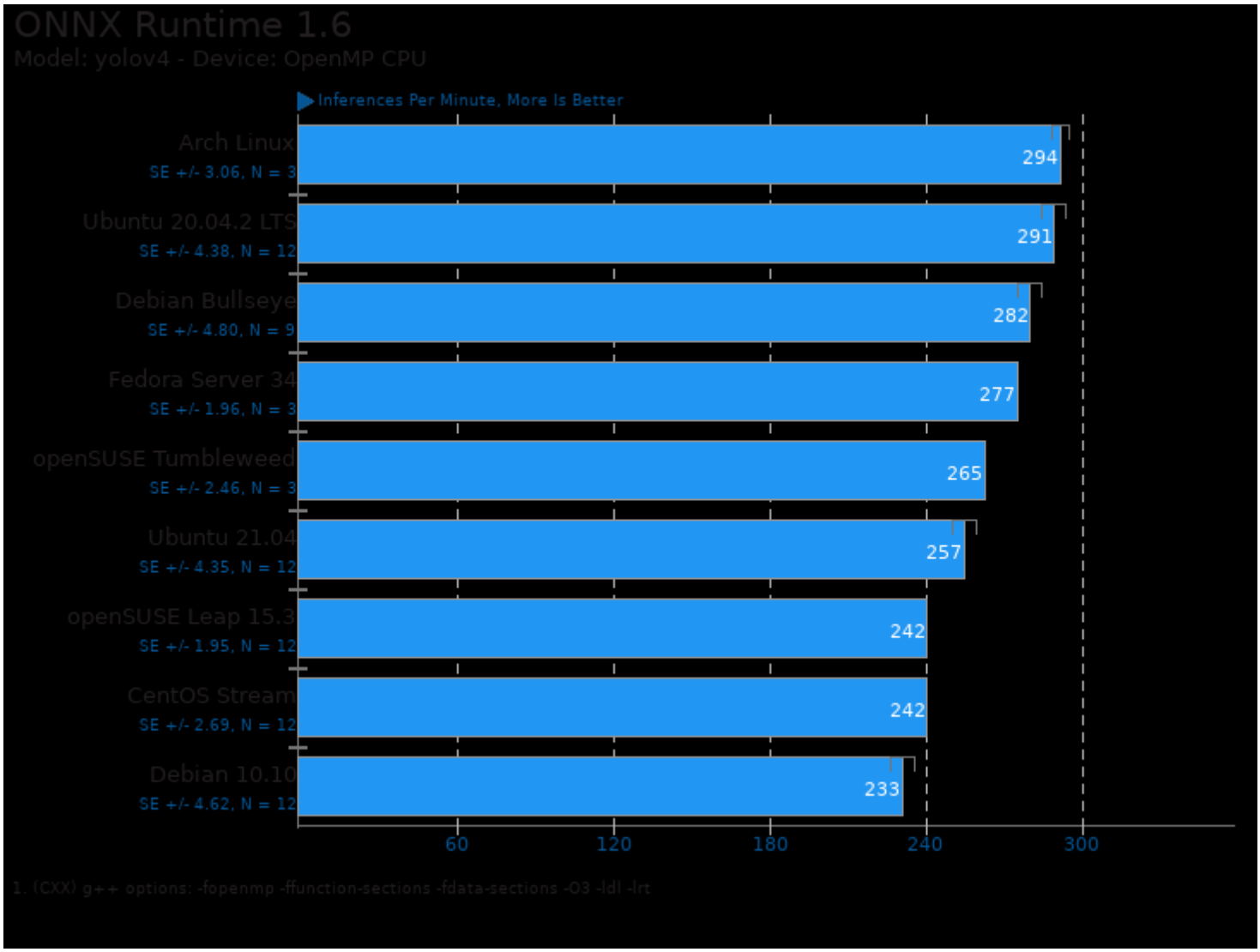

PlaidML
FP16: No - Mode: Inference - Network: VGG16 - Device: CPU
FPS, More Is Better
Clear Linux 34770
SE +/- 0.24, N = 3
34.20
openSUSE Tumbleweed
SE +/- 0.41, N = 3
34.18
Debian Bullseye
SE +/- 0.46, N = 3
33.87
CentOS Stream
SE +/- 0.27, N = 3
33.59
Debian 10.10
SE +/- 0.25, N = 3
33.54
openSUSE Leap 15.3
SE +/- 0.13, N = 3
33.34
Ubuntu 21.04
SE +/- 0.11, N = 3
27.43
Fedora Server 34
SE +/- 0.19, N = 3
26.96
Arch Linux
SE +/- 0.24, N = 3
26.94
Ubuntu 20.04.2 LTS
SE +/- 0.23, N = 3
26.73
8
16
24
32
40
PlaidML
FP16: No - Mode: Inference - Network: VGG19 - Device: CPU
FPS, More Is Better
openSUSE Tumbleweed
SE +/- 0.32, N = 3
28.58
Clear Linux 34770
SE +/- 0.26, N = 3
28.34
Debian 10.10
SE +/- 0.32, N = 3
27.95
CentOS Stream
SE +/- 0.25, N = 3
27.92
openSUSE Leap 15.3
SE +/- 0.34, N = 3
27.86
Debian Bullseye
SE +/- 0.24, N = 3
27.67
Arch Linux
SE +/- 0.11, N = 3
22.92
Ubuntu 21.04
SE +/- 0.15, N = 3
22.86
Ubuntu 20.04.2 LTS
SE +/- 0.19, N = 3
22.49
Fedora Server 34
SE +/- 0.23, N = 5
22.13
7
14
21
28
35

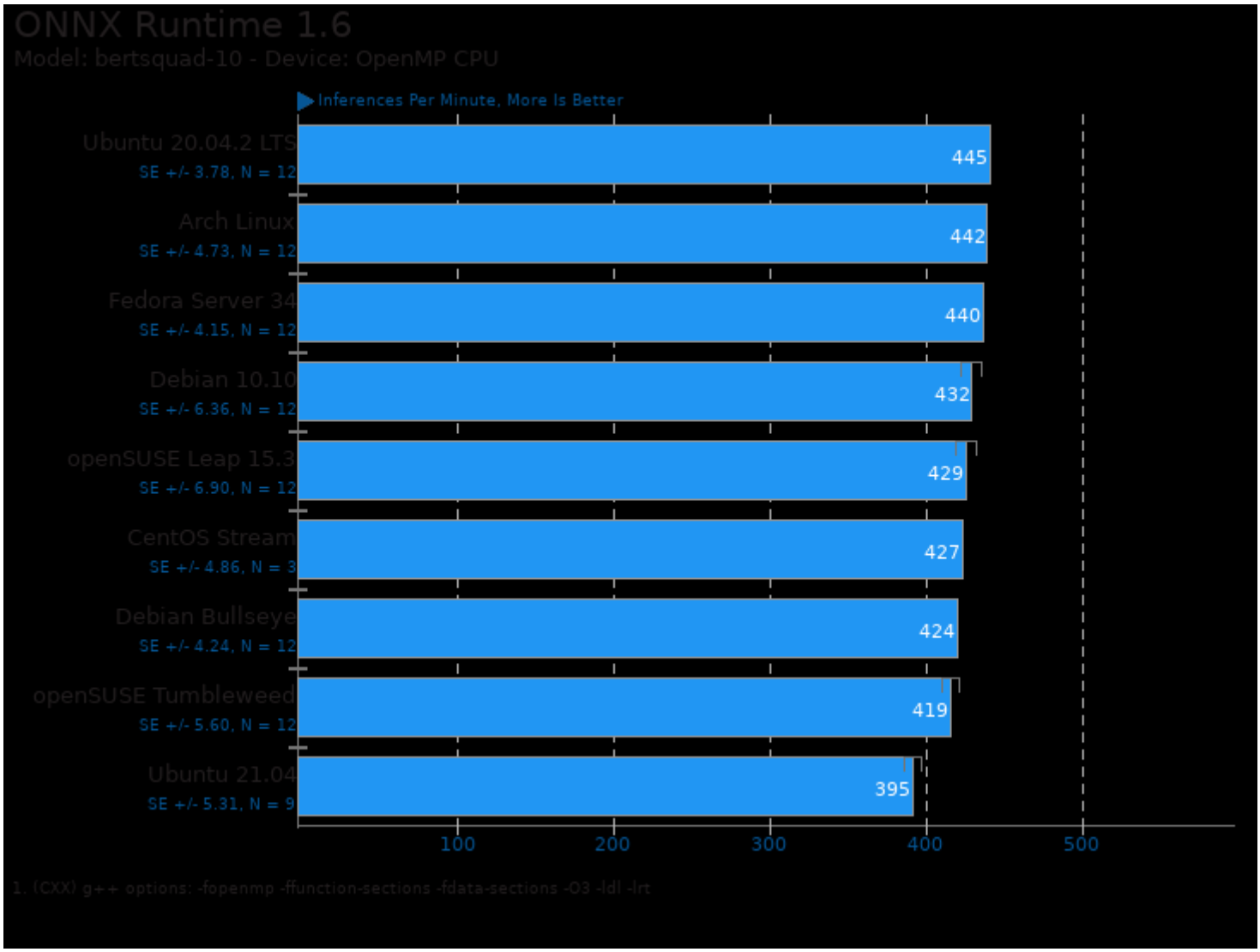

PlaidML
FP16: No - Mode: Inference - Network: ResNet 50 - Device: CPU
FPS, More Is Better
Debian Bullseye
SE +/- 0.02, N = 3
9.61
Debian 10.10
SE +/- 0.10, N = 3
9.60
Ubuntu 21.04
SE +/- 0.10, N = 4
9.38
Ubuntu 20.04.2 LTS
SE +/- 0.03, N = 3
9.04
Fedora Server 34
SE +/- 0.03, N = 3
8.59
Arch Linux
SE +/- 0.03, N = 3
8.45
Clear Linux 34770
SE +/- 0.05, N = 3
7.74
CentOS Stream
SE +/- 0.02, N = 3
7.59
openSUSE Leap 15.3
SE +/- 0.04, N = 3
7.51
openSUSE Tumbleweed
SE +/- 0.04, N = 3
7.36
3
6
9
12
15

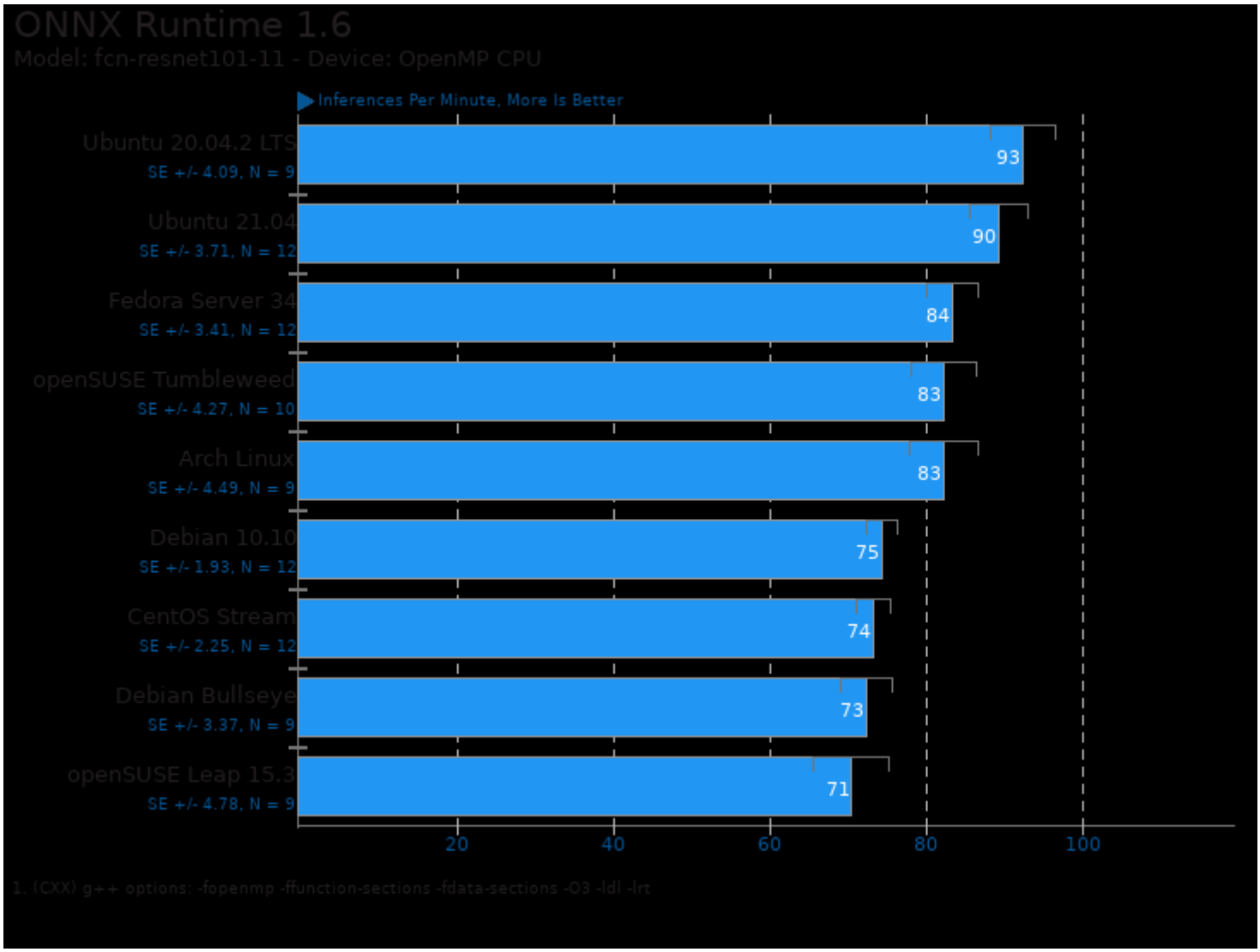

Blender 2.92
Blend File: BMW27 - Compute: CPU-Only
Seconds, Fewer Is Better
CentOS Stream
SE +/- 0.07, N = 3
52.25
Clear Linux 34770
SE +/- 0.02, N = 3
52.25
openSUSE Leap 15.3
SE +/- 0.01, N = 3
52.38
Debian 10.10
SE +/- 0.05, N = 3
52.44
openSUSE Tumbleweed
SE +/- 0.14, N = 3
52.47
Debian Bullseye
SE +/- 0.05, N = 3
52.55
Ubuntu 20.04.2 LTS
SE +/- 0.06, N = 3
52.85
Fedora Server 34
SE +/- 0.09, N = 3
53.13
Arch Linux
SE +/- 0.05, N = 3
53.17
Ubuntu 21.04
SE +/- 0.11, N = 3
53.59
12
24
36
48
60

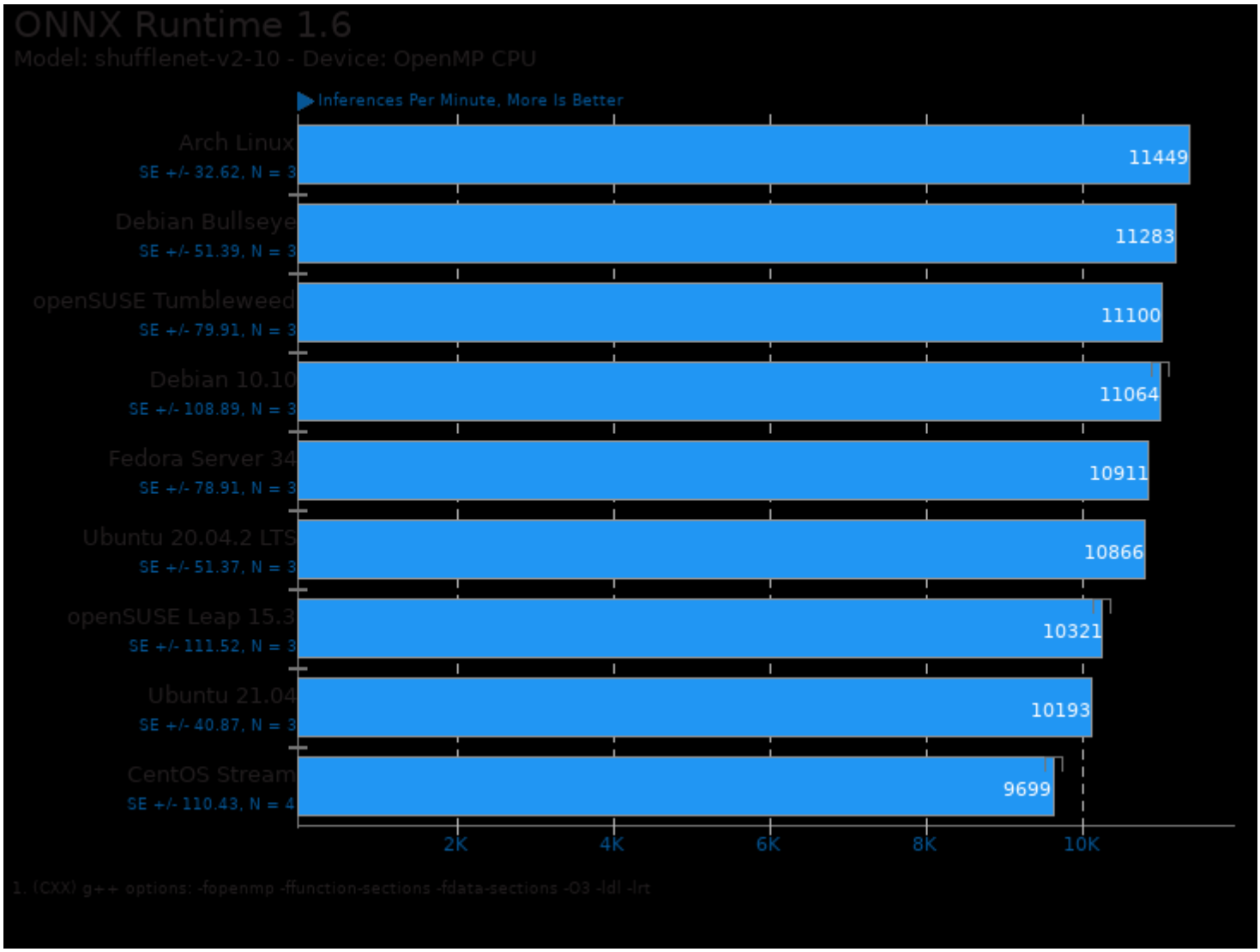

Blender 2.92
Blend File: Classroom - Compute: CPU-Only
Seconds, Fewer Is Better
Debian Bullseye
SE +/- 0.13, N = 3
145.38
openSUSE Tumbleweed
SE +/- 0.28, N = 3
145.39
openSUSE Leap 15.3
SE +/- 0.27, N = 3
145.40
Clear Linux 34770
SE +/- 0.38, N = 3
145.82
Debian 10.10
SE +/- 0.27, N = 3
146.09
CentOS Stream
SE +/- 0.15, N = 3
146.29
Arch Linux
SE +/- 0.11, N = 3
146.41
Ubuntu 20.04.2 LTS
SE +/- 0.13, N = 3
146.51
Fedora Server 34
SE +/- 0.10, N = 3
146.65
Ubuntu 21.04
SE +/- 0.07, N = 3
147.55
30
60
90
120
150

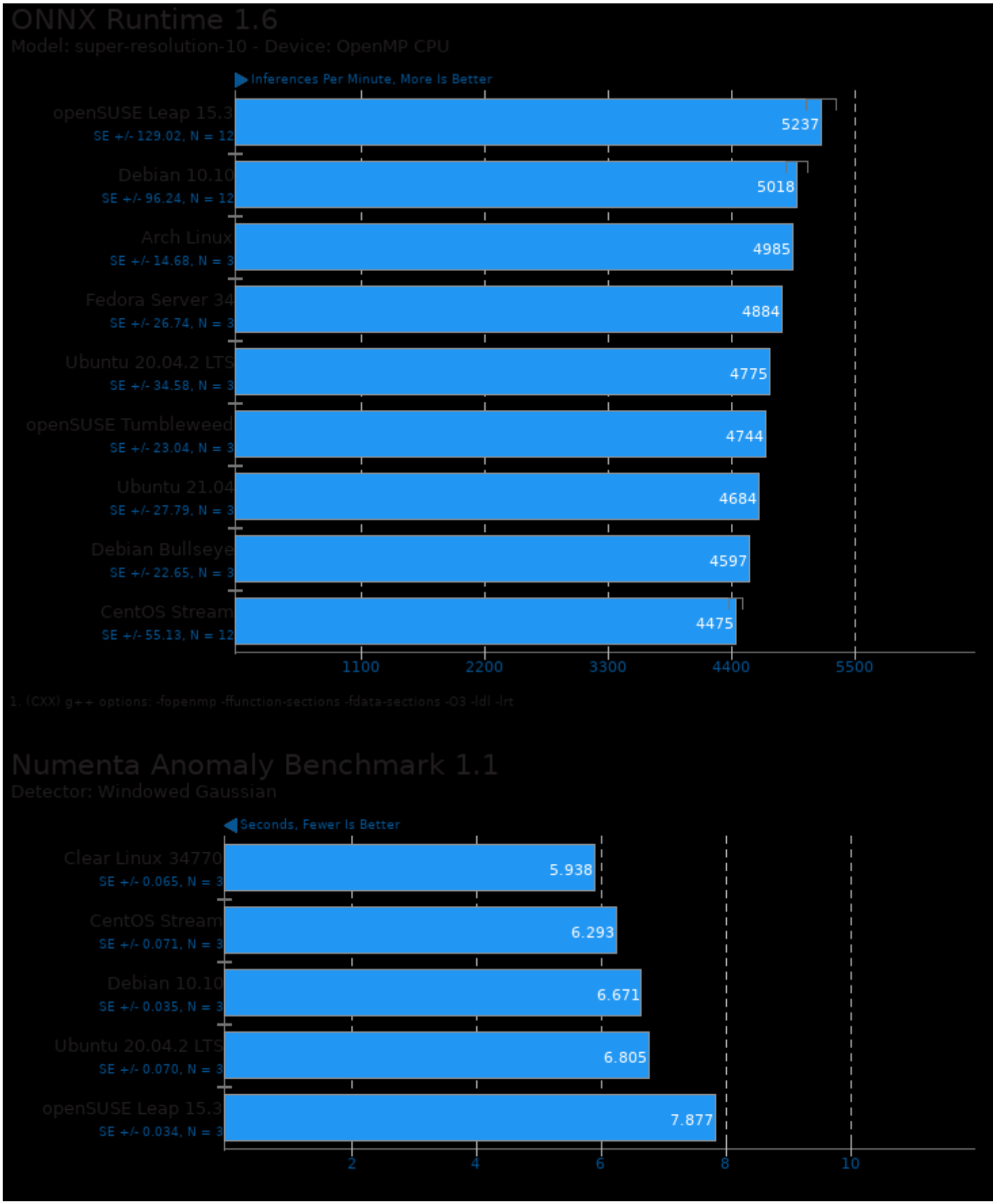

Blender 2.92
Blend File: Barbershop - Compute: CPU-Only
Seconds, Fewer Is Better
openSUSE Leap 15.3
SE +/- 0.23, N = 3
189.89
Debian Bullseye
SE +/- 0.28, N = 3
189.90
CentOS Stream
SE +/- 0.07, N = 3
190.76
openSUSE Tumbleweed
SE +/- 0.57, N = 3
190.82
Clear Linux 34770
SE +/- 0.15, N = 3
190.95
Debian 10.10
SE +/- 0.98, N = 3
192.55
Ubuntu 20.04.2 LTS
SE +/- 0.05, N = 3
195.79
Arch Linux
SE +/- 0.06, N = 3
196.10
Fedora Server 34
SE +/- 0.29, N = 3
196.64
Ubuntu 21.04
SE +/- 0.18, N = 3
197.52
40
80
120
160
200

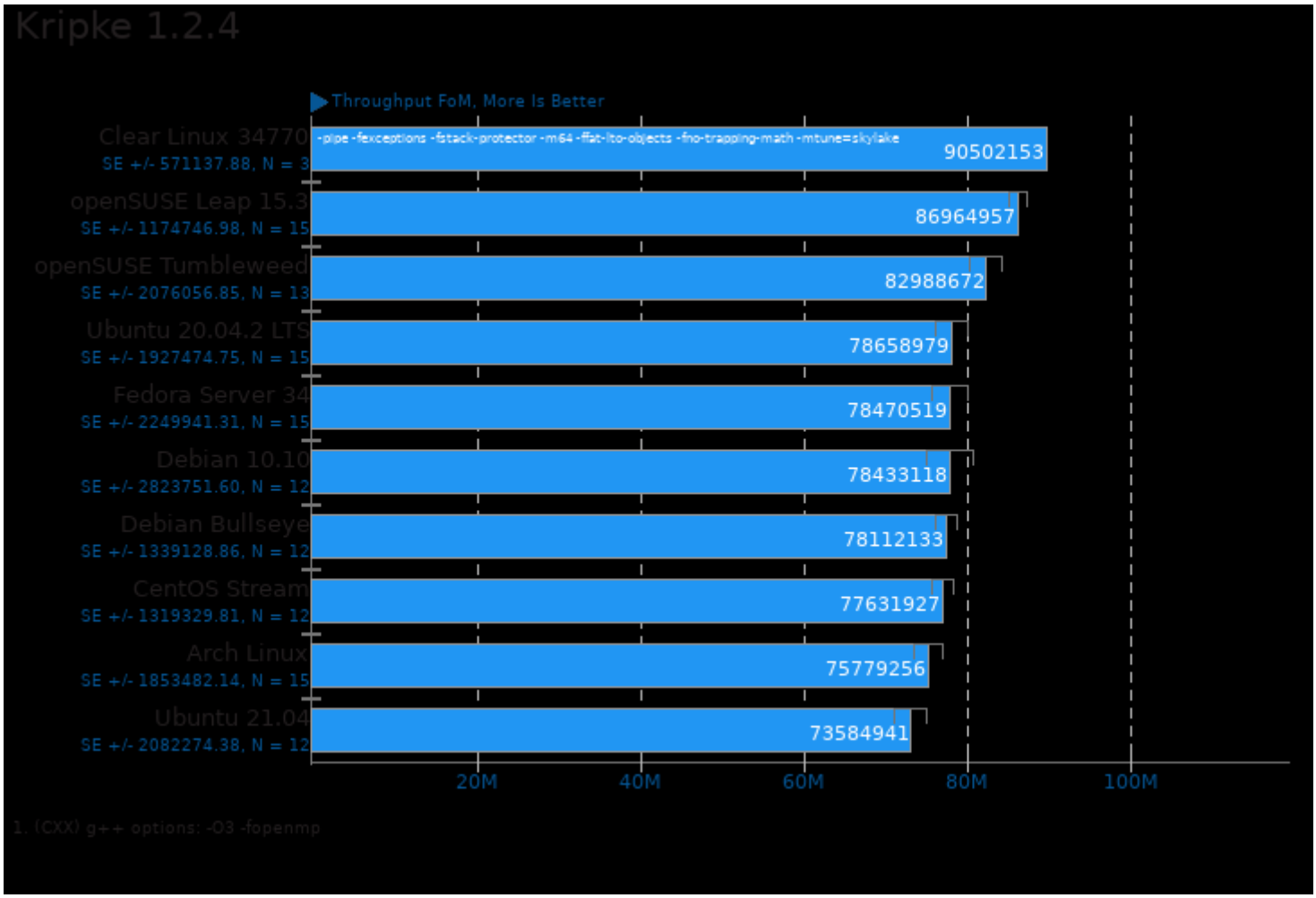

ONNX Runtime 1.6
Model: yolov4 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
Arch Linux
SE +/- 3.06, N = 3
294
Ubuntu 20.04.2 LTS
SE +/- 4.38, N = 12
291
Debian Bullseye
SE +/- 4.80, N = 9
282
Fedora Server 34
SE +/- 1.96, N = 3
277
openSUSE Tumbleweed
SE +/- 2.46, N = 3
265
Ubuntu 21.04
SE +/- 4.35, N = 12
257
openSUSE Leap 15.3
SE +/- 1.95, N = 12
242
CentOS Stream
SE +/- 2.69, N = 12
242
Debian 10.10
SE +/- 4.62, N = 12
233
60
120
180
240
300
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

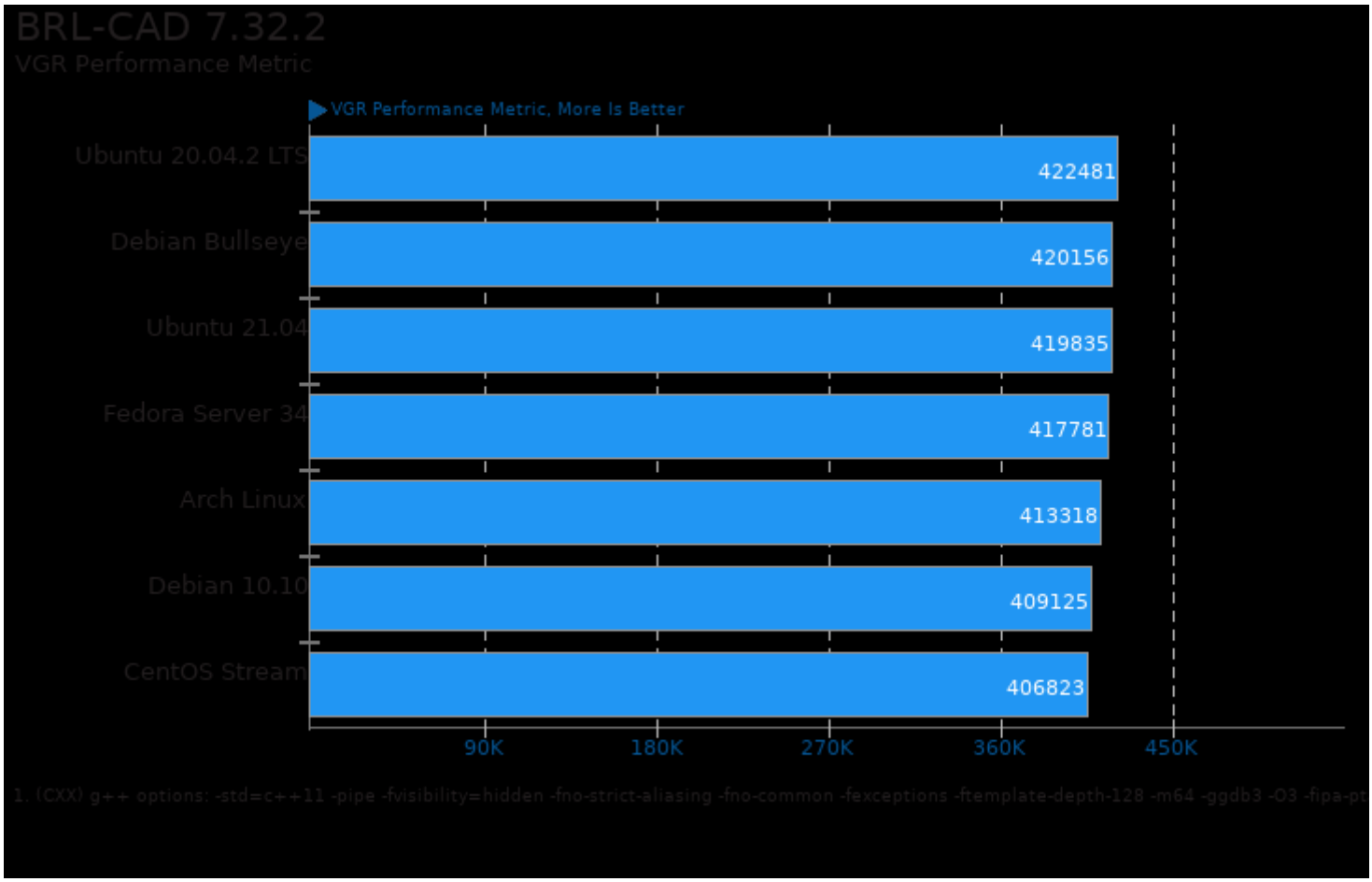

ONNX Runtime 1.6
Model: bertsquad-10 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
Ubuntu 20.04.2 LTS
SE +/- 3.78, N = 12
445
Arch Linux
SE +/- 4.73, N = 12
442
Fedora Server 34
SE +/- 4.15, N = 12
440
Debian 10.10
SE +/- 6.36, N = 12
432
openSUSE Leap 15.3
SE +/- 6.90, N = 12
429
CentOS Stream
SE +/- 4.86, N = 3
427
Debian Bullseye
SE +/- 4.24, N = 12
424
openSUSE Tumbleweed
SE +/- 5.60, N = 12
419
Ubuntu 21.04
SE +/- 5.31, N = 9
395
100
200
300
400
500
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt


ONNX Runtime 1.6
Model: fcn-resnet101-11 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
Ubuntu 20.04.2 LTS
SE +/- 4.09, N = 9
93
Ubuntu 21.04
SE +/- 3.71, N = 12
90
Fedora Server 34
SE +/- 3.41, N = 12
84
openSUSE Tumbleweed
SE +/- 4.27, N = 10
83
Arch Linux
SE +/- 4.49, N = 9
83
Debian 10.10
SE +/- 1.93, N = 12
75
CentOS Stream
SE +/- 2.25, N = 12
74
Debian Bullseye
SE +/- 3.37, N = 9
73
openSUSE Leap 15.3
SE +/- 4.78, N = 9
71
20
40
60
80
100
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

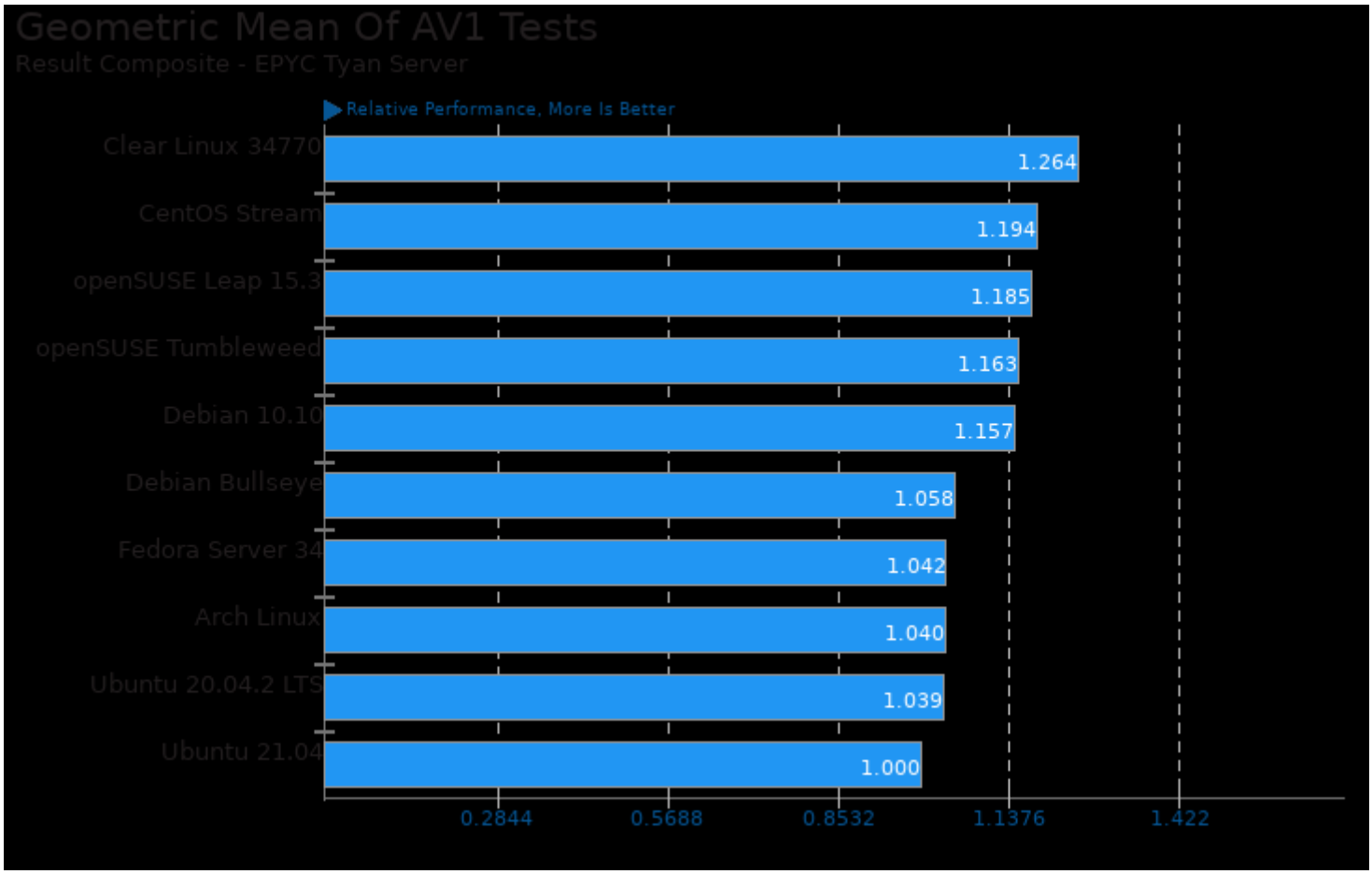

ONNX Runtime 1.6
Model: shufflenet-v2-10 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
Arch Linux
SE +/- 32.62, N = 3
11449
Debian Bullseye
SE +/- 51.39, N = 3
11283
openSUSE Tumbleweed
SE +/- 79.91, N = 3
11100
Debian 10.10
SE +/- 108.89, N = 3
11064
Fedora Server 34
SE +/- 78.91, N = 3
10911
Ubuntu 20.04.2 LTS
SE +/- 51.37, N = 3
10866
openSUSE Leap 15.3
SE +/- 111.52, N = 3
10321
Ubuntu 21.04
SE +/- 40.87, N = 3
10193
CentOS Stream
SE +/- 110.43, N = 4
9699
2K
4K
6K
8K
10K
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt


ONNX Runtime 1.6
Model: super-resolution-10 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
openSUSE Leap 15.3
SE +/- 129.02, N = 12
5237
Debian 10.10
SE +/- 96.24, N = 12
5018
Arch Linux
SE +/- 14.68, N = 3
4985
Fedora Server 34
SE +/- 26.74, N = 3
4884
Ubuntu 20.04.2 LTS
SE +/- 34.58, N = 3
4775
openSUSE Tumbleweed
SE +/- 23.04, N = 3
4744
Ubuntu 21.04
SE +/- 27.79, N = 3
4684
Debian Bullseye
SE +/- 22.65, N = 3
4597
CentOS Stream
SE +/- 55.13, N = 12
4475
1100
2200
3300
4400
5500
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt
Numenta Anomaly Benchmark 1.1
Detector: Windowed Gaussian
Seconds, Fewer Is Better
Clear Linux 34770
SE +/- 0.065, N = 3
5.938
CentOS Stream
SE +/- 0.071, N = 3
6.293
Debian 10.10
SE +/- 0.035, N = 3
6.671
Ubuntu 20.04.2 LTS
SE +/- 0.070, N = 3
6.805
openSUSE Leap 15.3
SE +/- 0.034, N = 3
7.877
2
4
6
8
10

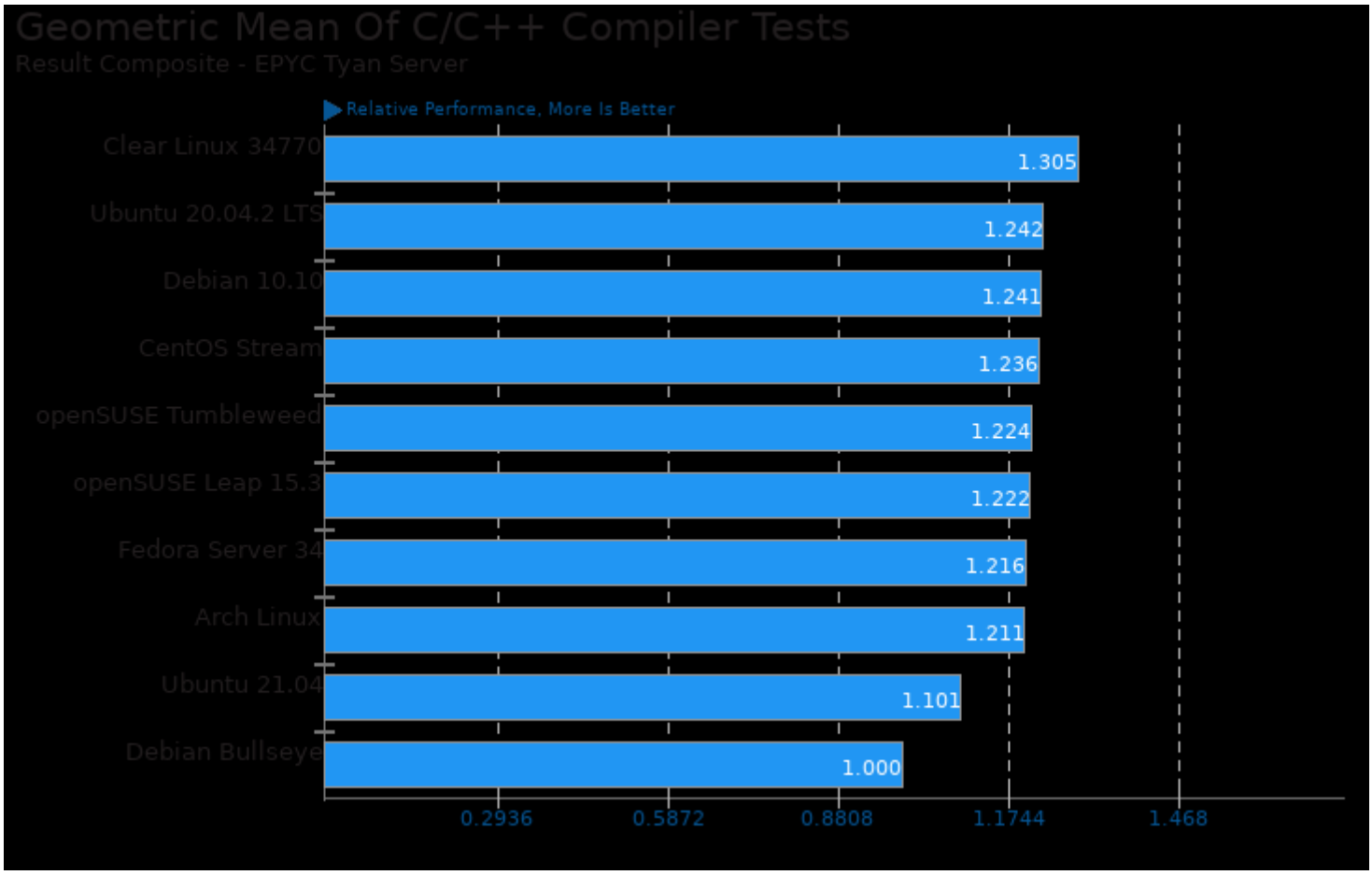

Kripke 1.2.4
Throughput FoM, More Is Better
-pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake
Clear Linux 34770
SE +/- 571137.88, N = 3
90502153
openSUSE Leap 15.3
SE +/- 1174746.98, N = 15
86964957
openSUSE Tumbleweed
SE +/- 2076056.85, N = 13
82988672
Ubuntu 20.04.2 LTS
SE +/- 1927474.75, N = 15
78658979
Fedora Server 34
SE +/- 2249941.31, N = 15
78470519
Debian 10.10
SE +/- 2823751.60, N = 12
78433118
Debian Bullseye
SE +/- 1339128.86, N = 12
78112133
CentOS Stream
SE +/- 1319329.81, N = 12
77631927
Arch Linux
SE +/- 1853482.14, N = 15
75779256
Ubuntu 21.04
SE +/- 2082274.38, N = 12
73584941
20M
40M
60M
80M
100M
1. (CXX) g++ options: -O3 -fopenmp


BRL-CAD 7.32.2
VGR Performance Metric
VGR Performance Metric, More Is Better
Ubuntu 20.04.2 LTS
422481
Debian Bullseye
420156
Ubuntu 21.04
419835
Fedora Server 34
417781
Arch Linux
413318
Debian 10.10
409125
CentOS Stream
406823
90K
180K
270K
360K
450K
1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pt

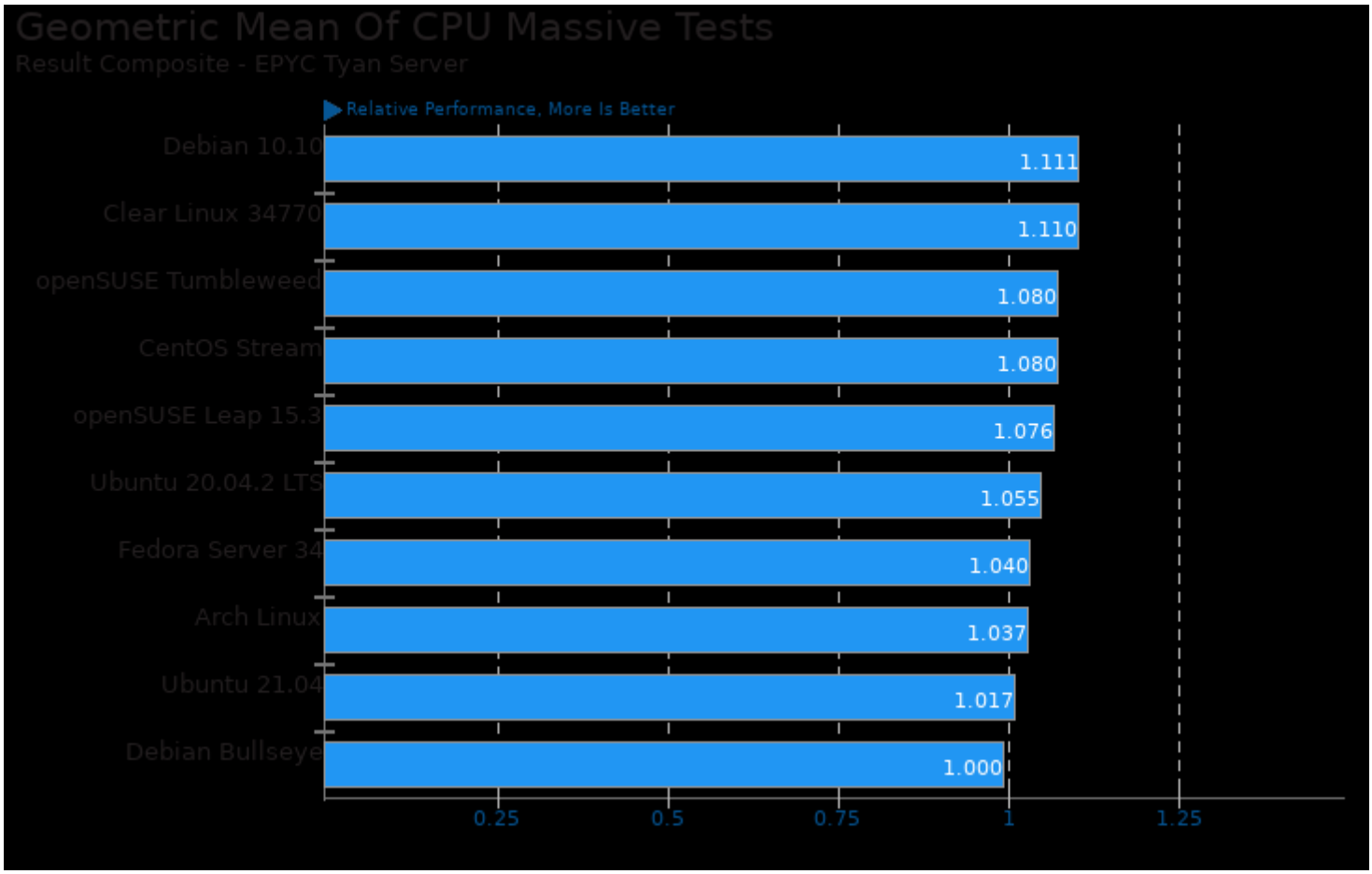
These geometric means are based upon test groupings / test suites for this result file.



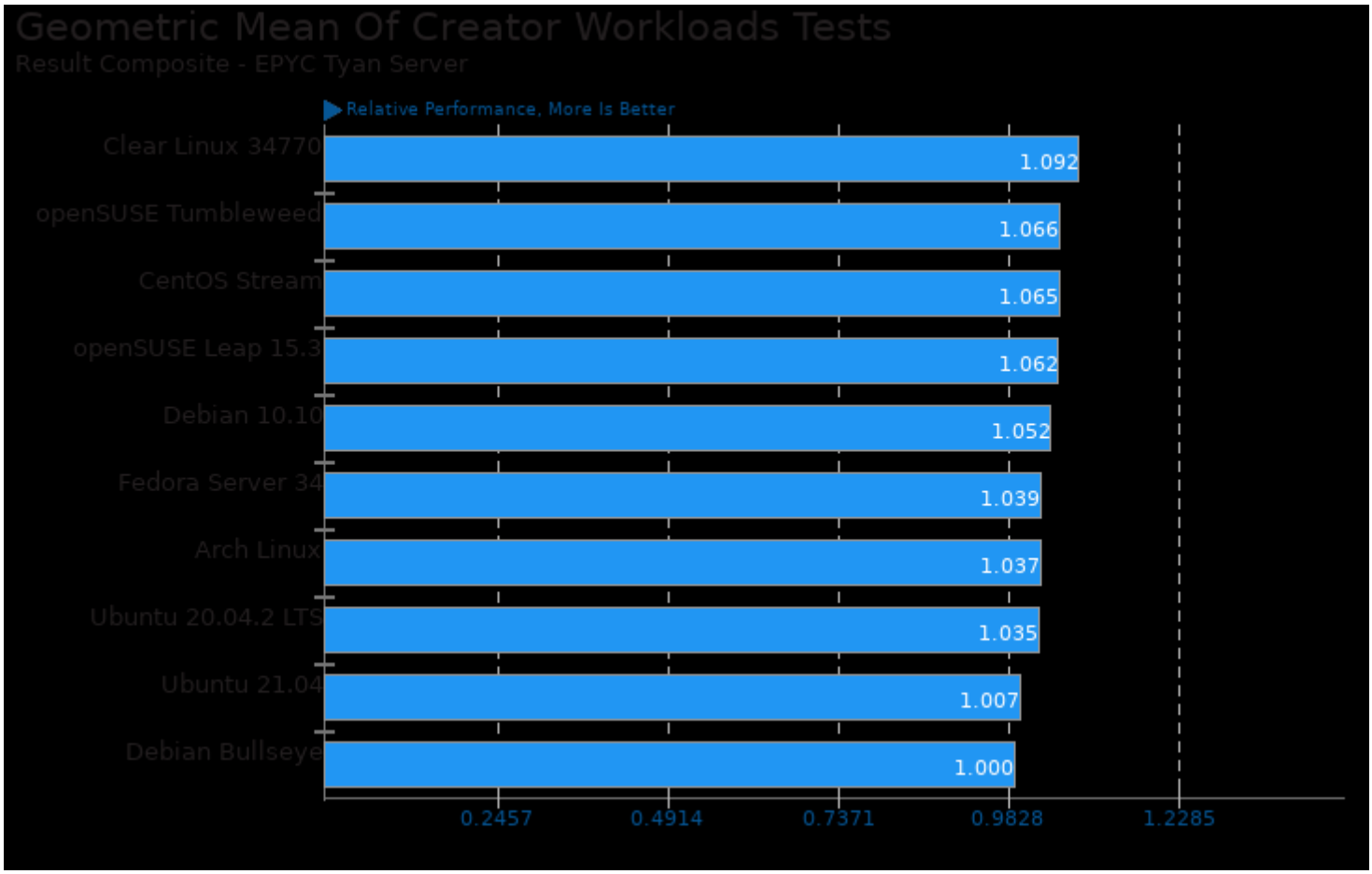
Geometric mean based upon tests: pts/svt-av1 and pts/avifenc



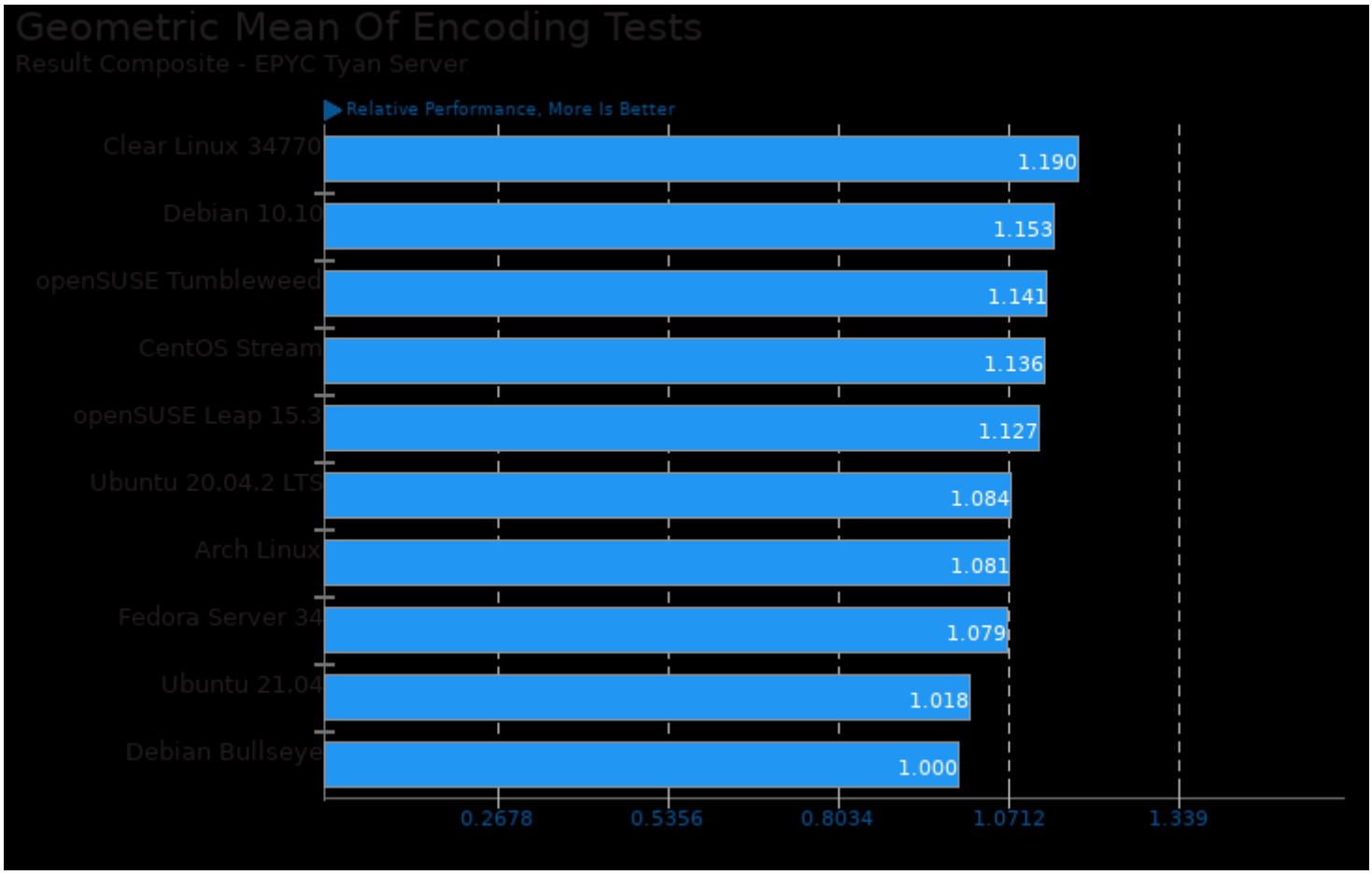
Geometric mean based upon tests: pts/vpxenc, pts/build-llvm, pts/svt-av1, pts/svt-vp9 and pts/gromacs



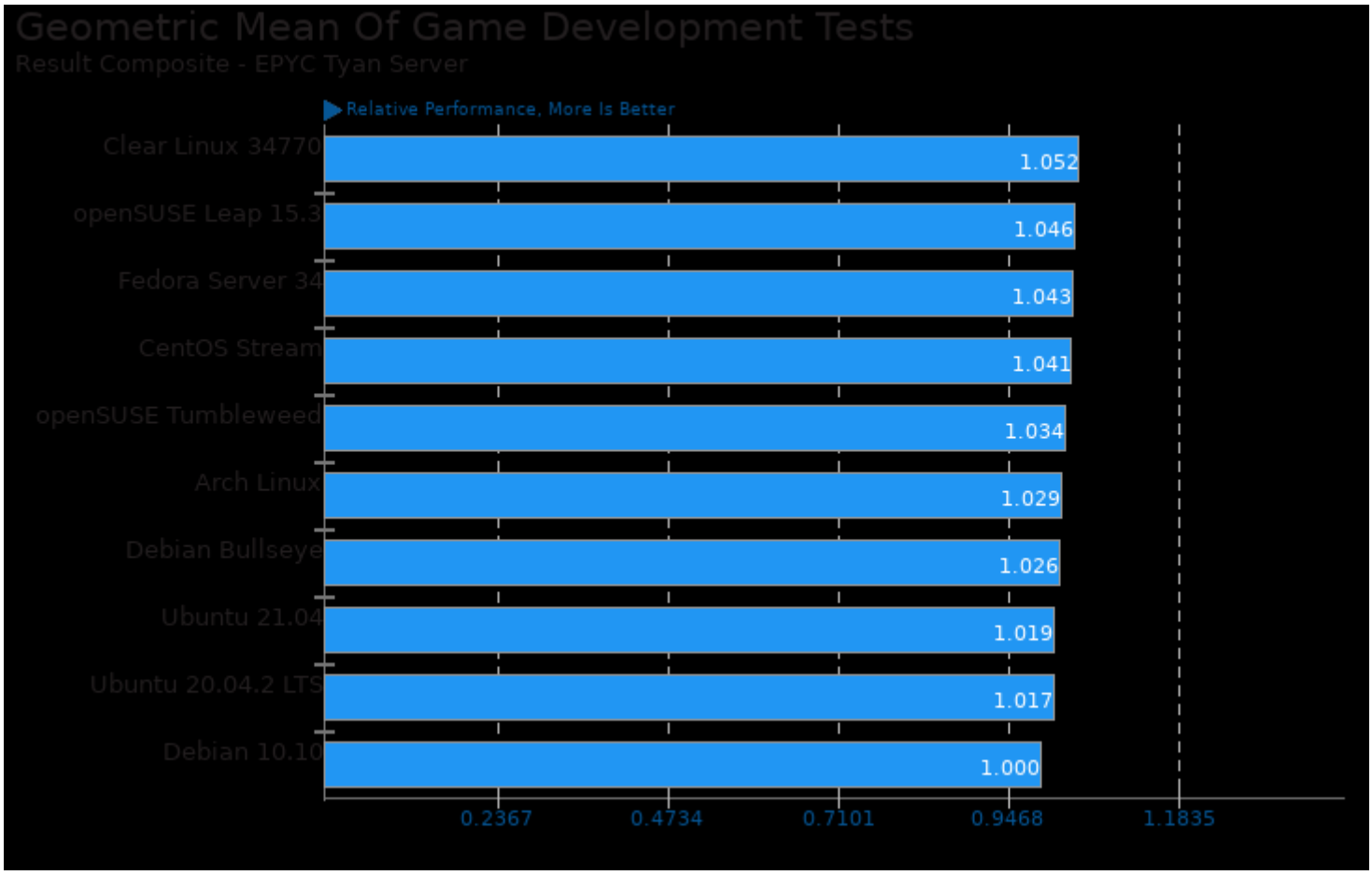
Geometric mean based upon tests: pts/brl-cad, pts/build-llvm, pts/build-linux-kernel, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/vpxenc, pts/hpcg, pts/namd, pts/npb, pts/numenta-nab, pts/plaidml and pts/blender



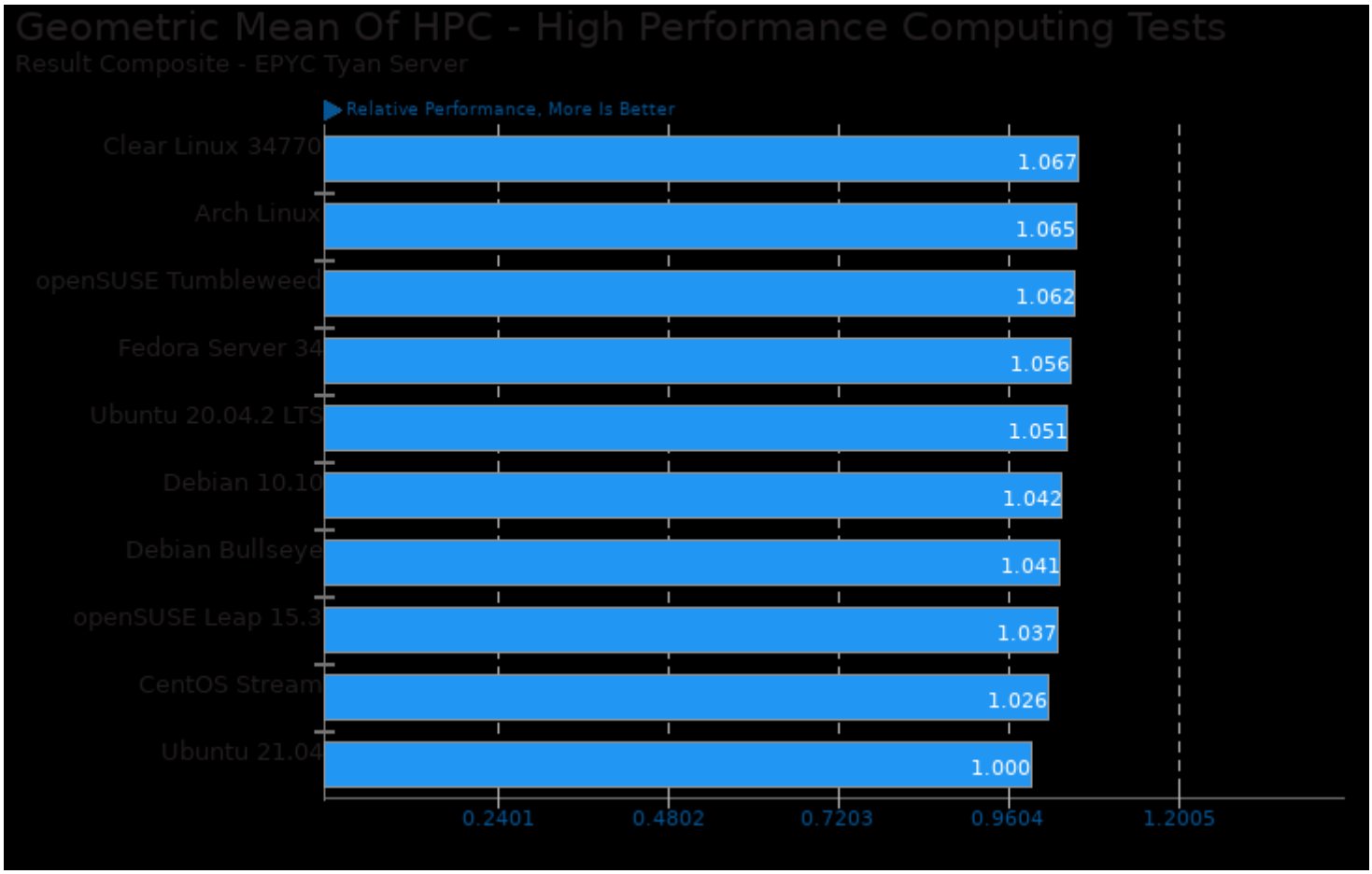
Geometric mean based upon tests: pts/ospray, pts/blender, pts/luxcorerender, pts/svt-vp9, pts/svt-hevc, pts/vpxenc, pts/svt-av1, pts/avifenc, pts/embree, pts/oidn, pts/openvkl, pts/astcenc, pts/build-godot and pts/brl-cad



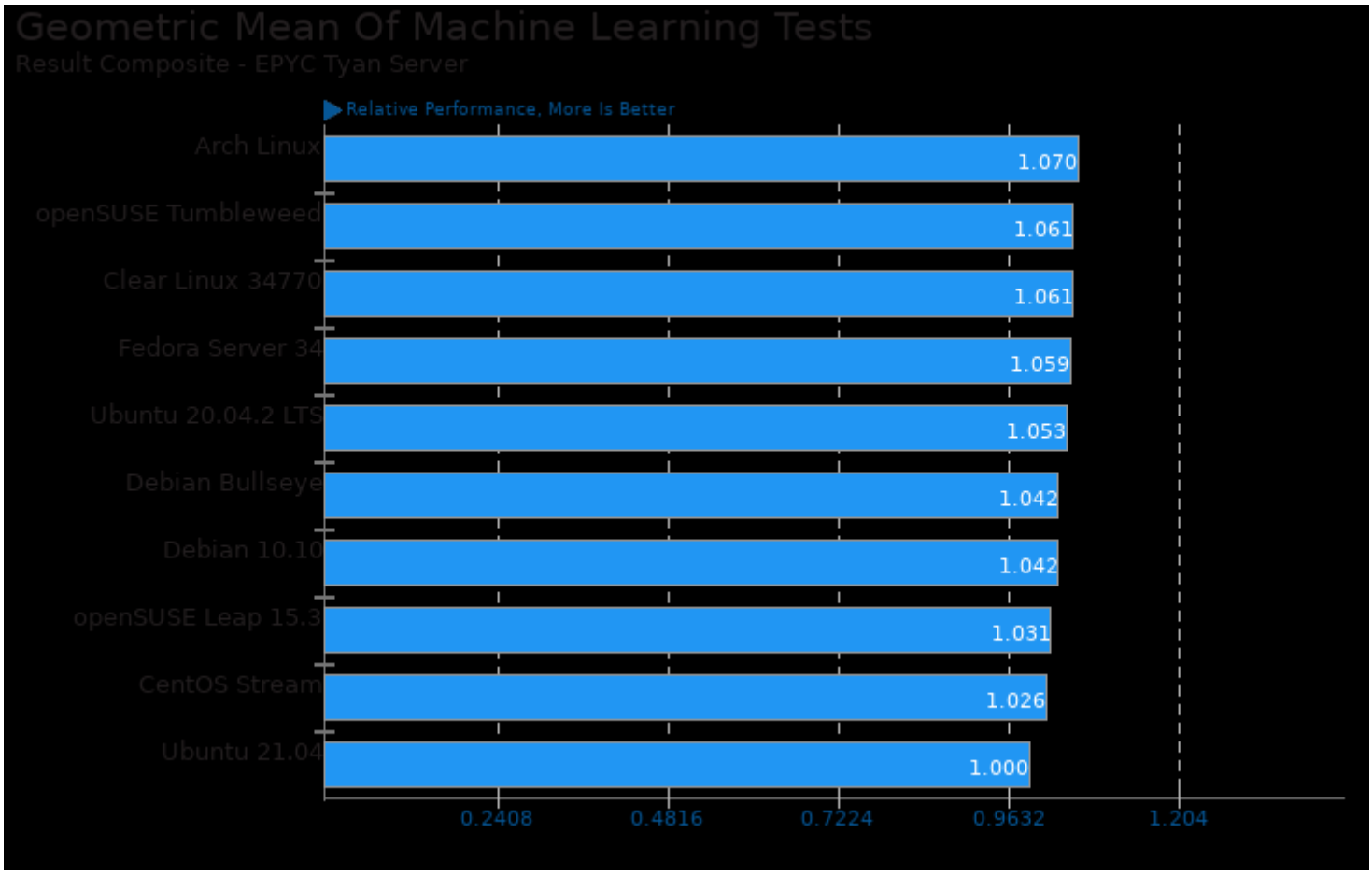
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/vpxenc, pts/svt-av1 and pts/avifenc



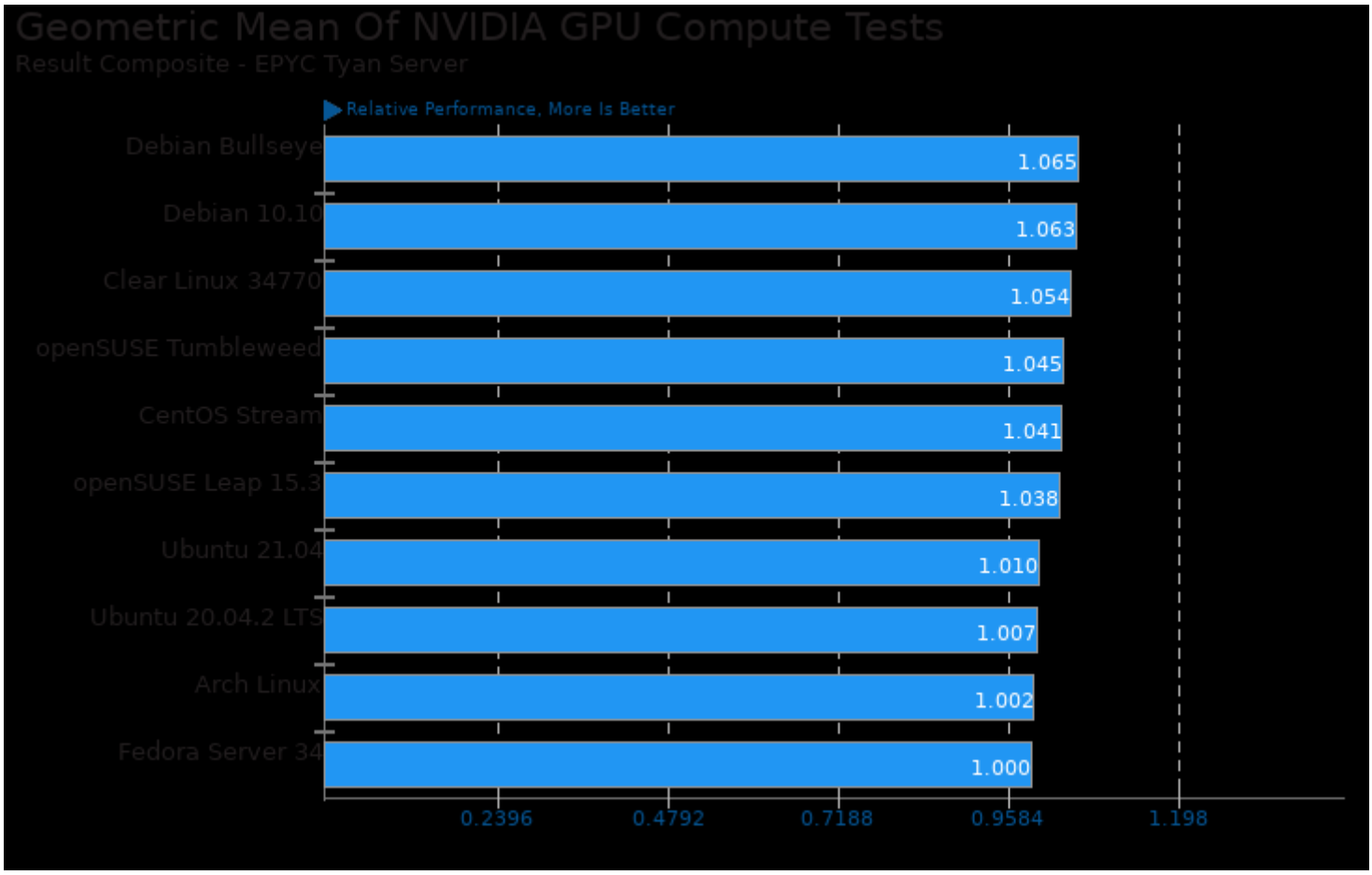
Geometric mean based upon tests: pts/astcenc, pts/build-godot, pts/blender, pts/oidn and pts/openvkl



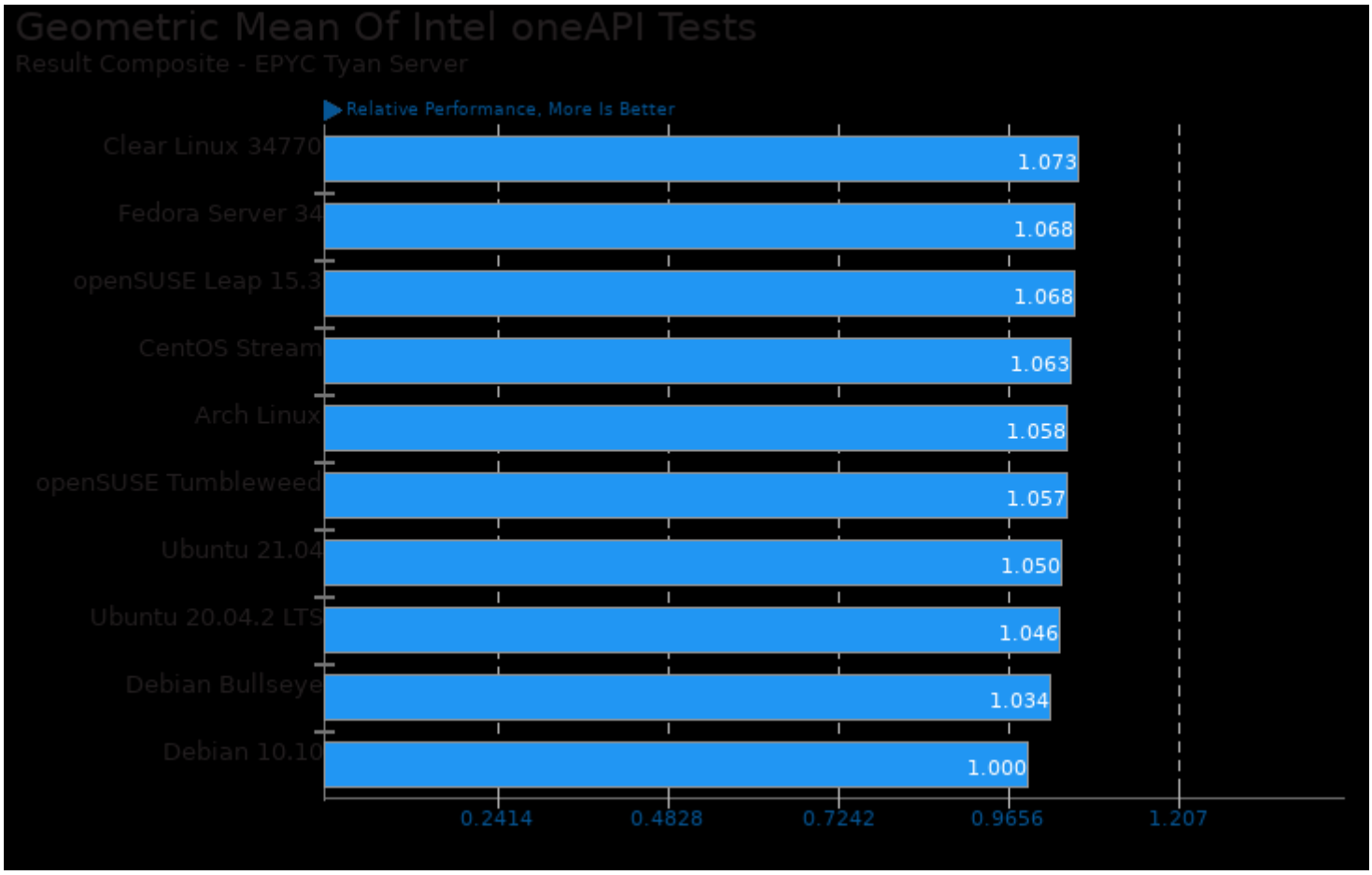
Geometric mean based upon tests: pts/npb, pts/hpcg, pts/namd, pts/gromacs, pts/minife, pts/incompact3d, pts/kripke, pts/mnn, pts/tnn, pts/numenta-nab, pts/tensorflow-lite, pts/onnx and pts/plaidml



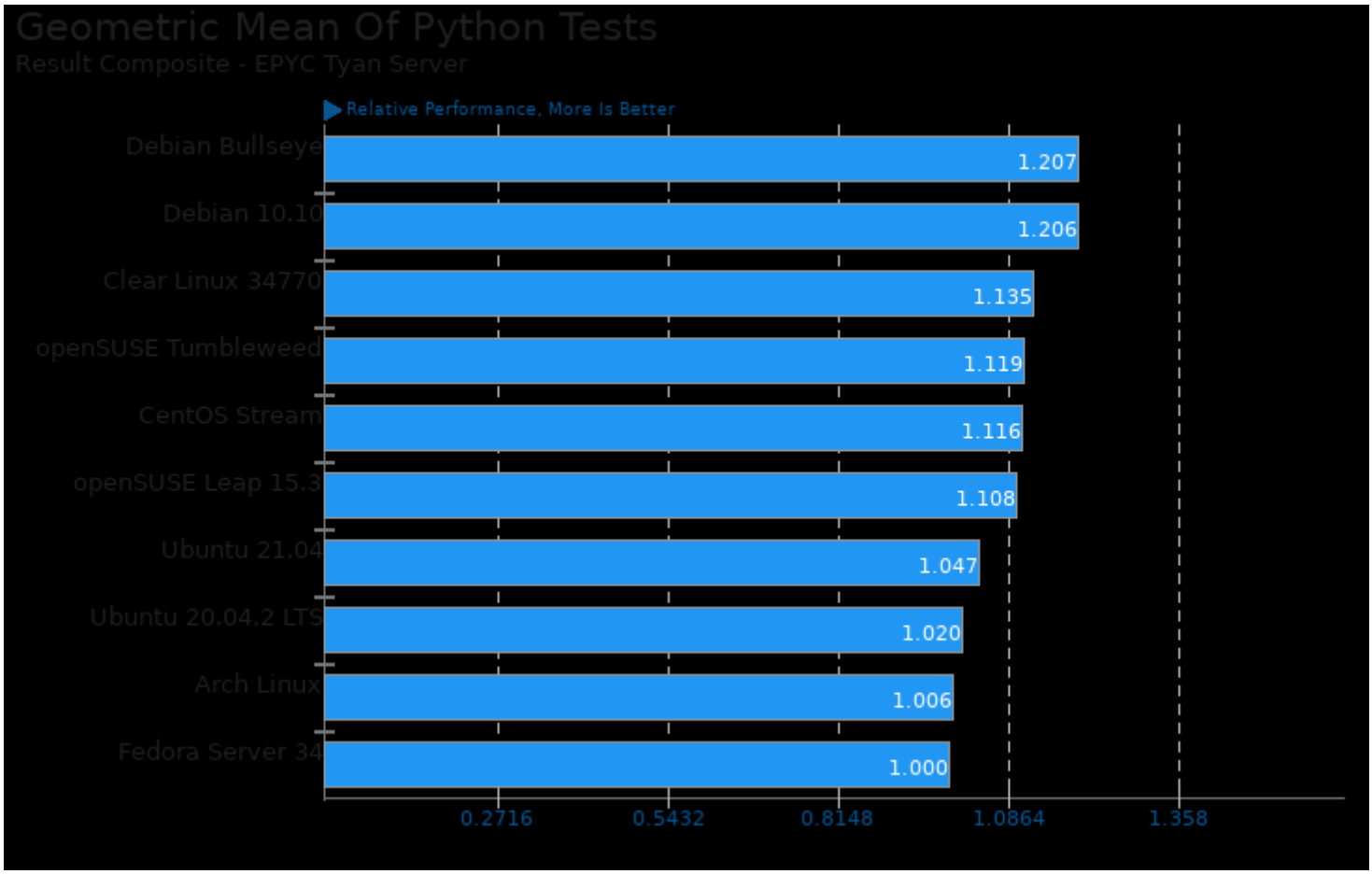
Geometric mean based upon tests: pts/mnn, pts/tnn, pts/numenta-nab, pts/tensorflow-lite, pts/onnx and pts/plaidml



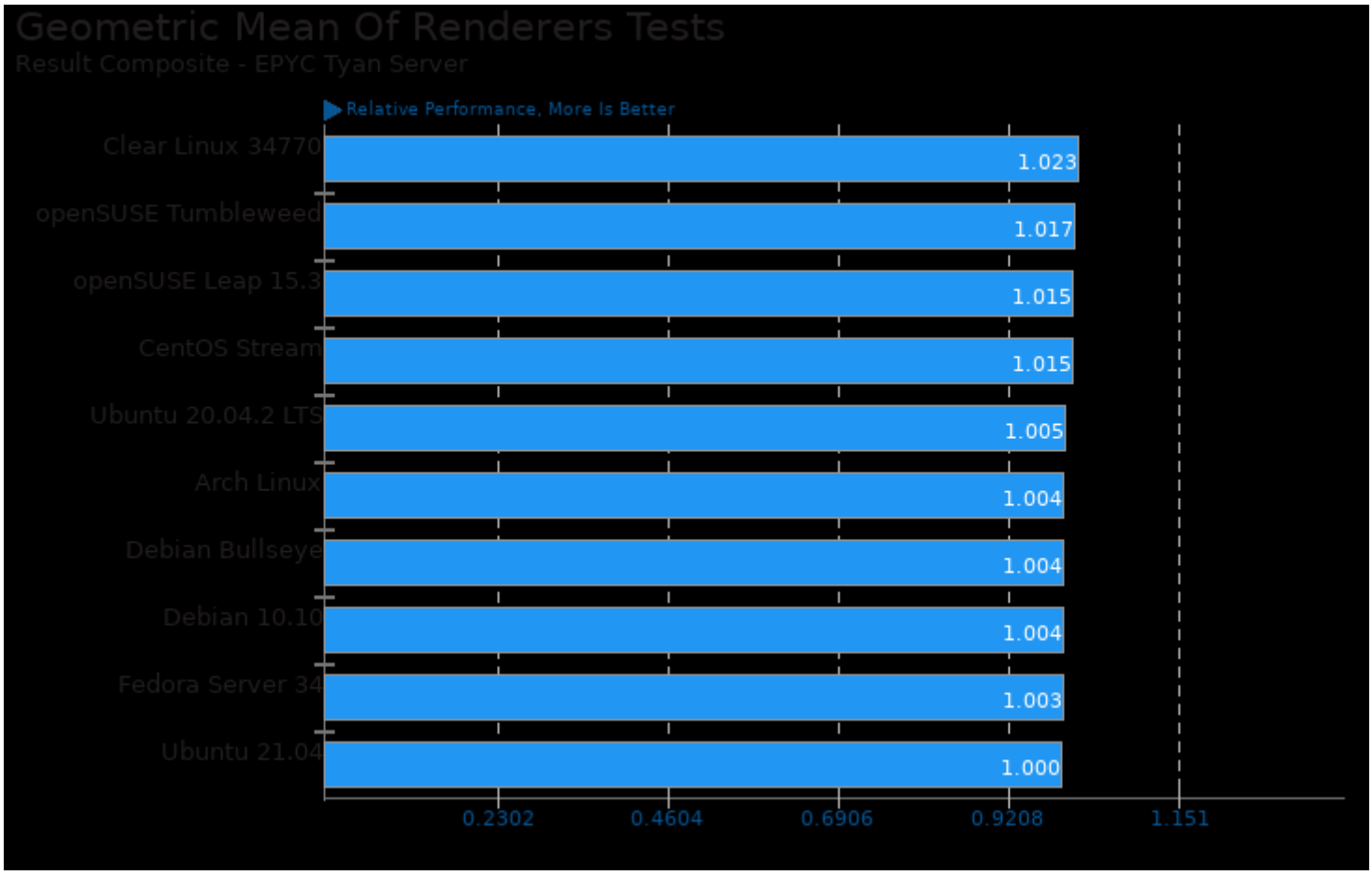
Geometric mean based upon tests: pts/gromacs, pts/luxcorerender, pts/plaidml and pts/blender



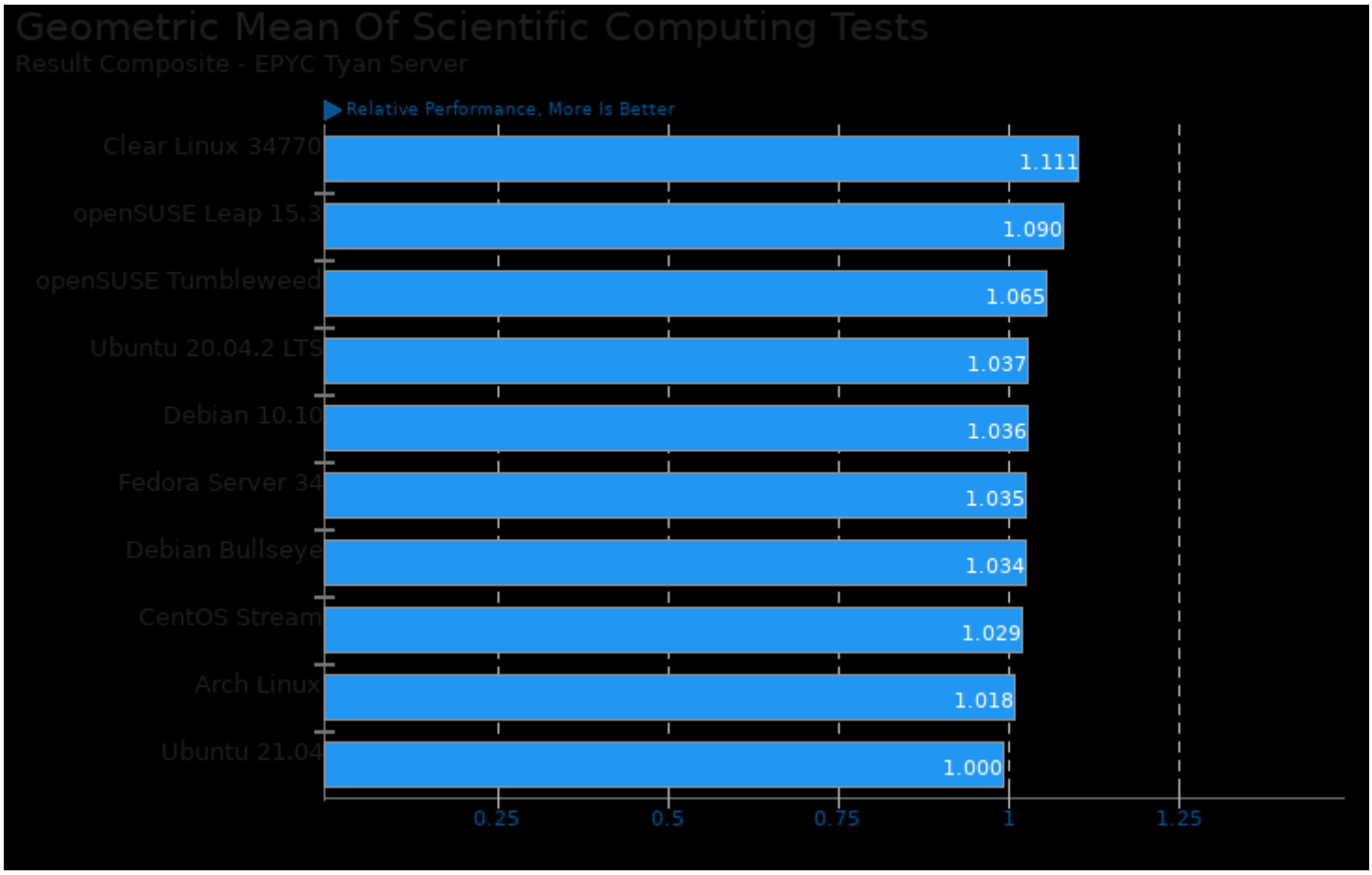
Geometric mean based upon tests: pts/embree, pts/oidn, pts/ospray and pts/openvkl



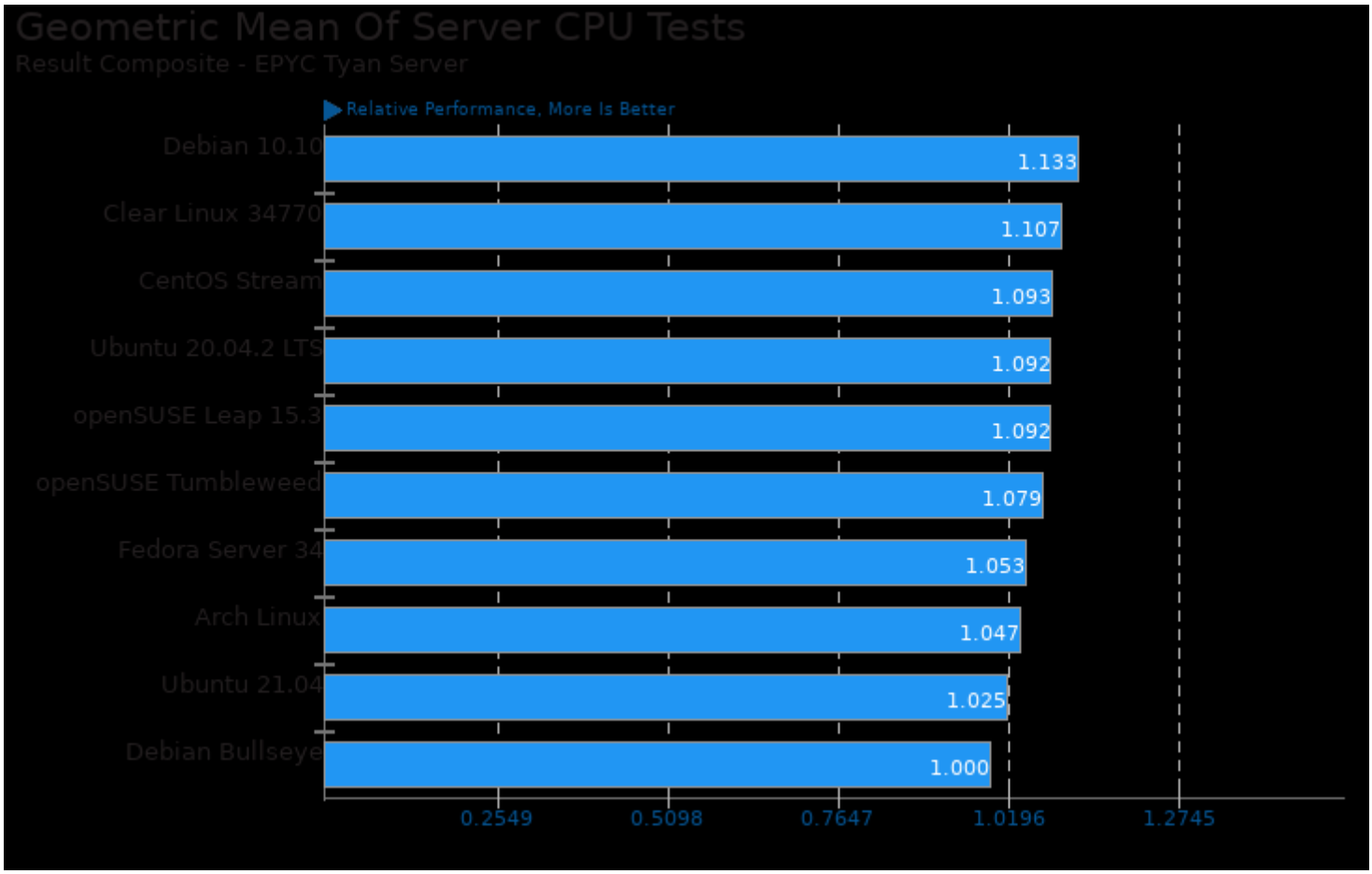
Geometric mean based upon tests: pts/build-godot, pts/build-llvm, pts/build-nodejs, pts/plaidml, pts/onnx and pts/numenta-nab



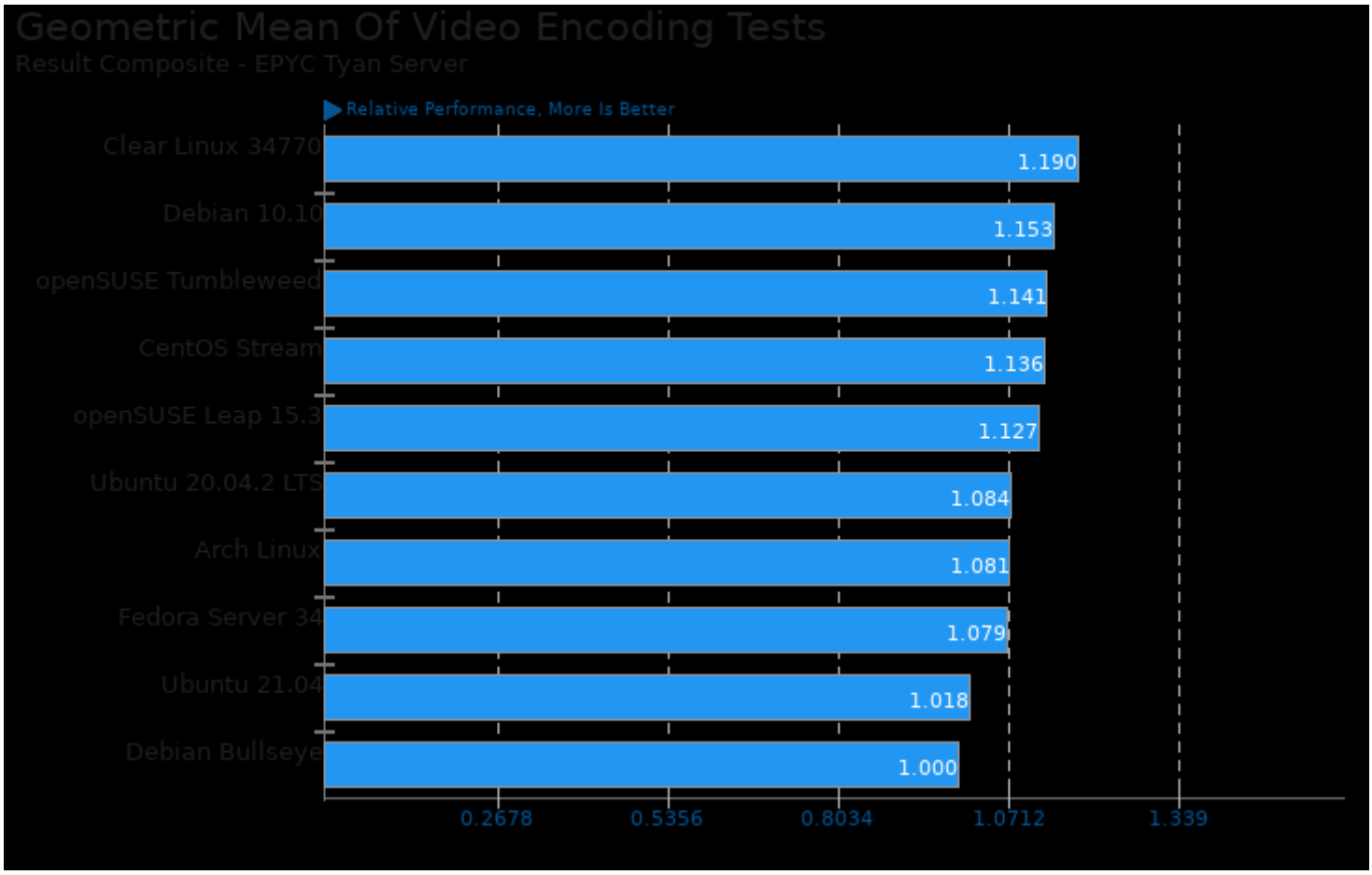
Geometric mean based upon tests: pts/ospray, pts/blender and pts/luxcorerender



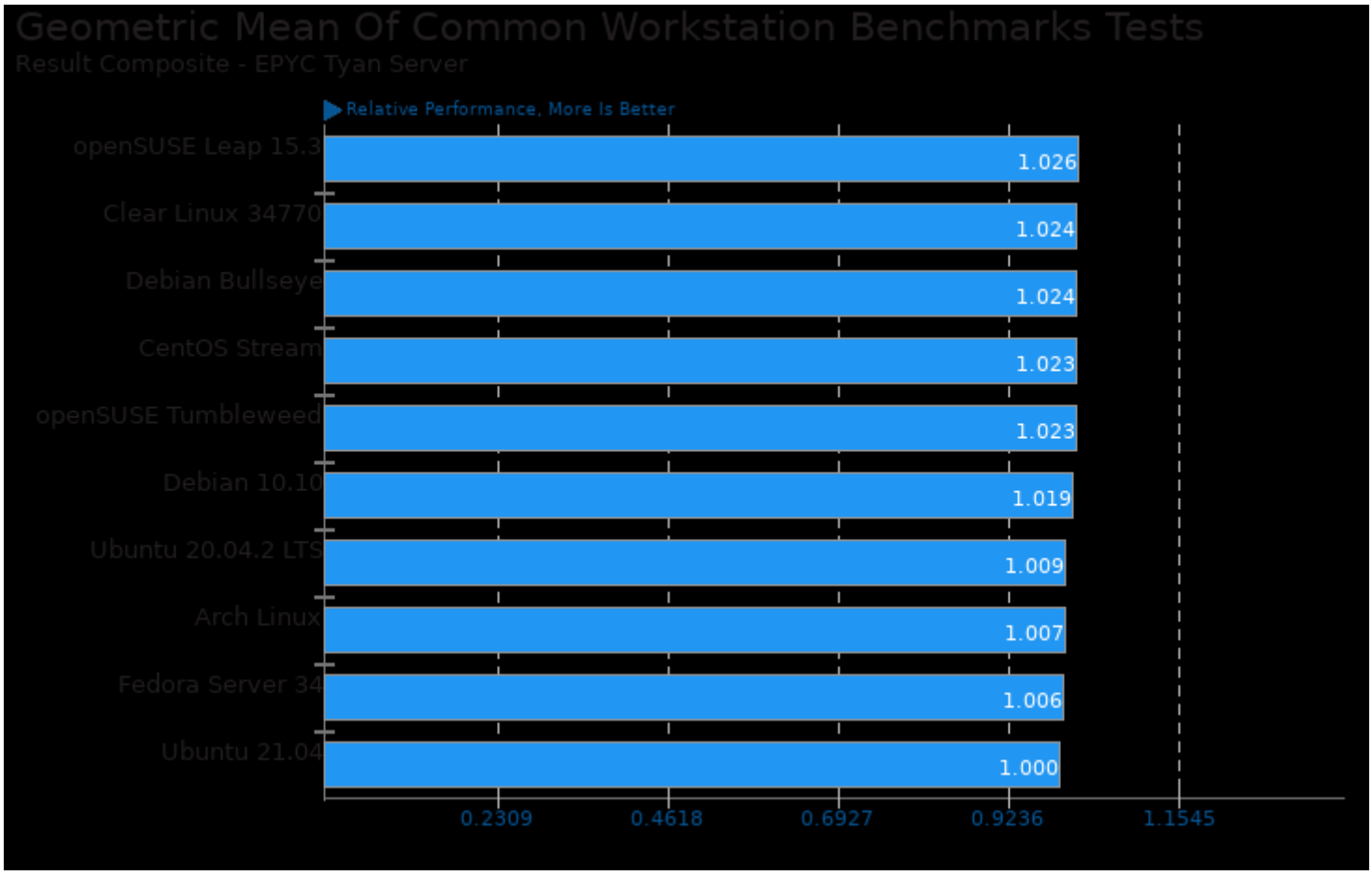
Geometric mean based upon tests: pts/namd, pts/gromacs, pts/minife, pts/incompact3d and pts/kripke



Geometric mean based upon tests: pts/npb, pts/namd, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/build-linux-kernel, pts/build-llvm, pts/blender and pts/numenta-nab



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/vpxenc, pts/svt-av1 and pts/avifenc



Geometric mean based upon tests: pts/blender and pts/brl-cad

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 07:56.