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## Core i7 2700K Ubuntu 2013 To 2019 Benchmarks

Intel Core i7-2700K testing for a future article.

### Automated Executive Summary

*Ubuntu 18.10 had the most wins, coming in first place for 16% of the tests.*

*Based on the geometric mean of all complete results, the fastest (Ubuntu 19.04) was 1.611x the speed of the slowest (Ubuntu 18.04.0).*

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

*glibc bench (Benchmark: exp) at 12197.476x*

*glibc bench (Benchmark: sincos) at 4557.698x*

*glibc bench (Benchmark: sin) at 1569.665x*

*glibc bench (Benchmark: cos) at 1557.478x*

*ParaView (Test: Wavelet Contour - Resolution: 1920 x 1080) at 41.923x*

*ParaView (Test: Wavelet Contour - Resolution: 1920 x 1080) at 41.886x*

*ParaView (Test: Wavelet Volume - Resolution: 1920 x 1080) at 29.258x*

*ParaView (Test: Wavelet Volume - Resolution: 1920 x 1080) at 29.228x*

*Systemd Total Boot Time (Test: Userspace) at 15.484x*

*Systemd Total Boot Time (Test: Total) at 8.493x.*

## Test Systems:

### Ubuntu 19.10

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 19.10, Kernel: 5.3.0-24-generic (x86\_64), Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 3.3 Mesa 19.2.1, Compiler: GCC 9.2.1 20191008, File-System: ext4, Screen Resolution: 1920x1080

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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-offload-targets=nvptx-none,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

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x2f

Java Notes: OpenJDK Runtime Environment (build 11.0.5+ea+10-post-Ubuntu-0ubuntu1)

Python Notes: Python 2.7.17rc1 + Python 3.7.5

Security Notes: itlb\_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS\_FW STIBP: conditional RSB filling + tsx\_async\_abort: Not affected

### Ubuntu 19.04

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 19.04, Kernel: 5.0.0-37-generic (x86\_64), Desktop: GNOME Shell 3.32.2, Display Server: X Server 1.20.4, Display Driver: modesetting 1.20.4, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1920x1080

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

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x2f

Java Notes: OpenJDK Runtime Environment (build 11.0.4+11-post-Ubuntu-1ubuntu219.04)

Python Notes: Python 2.7.16 + Python 3.7.3

Security Notes: itlb\_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS\_FW STIBP: conditional RSB filling + tsx\_async\_abort: Not affected

### Ubuntu 18.10

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-25-generic (x86\_64), Desktop: GNOME Shell 3.30.2, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1920x1080

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

Disk Notes: CFQ / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x2f

Java Notes: OpenJDK Runtime Environment (build 11.0.3+7-Ubuntu-1ubuntu218.10.1)

Python Notes: Python 2.7.16 + Python 3.6.8

Security Notes: l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of \_\_user pointer sanitization + spectre\_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS\_FW STIBP: conditional RSB filling

## Ubuntu 18.04.0

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.04, Kernel: 4.15.0-72-generic (x86\_64), Desktop: GNOME Shell 3.28.4, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, OpenGL: 3.3 Mesa 19.0.8, Compiler: GCC 7.4.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --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

Disk Notes: CFQ / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x2f

Java Notes: OpenJDK Runtime Environment (build 11.0.4+11-post-Ubuntu-1ubuntu218.04.3)

Python Notes: Python 2.7.17 + Python 3.6.9

Security Notes: itlb\_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS\_FW STIBP: conditional RSB filling + tsx\_async\_abort: Not affected

## Ubuntu 17.04

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 17.04, Kernel: 4.10.0-42-generic (x86\_64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.3, Display Driver: modesetting 1.19.3, OpenGL: 3.3 Mesa 17.0.7, Compiler: GCC 6.3.0 20170406, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,ada,c++,java,go,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-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-arch-directory=amd64 --with-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic -v

Disk Notes: CFQ / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x25

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_151-8u151-b12-0ubuntu0.17.04.2-b12)

Python Notes: Python 2.7.13 + Python 3.5.3

## Ubuntu 16.10

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel

Sandybridge Desktop 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 16.10, Kernel: 4.8.0-59-generic (x86\_64), Desktop: Unity 7.5.0, Display Server: X Server 1.18.4, Display Driver: modesetting 1.18.4, OpenGL: 3.3 Mesa 12.0.6, Compiler: GCC 6.2.0 20161005, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-gtk-cairo --enable-java.awt=gtk --enable-java.home --enable-languages=c,ada,c++,java,go,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --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

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x25

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_131-8u131-b11-0ubuntu1.16.10.2-b11)

Python Notes: Python 2.7.12+ + Python 3.5.2+

## Ubuntu 16.04.0

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 16.04, Kernel: 4.4.0-31-generic (x86\_64), Desktop: Unity 7.4.5, Display Server: X Server 1.18.4, Display Driver: intel 2.99.917, OpenGL: 3.3 Mesa 18.0.5, Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java.awt=gtk --enable-java.home --enable-languages=c,ada,c++,java,go,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate performance - CPU Microcode: 0x2f

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_232-8u232-b09-0ubuntu1~16.04.1-b09)

Python Notes: Python 2.7.12 + Python 3.5.2

## Ubuntu 15.10

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 15.10, Kernel: 4.2.0-42-generic (x86\_64), Desktop: Unity, Display Server: X Server 1.17.2, Display Driver: intel 2.99.917, Compiler: GCC 5.2.1 20151010, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java.awt=gtk --enable-java.home --enable-languages=c,ada,c++,java,go,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x25

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_91-8u91-b14-3ubuntu1~15.10.1-b14)

Python Notes: Python 2.7.10 + Python 3.4.3+

## Ubuntu 15.04

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Intel 7 /C210, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 15.04, Kernel: 3.19.0-84-generic (x86\_64), Desktop: Unity 7.3.2, Display Server: X Server 1.17.1, Display Driver: intel 2.99.917, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x25

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_45-internal-b14)

Python Notes: Python 2.7.9 + Python 3.4.3

## Ubuntu 14.10

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Intel 7 /C210, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.10, Kernel: 3.16.0-44-generic (x86\_64), Desktop: Unity 7.3.1, Display Server: X Server 1.16.0, Display Driver: intel 2.99.914, Compiler: GCC 4.9.1, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x25

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (build 1.8.0\_40-internal-b09)

Python Notes: Python 2.7.8 + Python 3.4.2

## Ubuntu 14.04.0

Processor: Intel Core i7-2700K @ 3.50GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel 2nd Generation Core IGP (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.04, Kernel: 3.13.0-24-generic (x86\_64), Desktop: Unity 7.2.6, Display Server: X Server 1.15.1, Display Driver: intel 2.99.910, Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x2f

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (IcedTea 2.6.17) (7u211-2.6.17-0ubuntu0.1)

Python Notes: Python 2.7.6 + Python 3.4.3

## Ubuntu 13.10

Processor: Intel Core i7-2700K @ 3.50GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS),

Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 13.10, Kernel: 3.11.0-26-generic (x86\_64), Desktop: Unity 7.1.2, Display Server: X Server 1.14.6, Display Driver: intel 2.99.904, OpenGL: 3.1 Mesa 9.2.1, Compiler: GCC 4.8.1, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-browser-plugin --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java.awt=gtk --enable-java.home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x25

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (IcedTea 2.4.7) (7u55-2.4.7-1ubuntu1~0.13.10.1)

Python Notes: Python 2.7.5+ + Python 3.3.2+

### Ubuntu 13.04

Processor: Intel Core i7-2700K @ 3.50GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8192MB, Disk: 525GB Crucial\_CT525MX3, Graphics: Intel Sandybridge Desktop (1350MHz), Audio: Realtek ALC662 rev1, Monitor: DELL S2409W, Network: Realtek RTL8111/8168

OS: Ubuntu 13.04, Kernel: 3.8.0-35-generic (x86\_64), Desktop: Unity 7.0.0, Display Server: X Server 1.13.3, Display Driver: intel 2.21.6, OpenGL: 3.0 Mesa 9.1.7, Compiler: GCC 4.7.3, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-cloog-version-check --disable-ppl-version-check --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-cloog --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x25

Graphics Notes: SNA

Java Notes: OpenJDK Runtime Environment (IcedTea 2.4.4) (7u51-2.4.4-0ubuntu0.13.04.2)

Python Notes: Python 2.7.4 + Python 3.3.1

	Ubunt u 19.10	Ubunt u 19.04	Ubunt u 18.10	Ubunt u	Ubunt u 17.04	Ubunt u 16.10	Ubunt u	Ubunt u 15.10	Ubunt u 15.04	Ubunt u 14.10	Ubunt u	Ubunt u 13.10	Ubunt u 13.04
<b>SQLite - 1 (sec)</b>	30.921	29.854	29.953	28.051	29.358	28.502	28.629	29.028	29.172	29.225	29.559	<b>27.305</b>	<b>33.970</b>
Normalized	88.31%	91.46%	91.16%	97.34%	93.01%	95.8%	95.38%	94.06%	93.6%	93.43%	92.37%	100%	80.38%
Standard Deviation	0.4%	0.4%	0.4%	1.3%	0.4%	0.2%	0.3%	0.1%	0.5%	1.2%	0.3%	0.4%	0.5%
<b>SQLite - 8 (sec)</b>	71.174	70.673	68.406	70.407	68.066	68.849	72.697	73.092	75.529	74.828	71.705	<b>63.306</b>	<b>219.860</b>
Normalized	88.95%	89.58%	92.54%	89.91%	93.01%	91.95%	87.08%	86.61%	83.82%	84.6%	88.29%	100%	28.79%
Standard Deviation	0.2%	0.3%	1.4%	0.1%	0.6%	0%	0.4%	0.6%	0.4%	0.4%	0.3%	0.3%	0.3%

<b>Flexible IO Tester - Rand</b>	214	218	220	229	225	<b>210</b>	212	239	237	241	249	249	<b>251</b>
<b>Read - Linux</b>													
<b>AIO - Yes - No -</b>													
<b>2MB (MB/s)</b>													
Normalized	85.26%	86.85%	87.65%	91.24%	89.64%	83.67%	84.46%	95.22%	94.42%	96.02%	99.2%	99.2%	100%
Standard Deviation			0.9%	0.3%		0.3%	0.3%	0.2%					
<b>Flexible IO Tester - Seq</b>	<b>195</b>	245	<b>281</b>	270	272	261	266	274	264	271	265	266	266
<b>Write - Linux</b>													
<b>AIO - Yes - No -</b>													
<b>2MB (MB/s)</b>													
Normalized	69.4%	87.19%	100%	96.09%	96.8%	92.88%	94.66%	97.51%	93.95%	96.44%	94.31%	94.66%	94.66%
Standard Deviation	0.9%		25.2%		2.9%	2.9%	1.5%	4.3%	1.7%	17.8%	0.4%	0.2%	
<b>FS-Mark -</b>	<b>122.5</b>	129.2	128.3	135.4	144.3	143.9	<b>151.0</b>	143.4	143.5	139.4	135.9	142.1	145.9
<b>1.F.1.S (Files/s)</b>													
Normalized	81.13%	85.56%	84.97%	89.67%	95.56%	95.3%	100%	94.97%	95.03%	92.32%	90%	94.11%	96.62%
Standard Deviation	0.9%	0.5%	0.6%	0.7%	1.9%	2.7%	2.2%	0.2%	0.2%	1%	0.3%	0.2%	0.1%
<b>FS-Mark -</b>	<b>162.4</b>	178.1	177.1	179.7	<b>184.7</b>	184.5	183.6	180.1	178.7	177.3	182.5	182.5	181.5
<b>5.F.1.S.4.T (Files/s)</b>													
Normalized	87.93%	96.43%	95.89%	97.29%	100%	99.89%	99.4%	97.51%	96.75%	95.99%	98.81%	98.81%	98.27%
Standard Deviation	12.6%	0.1%	1.4%	0.1%	0.5%	0.3%	0.2%	0.1%	0.1%	1.1%	0.1%	0.3%	0.5%
<b>FS-Mark -</b>	<b>58.8</b>	128.9	131.6	135.8	143.3	141.1	<b>150.4</b>	141.8	140.3	142.0	132.2	140.4	144.2
<b>4.F.3.S.D.1.S (Files/s)</b>													
Normalized	39.1%	85.7%	87.5%	90.29%	95.28%	93.82%	100%	94.28%	93.28%	94.41%	87.9%	93.35%	95.88%
Standard Deviation	5.1%	4.1%	0.3%	3%	6.8%	3.8%	1.6%	2.9%	1.6%	3.7%	3.8%	4%	3.6%
<b>IOR - Write Test (MB/s)</b>	83.34	152.38	145.33	157.28	<b>68.02</b>	149.80	158.60	163.60	161.94	161.99	161.63	<b>167.18</b>	
Normalized	49.85%	91.15%	86.93%	94.08%	40.69%	89.6%	94.87%	97.86%	96.87%	96.9%	96.68%	100%	
Standard Deviation	2.7%	1.1%	1.2%	1.3%	0.9%	1.7%	1.8%	1.3%	0.7%	0.6%	5.7%	1.3%	
<b>IOR - Read Test (MB/s)</b>	195.23	202.59	202.30	202.24	<b>93.73</b>	207.61	206.96	210.31	205.21	209.25	209.09	<b>213.03</b>	
Normalized	91.64%	95.1%	94.96%	94.93%	44%	97.46%	97.15%	98.72%	96.33%	98.23%	98.15%	100%	
Standard Deviation	1%	0.1%	0.1%	1.9%	0.3%	0.1%	0.1%	0.1%	0.5%	0.4%	1.2%	0.2%	
<b>Compile Bench - Compile (MB/s)</b>	316.66	388.97	<b>422.40</b>	401.40	397.31	388.91	404.58	400.80	398.05	391.19	<b>300.37</b>	334.94	388.64
Normalized	74.97%	92.09%	100%	95.03%	94.06%	92.07%	95.78%	94.89%	94.24%	92.61%	71.11%	79.29%	92.01%
Standard Deviation	7%	8.4%	0.4%	2.7%	2.9%	2.1%	2.9%	1.5%	1.9%	0.8%	2.9%	2.8%	8.2%
<b>Compile Bench - Initial Create (MB/s)</b>	261.59	271.25	<b>293.60</b>	281.96	283.49	275.48	291.53	257.40	259.84	266.93	<b>222.82</b>	254.26	269.87
Normalized	89.1%	92.39%	100%	96.04%	96.56%	93.83%	99.29%	87.67%	88.5%	90.92%	75.89%	86.6%	91.92%
Standard Deviation	0.8%	2.4%	0.5%	2.9%	1.1%	10.4%	3.8%	1%	3.1%	2.5%	0.7%	6.5%	6.6%

<b>ET: Legacy -</b>	60.4	60.8	61.0	61.0	67.5	<b>67.9</b>	<b>59.4</b>	65.4	65.4			
<b>Renderer2 -</b>												
<b>1920 x 1080</b>												
<b>(FPS)</b>												
Normalized	88.95%	89.54%	89.84%	89.84%	99.41%	100%	87.48%	96.32%	96.32%			
Standard Deviation	0.2%	0.2%	0.2%	0.1%	0%	0.1%	0.1%	0.1%	0.4%			
<b>Tesseract -</b>	25.332	25.421	25.454	25.370	<b>25.968</b>	25.709	25.315	25.676	25.196	<b>23.540</b>	25.217	24.232
<b>1920 x 1080</b>	<b>16</b>	73	39	38	<b>67</b>	03	56	00	43	<b>28</b>	04	78
Normalized	97.55%	97.89%	98.02%	97.7%	100%	99%	97.49%	98.87%	97.03%	90.65%	97.11%	93.32%
Standard Deviation	0.3%	0.3%	0.2%	0.8%	0.7%	0.4%	0.2%	0.2%	0.1%	0.4%	0.4%	0.3%
<b>Xonotic - 1920</b>	130.38	130.17	130.50	130.63	137.25	137.34	126.82	132.65	133.62	<b>117.74</b>	138.62	<b>138.91</b>
<b>x 1080 - Low</b>	37860	39948	92602	31150	28527	29152	28929	06853	63467	<b>30738</b>	57997	<b>48671</b>
<b>(FPS)</b>												
Normalized	93.86%	93.71%	93.95%	94.04%	98.8%	98.87%	91.3%	95.49%	96.19%	84.76%	99.79%	100%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0%	0.1%
<b>Xonotic - 1920</b>	52.189	52.212	52.331	52.283	<b>52.481</b>	52.359	51.521	52.322	52.869	49.737	<b>53.675</b>	53.641
<b>x 1080 - High</b>	4402	0886	5071	9498	2803	0901	7655	9434	8300	4444	<b>0781</b>	6392
<b>(FPS)</b>												
Normalized	97.23%	97.27%	97.5%	97.41%	97.78%	97.55%	95.99%	97.48%	98.5%	92.66%	100%	99.94%
Standard Deviation	0%	0%	0.1%	0%	0.1%	0%	0%	0%	0.1%	0.2%	0%	0.2%
<b>Xonotic - 1920</b>	30.709	30.731	30.741	30.749	30.866	30.900	30.342	30.540	30.742	29.671	<b>32.589</b>	31.223
<b>x 1080 - Ultra</b>	1502	8042	7941	4595	7417	6982	2505	9974	1640	2672	<b>1998</b>	1904
<b>(FPS)</b>												
Normalized	94.23%	94.3%	94.33%	94.35%	94.71%	94.82%	93.11%	93.72%	94.33%	91.05%	100%	95.81%
Standard Deviation	0%	0.1%	0%	0.1%	0%	0%	0.1%	0%	0.1%	0.1%	0.1%	0.2%
<b>GeeXLab - 1920</b>	<b>440.8</b>	448.8	448.3	<b>454.1</b>								
<b>x 1080 - GL2</b>												
<b>AntTweakBar</b>												
<b>(FPS)</b>												
Normalized	97.07%	98.83%	98.72%	100%								
Standard Deviation	0.1%	0.4%	1%	0.4%								
<b>GeeXLab - 1920</b>	<b>549.7</b>	<b>552.4</b>	551.9	551.3								
<b>x 1080 - GL3</b>												
<b>Vertex Pool</b>												
<b>(FPS)</b>												
Normalized	99.51%	100%	99.91%	99.8%								
Standard Deviation	0.3%	0.4%	0.3%	0.1%								
<b>GeeXLab - 1920</b>	<b>257.0</b>	<b>259.7</b>	<b>259.7</b>	259.4								
<b>x 1080 - GL2</b>												
<b>Cell Shading</b>												
<b>(FPS)</b>												
Normalized	98.96%	100%	100%	99.88%								
Standard Deviation	0%	0%	0%	0.1%								
<b>GeeXLab - 1920</b>	10.0	10	10	10								
<b>x 1080 - GL2</b>												
<b>Tunnel Beauty</b>												
<b>(FPS)</b>												
Standard Deviation	0.6%											

GeeXLab - 1920	8.2	8.2	8.2	8.2									
<b>x 1080 - GL2</b>													
<b>Hot Tunnel</b>													
<b>DNA (FPS)</b>													
Standard Deviation	0%	0%	0%	0%									
GeeXLab - 1920	<b>115.7</b>	<b>117.3</b>	117.2	117.2									
<b>x 1080 - G.N.A.E (FPS)</b>													
Normalized	98.64%	100%	99.91%	99.91%									
Standard Deviation	0%	0.1%	0.1%	0%									
ParaView -	4.54	4.56	4.55	4.48	4.29	3.96	4.30	<b>3.92</b>	3.96	94.72	<b>114.69</b>	89.77	104.24
<b>Wavelet</b>													
<b>Volume - 1920</b>													
<b>x 1080 (Frames)</b>													
Normalized	3.96%	3.98%	3.97%	3.91%	3.74%	3.45%	3.75%	3.42%	3.45%	82.59%	100%	78.27%	90.89%
Standard Deviation	0.1%	0.1%	0%	0%	0%	0%	0.1%	0%	0%	5.5%	0.6%	2%	2.4%
ParaView -	72.607	72.923	72.835	71.695	68.579	63.352	68.712	<b>62.786</b>	63.318	1516	<b>1835</b>	1436	1668
<b>Wavelet</b>													
<b>Volume - 1920</b>													
<b>x 1080</b>													
Normalized	3.96%	3.97%	3.97%	3.91%	3.74%	3.45%	3.74%	3.42%	3.45%	82.59%	100%	78.26%	90.89%
Standard Deviation	0.1%	0.2%	0%	0%	0%	0%	0.1%	0%	0%	5.5%	0.6%	2%	2.4%
ParaView -	5.86	5.83	5.81	5.76	5.30	5.31	5.97	5.33	<b>4.82</b>	199.57	142.78	<b>202.07</b>	194.28
<b>Wavelet</b>													
<b>Contour - 1920</b>													
<b>x 1080 (Frames)</b>													
Normalized	2.9%	2.89%	2.88%	2.85%	2.62%	2.63%	2.95%	2.64%	2.39%	98.76%	70.66%	100%	96.14%
Standard Deviation	0%	0%	0.1%	0.1%	0.1%	0.1%	0%	0%	0.1%	2.9%	1.2%	2.7%	4.3%
ParaView -	61.095	60.719	60.597	60.042	55.274	55.340	62.244	55.560	<b>50.275</b>	2080	1488	<b>2106</b>	2025
<b>Wavelet</b>													
<b>Contour - 1920</b>													
<b>x 1080 (MiPolys)</b>													
Normalized	2.9%	2.88%	2.88%	2.85%	2.62%	2.63%	2.96%	2.64%	2.39%	98.77%	70.66%	100%	96.14%
Standard Deviation	0%	0%	0%	0.1%	0.1%	0.1%	0%	0%	0%	2.9%	1.2%	2.7%	4.3%
Ethr - TCP -	<b>22.15</b>	21.98	<b>18.19</b>	21.48									
<b>Latency - 1 (us)</b>													
Normalized	82.12%	82.76%	100%	84.68%									
Standard Deviation	1.8%	0.5%	0.1%	0.6%									
Ethr - HTTP -	516.74	<b>498.11</b>	<b>521.54</b>	502.41									
Bandwidth - 1	1250	<b>9583</b>	<b>0833</b>	333									
<b>(Mbits/s)</b>													
Normalized	99.08%	95.51%	100%	96.33%									
Standard Deviation	0.3%	0.2%	0.4%	0.9%									

Ethr - TCP -	<b>5513</b>	5683	5653	<b>5713</b>					
Connections/s -									
1									
(Connections/s sec)									
Normalized	96.5%	99.47%	98.95%	100%					
Standard Deviation	1.3%	0.7%	1.9%	0.3%					
Timed MrBayes	<b>178.68</b>	181.12	210.24	227.21	260.34	263.35	<b>264.16</b>		
Analysis -	<b>4</b>	2	5	7	7	5	<b>1</b>		
P.P.A (sec)									
Normalized	100%	98.65%	84.99%	78.64%	68.63%	67.85%	67.64%		
Standard Deviation	1.4%	1.2%	1.3%	1.6%	1%	0.9%	0.7%		
Go	12891	<b>14496</b>	14162	14140	<b>12533</b>	13155	12722	12695	
Benchmarks -									
Normalized	97.22%	86.46%	88.5%	88.64%	100%	95.27%	98.51%	98.72%	
Standard Deviation	0.3%	0.1%	0.3%	0.3%	0.1%	0.2%	0.2%	0.2%	
Go	<b>170307</b>	179597	179061	179403	193771	<b>225541</b>	220132	221531	
Benchmarks -	<b>66</b>	18	94	10	17	<b>87</b>	54	56	
Normalized	100%	94.83%	95.11%	94.93%	87.89%	75.51%	77.37%	76.88%	
Standard Deviation	0.1%	0.1%	0.3%	0.3%	0%	0%	0.1%	0.6%	
Go	<b>276066</b>	198427	<b>197382</b>	200088	198060	231646	223879	216240	
Benchmarks -	<b>31564</b>	19987	<b>71369</b>	45878	94458	96329	89543	74123	
Normalized	71.5%	99.47%	100%	98.65%	99.66%	85.21%	88.16%	91.28%	
Standard Deviation	1.8%	2.4%	1.9%	1.4%	1.6%	2%	2.8%	2.4%	
Go	<b>342636</b>	366874	363072	365004	395085	409785	405892	<b>430988</b>	
Benchmarks -	<b>7</b>	0	0	5	6	1	0	<b>6</b>	
garbage (ns/op)									
Normalized	100%	93.39%	94.37%	93.87%	86.72%	83.61%	84.42%	79.5%	
Standard Deviation	0.9%	0.5%	0.7%	0.9%	0.9%	0.9%	0%	0.5%	
DaCapo	<b>4281</b>	4453	4322	4286	5435	5400	5417	<b>5675</b>	5502
Benchmark -									
H2 (msec)									
Normalized	100%	96.14%	99.05%	99.88%	78.77%	79.28%	79.03%	75.44%	77.81%
Standard Deviation	1.2%	3%	3.8%	3.8%	2.5%	7.9%	9%	2.9%	6.1%
DaCapo	6585	6801	6830	<b>6896</b>	5744	5832	5819	<b>5732</b>	5766
Benchmark -									
Jython (msec)									
Normalized	87.05%	84.28%	83.92%	83.12%	99.79%	98.29%	98.5%	100%	99.41%
Standard Deviation	0.7%	2%	1.9%	1.6%	2%	2.9%	2.9%	2.7%	2.8%
Renaissance	<b>30203</b>	29173	28610	27171	21431	20499	20865	22188	<b>19018</b>
Savina									
Reactors.IO									
(ms)									
Normalized	62.97%	65.19%	66.47%	69.99%	88.74%	92.77%	91.15%	85.71%	100%
Standard Deviation	3%	2.7%	2.2%	2.9%	8.7%	8.8%	9.2%	10.8%	4.9%
Renaissance	8975	<b>9137</b>	8981	8943	<b>7261</b>	8046	7876	7555	8066
I.M.D.S (ms)									
Normalized	80.89%	79.47%	80.85%	81.19%	100%	90.24%	92.19%	96.1%	90.01%
Standard Deviation	1.4%	3.5%	3.6%	2.8%	4.5%	3%	2.9%	3.9%	3.4%
Renaissance	16739	16893	<b>16698</b>	16854	17365	17328	<b>17452</b>	17305	17171
A.U.C.T (ms)									
Normalized	99.75%	98.84%	100%	99.08%	96.16%	96.37%	95.68%	96.49%	97.24%
									98.19%

Standard Deviation	2.6%	2.7%	2.9%	2.6%	1.6%	1.6%	1.2%	1.1%	2.7%	2.7%	751	662	671
<b>GraphicsMagic</b>	679	<b>656</b>	679	685	911	899	<b>919</b>	910	911	898	751	662	671
<b>k - Rotate (Iterations/min)</b>													
Normalized	73.88%	71.38%	73.88%	74.54%	99.13%	97.82%	100%	99.02%	99.13%	97.71%	81.72%	72.03%	73.01%
Standard Deviation	2.4%	2.9%	2.2%	2%	0.2%	0.3%	0.8%	0.1%	0.6%	0.7%	0.7%	0.1%	0.5%
<b>GraphicsMagic</b>	<b>43</b>	<b>43</b>	42	38	42	42	42	42	42	42	21	<b>20</b>	21
<b>k - Sharpen (Iterations/min)</b>													
Normalized	100%	100%	97.67%	88.37%	97.67%	97.67%	97.67%	97.67%	97.67%	97.67%	48.84%	46.51%	48.84%
Standard Deviation			4.8%									2.8%	
<b>GraphicsMagic</b>	298	295	295	291	302	301	<b>309</b>	291	290	290	204	199	<b>198</b>
<b>k - Resizing (Iterations/min)</b>													
Normalized	96.44%	95.47%	95.47%	94.17%	97.73%	97.41%	100%	94.17%	93.85%	93.85%	66.02%	64.4%	64.08%
Standard Deviation	0.2%	0.2%	0.2%	0.2%	0.6%		0.6%	1.1%	1%	0.2%		0.5%	
<b>TTSIOD 3D</b>	163.54	164.67	<b>164.84</b>	163.58	160.38	160.45	158.06	158.50	153.40	156.11	150.60	151.86	<b>132.19</b>
<b>Renderer - 4 P.R.W.S.S.M (FPS)</b>													
Normalized	99.21%	99.9%	100%	99.24%	97.3%	97.34%	95.89%	96.16%	93.06%	94.71%	91.37%	92.13%	80.2%
Standard Deviation	0.1%	0.2%	0.3%	0.3%	0.3%	0.6%	0.2%	0.1%	0.4%	0.2%	0.2%	0.5%	0.2%
<b>Embree</b>	2.9733	2.9664	2.9666	2.9648	3.0145	2.9841	<b>3.1052</b>	3.0905	3.0900	3.0891	3.1018	2.9661	<b>2.9601</b>
<b>Pathtracer - Crown (FPS)</b>													
Normalized	95.75%	95.53%	95.54%	95.48%	97.08%	96.1%	100%	99.53%	99.51%	99.48%	99.89%	95.52%	95.33%
Standard Deviation	0.1%	0.1%	0.1%	0.2%	0.2%	0.7%	0.2%	0.6%	0.1%	0.2%	0.3%	0.1%	0.1%
<b>Embree</b>	3.2512	3.2417	<b>3.2391</b>	3.2398	3.2959	3.2896	3.3871	3.3915	3.3987	<b>3.4025</b>	3.3751	3.2452	3.2432
<b>Pathtracer ISPC - Crown (FPS)</b>													
Normalized	95.55%	95.27%	95.2%	95.22%	96.87%	96.68%	99.55%	99.68%	99.89%	100%	99.19%	95.38%	95.32%
Standard Deviation	0.1%	0.1%	0.4%	0.2%	0.1%	0.8%	0.5%	0.3%	0.4%	0.4%	0.2%	0.1%	0.2%
<b>VP9 libvpx</b>	51.47	<b>51.21</b>	52.05	52.61	<b>55.61</b>	54.80	53.35	53.74	53.60	53.64	52.57	51.25	
<b>Encoding - v.V.1.V.E (FPS)</b>													
Normalized	92.56%	92.09%	93.6%	94.61%	100%	98.54%	95.94%	96.64%	96.39%	96.46%	94.53%	92.16%	
Standard Deviation	1.9%	2.5%	2.8%	0.5%	1.7%	0.5%	0.3%	2.2%	1%	1.4%	1.8%	1.1%	
<b>x264 - H.2.V.E</b>	26.01	<b>26.17</b>	25.70	25.65	24.97	25.20	24.69	24.31	24.33	<b>24.17</b>	24.94	25.70	26.00
<b>(FPS)</b>													
Normalized	99.39%	100%	98.2%	98.01%	95.41%	96.29%	94.34%	92.89%	92.97%	92.36%	95.3%	98.2%	99.35%
Standard Deviation	2.6%	2.7%	2.5%	2%	2.3%	2.6%	2.3%	2.3%	2%	1.5%	1.5%	1.2%	0.9%
<b>Intel Open</b>	1.49	1.49	1.49	1.47	1.47	1.48	1.49	1.49	<b>1.41</b>	1.49	<b>1.50</b>	1.49	1.44
<b>Image Denoise - Memorial (Images / Sec)</b>													
Normalized	99.33%	99.33%	99.33%	98%	98%	98.67%	99.33%	99.33%	94%	99.33%	100%	99.33%	96%
Standard Deviation	0%	0%	0%	0.6%	0.2%	0.2%	0.5%	0.2%	2.8%	0.3%	0%	0%	0.8%

## Core i7 2700K Ubuntu 2013 To 2019 Benchmarks

<b>Himenos</b>	2892	2885	2890	2819	2872	2844	2880	2876	<b>2740</b>	2866	<b>2916</b>	2906	2874
<b>Benchmark - P.P.S (MFLOPS)</b>													
Normalized 99.21% 98.95% 99.14% 96.71% 98.5% 97.56% 98.8% 98.64% 93.98% 98.31% 100% 99.69% 98.59%													
Standard Deviation 0.2% 0.1% 0% 2.1% 0.8% 1.3% 0.3% 0.2% 2.9% 0.3% 0.1% 0.2% 0.8%													
<b>7-Zip</b>	18440	18505	18665	17970	<b>18695</b>	18415	18089	18310	18380	18071	17798	17810	<b>17577</b>
<b>Compression - C.S.T (MIPS)</b>													
Normalized 98.64% 98.98% 99.84% 96.12% 100% 98.5% 96.76% 97.94% 98.32% 96.66% 95.2% 95.27% 94.02%													
Standard Deviation 0.9% 1.2% 1.1% 1.6% 2.5% 1.4% 0.5% 0.9% 2.3% 2.7% 1.6% 1.9% 0.6%													
<b>Stockfish -</b>	<b>820394</b>	835117	836202	856947	871417	869590	842455	858261	893642	<b>913366</b>	889928	867853	
<b>Total Time</b>	<b>3</b>	6	9	7	4	2	8	7	4	<b>4</b>	2	5	
Normalized 89.82% 91.43% 91.55% 93.82% 95.41% 95.21% 92.24% 93.97% 97.84% 100% 97.43% 95.02%													
Standard Deviation 2.8% 2.1% 2.2% 1.1% 1.1% 0.7% 0.6% 1.5% 1.9% 2.6% 1.9% 1.6%													
<b>asmFish -</b>	957124	<b>942473</b>	952155	958364	964155	961503	967783	959195	968630	980025	<b>985999</b>	952391	951210
<b>1.H.M.2.D</b>	3	<b>5</b>	7	8	0	4	1	7	9	2	<b>9</b>	9	4
(Nodes/s)													
Normalized 97.07% 95.59% 96.57% 97.2% 97.78% 97.52% 98.15% 97.28% 98.24% 99.39% 100% 96.59% 96.47%													
Standard Deviation 2.7% 1.7% 0.6% 2.8% 2.6% 0.3% 2.6% 1.4% 1.3% 1.4% 1.3% 0.3% 1.4%													
<b>Timed Linux</b>	250.70	245.82	243.43	<b>272.18</b>					<b>215.83</b>				242.85
<b>Kernel</b>	3	2	0	<b>7</b>					<b>8</b>				2
<b>Compilation - Time To Compile (sec)</b>													
Normalized 86.09% 87.8% 88.67% 79.3% 100% 88.88%													
Standard Deviation 0.2% 0.6% 0.7% 0.6% 0.8% 0.5%													
<b>Timed LLVM</b>	1304	1233	1232	<b>1478</b>	1410	1415	<b>1197</b>						
<b>Compilation - Time To Compile (sec)</b>													
Normalized 91.79% 97.11% 97.21% 80.99% 84.91% 84.62% 100% 88.88%													
<b>Timed PHP</b> 125.26 <b>125.58</b> 125.53 122.35 116.01 114.03 <b>100.81</b> 110.51 110.35 108.73 106.40 106.29 102.77													
<b>Compilation -</b>	6	<b>8</b>	4	4	2	9	<b>8</b>	6	9	2	0	1	2
<b>Time To Compile (sec)</b>													
Normalized 80.48% 80.28% 80.31% 82.4% 86.9% 88.41% 100% 91.22% 91.35% 92.72% 94.75% 94.85% 98.1%													
Standard Deviation 0.4% 0.2% 0.1% 0.2% 0% 0% 0.2% 0.3% 1.6% 0.7% 0.1% 0.1% 0.1%													
<b>Build2 - Time To Compile</b>	315.57	288.52	<b>286.82</b>	340.59	291.04	291.67	289.49	<b>353.17</b>	333.86	330.71			
<b>Time To Compile</b>	9	8	<b>7</b>	2	7	6	8	<b>1</b>	3	9			
Normalized 90.89% 99.41% 100% 84.21% 98.55% 98.34% 99.08% 81.21% 85.91% 86.73%													
Standard Deviation 0.4% 0.9% 0.2% 2.8% 1.8% 2% 0.3% 1% 0.2% 0.3%													
<b>C-Ray - Total</b>	287.57	289.32	289.04	315.53	287.81	287.37	291.05	293.70	<b>283.88</b>	283.89	299.95	299.13	<b>348.73</b>
<b>Time - 4.1.R.P.P</b>	3	2	4	6	9	7	4	9	<b>3</b>	5	0	7	<b>3</b>
<b>(sec)</b>													
Normalized 98.72% 98.12% 98.21% 89.97% 98.63% 98.78% 97.54% 96.65% 100% 100% 94.64% 94.9% 81.4%													
Standard Deviation 0.5% 1.1% 0.6% 0.2% 0.6% 0.8% 0.4% 0.2% 0% 0% 0% 0.1% 0%													
<b>Smallpt -</b>	40.170	39.351	<b>39.257</b>	41.324	41.248	41.447	41.946	44.086	43.869	44.152	43.417	44.149	<b>44.157</b>
<b>G.I.R.1.S (sec)</b>													
Normalized 97.73% 99.76% 100% 95% 95.17% 94.72% 93.59% 89.05% 89.49% 88.91% 90.42% 88.92% 88.9%													
Standard Deviation 0.1% 0.2% 0.2% 0% 0% 0.1% 0.1% 0.1% 0.2% 0.1% 0.2% 0% 0.1%													

<b>Gzip</b>	40.017	39.472	<b>39.194</b>	<b>41.783</b>	40.080	40.405	39.902	40.252	40.043	39.736	40.229	40.074	39.605
<b>Compression - L.S.T.A.T.t.g (sec)</b>													
Normalized													
Standard Deviation													
<b>XZ</b>	62.939	62.583	62.414	62.993	55.629	56.179	<b>53.462</b>	54.316	53.492	53.791	58.601	62.586	<b>63.203</b>
<b>Compression - C.u.1.0.3.s.i.i.C.</b>													
<b>L.9 (sec)</b>													
Normalized													
Standard Deviation													
<b>DeepSpeech -</b>	130.58	130.45	<b>130.20</b>	130.33	147.46	149.55	152.71	154.23	<b>155.08</b>	154.66	135.28	135.56	
<b>CPU (sec)</b>	831	556	<b>928</b>	973	466	345	158	024	<b>363</b>	497	511		
Normalized													
Standard Deviation													
<b>FLAC Audio</b>	13.492	13.412	<b>13.356</b>	<b>15.819</b>	13.572	14.065	14.085	14.375	14.222	13.961	14.579	14.539	14.718
<b>Encoding - WAV To FLAC</b>													
Normalized													
Standard Deviation													
<b>LAME MP3</b>	10.618	10.563	<b>10.558</b>	11.241	11.445	11.548	12.776	12.633	12.689	12.622	13.452	13.474	<b>13.528</b>
<b>Encoding - WAV To MP3</b>													
Normalized													
Standard Deviation													
<b>N-Queens -</b>	41.179	40.791	<b>40.518</b>	41.009	44.621	44.920	47.407	<b>47.548</b>	44.923	44.307	45.053	45.245	44.203
<b>Elapsed Time (sec)</b>													
Normalized													
Standard Deviation													
<b>System BZIP2</b>	10.558	10.429	<b>10.404</b>	<b>10.706</b>	9.635	9.897	9.596	9.608	9.448	9.489	<b>9.380</b>	9.982	10.034
<b>Decompression (sec)</b>													
Normalized													
Standard Deviation													
<b>glibc bench - cos</b>	1	1	<b>1</b>										
Normalized													
Standard Deviation													
<b>glibc bench - exp</b>	<b>9.8446</b>	10.084	11.843	28499	27971	29137	24422	27542	27766	24093	27657	118056	<b>120080</b>
<b>(nanoseconds)</b>													
Normalized													
Standard Deviation													
<b>glibc bench - ffs</b>	2.5035	2.5045	2.5030	<b>2.5932</b>	2.1981	2.1995	2.1907	<b>2.1819</b>	2.1959	2.1846	2.5219	2.1825	2.1927
Normalized													
Standard Deviation													
<b>glibc bench - sin</b>	62.914	62.728	<b>62.684</b>	47764	43951	44117	48958	46184	46338	44785	43584	93732	<b>98394</b>
<b>sin 0</b>													
Normalized													

## Core i7 2700K Ubuntu 2013 To 2019 Benchmarks

	Standard Deviation	0%	0%	0%	10.9%	0.2%	0.6%	0.1%	0.7%	1%	0.1%	0.1%	0.1%	0.3%
<b>glibc bench - log2</b>	<b>11.272</b>	11.610	14.029	<b>14.652</b>	13.831	14.430	13.809	13.725	13.934	13.873	14.114	13.552	13.651	
(nanoseconds)		9	0	<b>9</b>	4	2	2	0	2	7	0	6	4	
Normalized	100%	97.08%	80.35%	76.93%	81.5%	78.11%	81.63%	82.13%	80.9%	81.25%	79.86%	83.17%	82.57%	
Standard Deviation	0%	0.2%	0.2%	12%	2.2%	1.7%	0.9%	0%	1.6%	1.1%	0.1%	0.1%	0.1%	0.5%
<b>glibc bench - modf</b>	<b>3.2856</b>	<b>3.2877</b>	3.2852	3.0163	<b>2.7082</b>	3.0560	3.2193	3.2161	3.2240	3.2155	3.0401	3.2159	3.2345	
(nanoseconds)		<b>8</b>	0	3	<b>5</b>	2	2	1	0	6	6	0	1	
Normalized	82.43%	82.37%	82.44%	89.79%	100%	88.62%	84.12%	84.21%	84%	84.22%	89.08%	84.21%	83.73%	
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	2.6%	0.3%	0.1%	0.2%	0%	0.1%	0.1%	0.2%	
<b>glibc bench - sinh</b>	<b>14.567</b>	<b>14.406</b>	18.252	20.113	20.004	<b>55.537</b>	20.816	20.080	20.091	21.190	21.353	23.557	23.747	
(nanoseconds)		<b>1</b>	8	6	1	<b>8</b>	3	0	9	3	3	9	2	
Normalized	98.9%	100%	78.93%	71.62%	72.02%	25.94%	69.21%	71.74%	71.7%	67.98%	67.47%	61.15%	60.66%	
Standard Deviation	0%	0%	0.1%	0.1%	1.3%	0.1%	0.4%	0.2%	0.1%	1.2%	0.3%	0.1%	0.4%	
<b>glibc bench - sqrt</b>	<b>5.1138</b>	<b>5.1145</b>	<b>5.1185</b>	5.0525	4.7477	4.7494	<b>4.7242</b>	4.7302	4.7431	4.7344	5.0699	4.7298	4.7493	
(nanoseconds)		<b>1</b>	2	<b>1</b>	0	3	2	<b>8</b>	5	4	0	7	4	9
Normalized	92.38%	92.37%	92.3%	93.5%	99.51%	99.47%	100%	99.87%	99.6%	99.79%	93.18%	99.88%	99.47%	
Standard Deviation	0%	0%	0.1%	0.1%	0.2%	0.5%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	
<b>glibc bench - tanh</b>	<b>19.700</b>	20.029	19.938	20.458	20.966	20.109	20.696	20.612	21.061	21.557	<b>21.744</b>	21.155	21.271	
(nanoseconds)		<b>2</b>	3	1	4	1	0	2	3	3	8	<b>3</b>	0	6
Normalized	98.36%	98.81%	96.29%	93.96%	97.97%	95.19%	95.57%	93.54%	91.38%	90.6%	93.12%	92.61%		
Standard Deviation	0.1%	0.3%	0.1%	0.5%	9.9%	0.3%	1.1%	0.2%	1.5%	0.4%	0.1%	0.1%	0.2%	
<b>glibc bench - asinh</b>	<b>18.225</b>	<b>18.215</b>	24.906	26.514	26.001	<b>61.945</b>	26.217	26.813	26.882	29.957	30.313	29.413	29.552	
(nanoseconds)		<b>8</b>	<b>6</b>	8	9	5	<b>8</b>	8	2	8	4	2	2	3
Normalized	99.94%	100%	73.14%	68.7%	70.06%	29.41%	69.48%	67.94%	67.76%	60.81%	60.09%	61.93%	61.64%	
Standard Deviation	0.1%	0%	0.1%	0%	1.5%	0.4%	0%	0.1%	0.1%	0.4%	0.1%	0%	0.4%	
<b>glibc bench - atanh</b>	<b>19.794</b>	19.879	19.739	20.136	19.653	19.559	<b>19.358</b>	19.646	19.813	20.127	20.418	20.312	<b>20.591</b>	
(nanoseconds)		<b>9</b>	3	3	1	2	<b>9</b>	<b>7</b>	0	7	7	4	0	<b>0</b>
Normalized	97.8%	97.38%	98.07%	96.14%	98.5%	98.97%	100%	98.54%	97.7%	96.18%	94.81%	95.31%	94.02%	
Standard Deviation	0.1%	0.1%	0%	0.7%	1.2%	0.5%	0.1%	0.1%	0.3%	0.1%	0.1%	0%	0.7%	
<b>glibc bench - ffsll</b>	<b>2.5014</b>	<b>2.5059</b>	<b>2.7618</b>	2.7540	2.4584	2.4414	2.4454	2.4408	2.1949	2.1845	2.5226	<b>2.1827</b>	2.4547	
(nanoseconds)		<b>5</b>	<b>5</b>	<b>3</b>	1	4	1	2	1	8	0	1	<b>8</b>	6
Normalized	87.26%	87.1%	79.03%	79.26%	88.79%	89.41%	89.26%	89.43%	99.44%	99.92%	86.53%	100%	88.92%	
Standard Deviation	0.1%	0.1%	0.2%	0%	0.4%	0.3%	0.1%	0.1%	0.4%	0.1%	0.1%	0%	0.4%	
<b>glibc bench - sincos</b>	<b>21.352</b>	21.461	21.497	44.347	43.778	43.668	48.413	45.544	45.769	44.455	43.242	92.911	<b>97318</b>	
(nanoseconds)		<b>4</b>	0	8										
Normalized	99.49%	99.32%	0.05%	0.05%	0.05%	0.04%	0.05%	0.05%	0.05%	0.05%	0.05%	0.02%	0.02%	
Standard Deviation	0.2%	0.3%	2%	0.3%	1.1%	0.6%	0.1%	0.2%	0.6%	0.1%	0.1%	0.1%	0.3%	
<b>glibc bench - pthread_once</b>	<b>2.5058</b>	2.5055	2.5077	2.4991	2.1998	2.2014	2.2070	2.1929	2.1876	2.1862	<b>2.5233</b>	<b>2.1825</b>	2.1979	
(nanoseconds)		<b>4</b>	9	9	8	3	1	8	0	4	5	<b>7</b>	<b>0</b>	6
Normalized	87.1%	87.11%	87.03%	87.33%	99.21%	99.14%	98.89%	99.53%	99.77%	99.83%	86.49%	100%	99.3%	
Standard Deviation	0.2%	0%	0.3%	0.4%	0.4%	0.7%	3%	0.4%	0.2%	0.1%	0.1%	0%	0.1%	

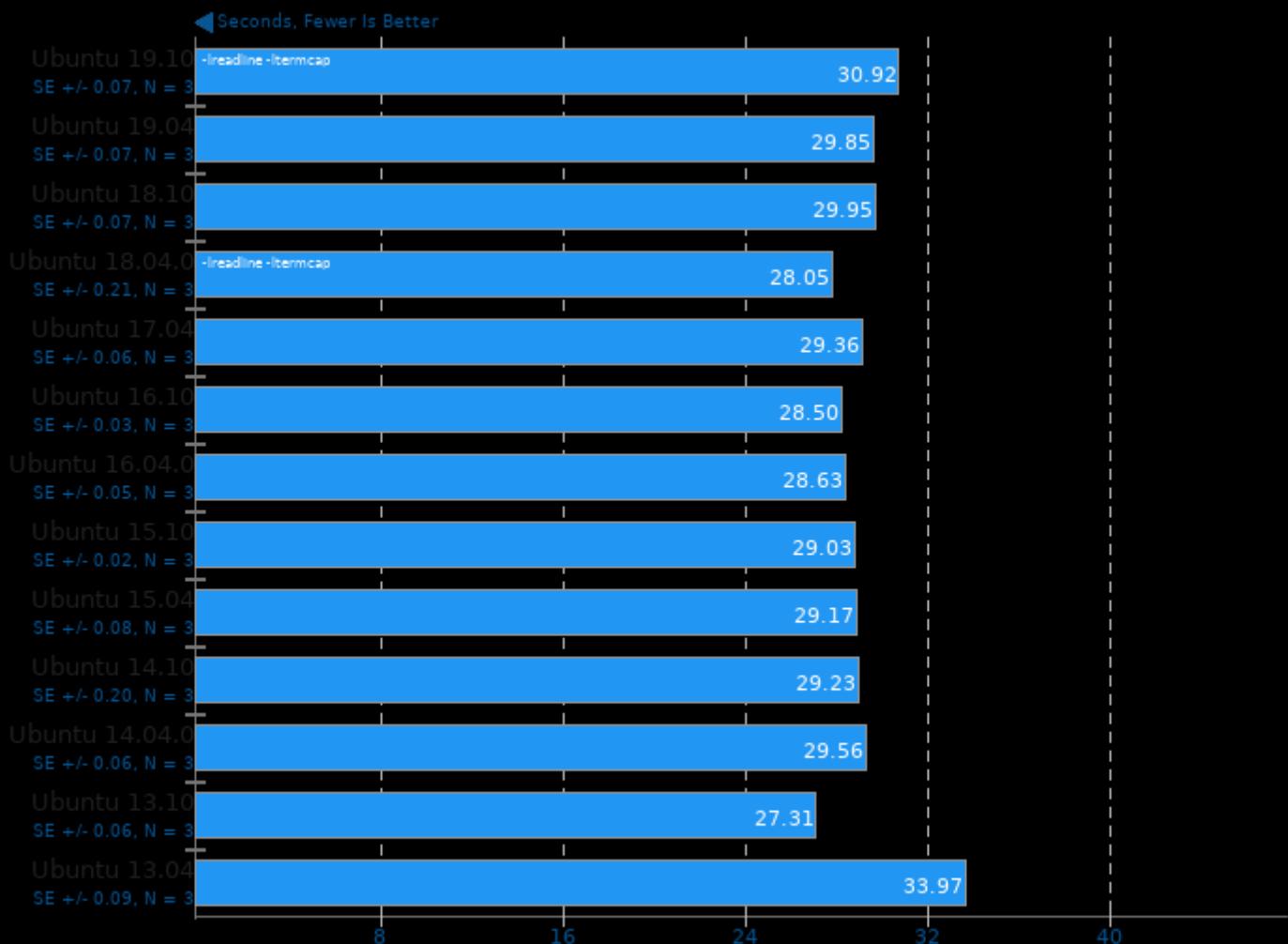
<b>GROMACS - Water Benchmark (Ns/Day)</b>	0.191	0.196	0.197	<b>0.183</b>	0.199	<b>0.200</b>	<b>0.2</b>							
Normalized	95.5%	98%	98.5%	91.5%	99.5%	100%	100%							
Standard Deviation	1.3%	0.5%	0.3%	0.2%	0%	0.4%	0%							
<b>SQLite - Speedtest - Timed Time - Size 1,000 (sec)</b>	95.250	95.181	95.121	<b>96.306</b>	83.146	83.742	84.313	<b>82.719</b>	87.009	83.168	95.067	84.324	86.745	
Normalized	86.84%	86.91%	86.96%	85.89%	99.49%	98.78%	98.11%	100%	95.07%	99.46%	87.01%	98.1%	95.36%	
Standard Deviation	0.1%	0.6%	0.4%	0.4%	0.7%	0.2%	1.2%	0.6%	2.8%	0.3%	0.2%	0.2%	0.2%	
<b>LibreOffice - 2.D.T.P (sec)</b>	<b>11.440</b>	12.005	11.545	13.313	13.553	<b>18.115</b>	15.574	16.022	16.828	15.744	15.603	17.388	17.100	
Normalized	100%	95.29%	99.09%	85.93%	84.41%	63.15%	73.46%	71.4%	67.98%	72.66%	73.32%	65.79%	66.9%	
Standard Deviation	3.8%	3.8%	3.4%	4.1%	3.1%	2.6%	4.6%	3.8%	3.8%	3%	2.4%	2.5%	2.8%	
<b>Stress-NG - Forking (Bogo Ops/s)</b>	30988	32324	30005	33623	<b>41840</b>	40775	37995	30321	29534	29016	28612	18957	<b>13850</b>	
Normalized	74.06%	77.25%	71.71%	80.36%	100%	97.45%	90.81%	72.47%	70.59%	69.35%	68.38%	45.31%	33.1%	
Standard Deviation	1.1%	0.9%	1.5%	2.8%	1.1%	1.2%	3.9%	1.6%	0.7%	0.3%	1%	5.7%	0.4%	
<b>Stress-NG - Semaphores (Bogo Ops/s)</b>	493196	503817	495503	495824	539644	<b>543514</b>	205623	189052	183984	181568	<b>179280</b>	202411	210061	
Normalized	90.74%	92.7%	91.17%	91.23%	99.29%	100%	37.83%	34.78%	33.85%	33.41%	32.99%	37.24%	38.65%	
Standard Deviation	1.5%	0.7%	0.5%	0.8%	1.1%	0.3%	1%	2.1%	0.7%	3%	0.3%	5.5%	4.9%	
<b>Stress-NG - Socket Activity (Bogo Ops/s)</b>	2691	2751	2128	<b>1951</b>	2712	2825	2608	2638	2580	2581	2585	2999	<b>3062</b>	
Normalized	87.9%	89.84%	69.51%	63.71%	88.56%	92.25%	85.18%	86.15%	84.25%	84.28%	84.42%	97.94%	100%	
Standard Deviation	0.6%	2.6%	10.6%	14.8%	1.8%	2.8%	1.4%	1.5%	0.4%	0.2%	0.5%	2.3%	2.6%	
<b>Stress-NG - Context Switching (Bogo Ops/s)</b>	<b>105884</b>	114109	131469	133509	210328	<b>215196</b>	203052	172638	177612	171462	149435	212492	198827	
Normalized	49.2%	53.03%	61.09%	62.04%	97.74%	100%	94.36%	80.22%	82.54%	79.68%	69.44%	98.74%	92.39%	
Standard Deviation	1.2%	0.4%	3.7%	2.5%	2.9%	1.9%	8.1%	0.4%	0.2%	1.5%	0.9%	0.4%	0.5%	
<b>Stress-NG - S.V.M.P (Bogo Ops/s)</b>	381131	380089	<b>270533</b>	376622	568422	738322	720287	654270	<b>747716</b>	687695	272300	709263	398472	
Normalized	50.97%	50.83%	36.18%	50.37%	76.02%	98.74%	96.33%	87.5%	100%	91.97%	36.42%	94.86%	53.29%	
Standard Deviation	1.8%	1.4%	32.9%	4.6%	19.3%	5.1%	8.8%	22.1%	2.2%	16.7%	12%	16.7%	12.9%	
<b>ctx_clock - C.S.T (Clocks)</b>	1032	1040	1066	1075	150	<b>149</b>	146	146	145	<b>143</b>	<b>1167</b>	146	145	
Normalized	13.86%	13.75%	13.41%	13.3%	95.33%	95.97%	97.95%	97.95%	98.62%	100%	12.25%	97.95%	98.62%	
Standard Deviation	0.2%	1.5%	0.3%	1.5%	1.2%				2.8%		0.1%		2.4%	
<b>Blender - BMW27 - CPU-Only (sec)</b>	663.96	658.71	655.75	662.51	655.53	<b>731.44</b>	651.38	652.15	652.41	<b>643.63</b>	643.79	655.92	658.84	
Normalized	96.94%	97.71%	98.15%	97.15%	98.18%	87.99%	98.81%	98.69%	98.65%	100%	99.98%	98.13%	97.69%	
Standard Deviation	0.2%	0.1%	1%	0.5%	1%	0.5%	0.6%	0.6%	0.3%	0.6%	0.6%	0.7%	0.7%	

<b>PyBench -</b>	1463	<b>1459</b>	1534	1535	1908	1875	<b>1927</b>	1716	1709	1710	1774	1736	1844
<b>T.F.A.T.T</b>													
<b>(Milliseconds)</b>													
Normalized	99.73%	100%	95.11%	95.05%	76.47%	77.81%	75.71%	85.02%	85.37%	85.32%	82.24%	84.04%	79.12%
Standard Deviation	3.1%	3.5%	2.9%	3.4%	0.5%	0.5%	0.5%	0.2%	0.9%	0.6%	3.2%	3.3%	2.8%
<b>NGINX</b>	<b>23267</b>	24041	23826	24340	31382	30137	<b>33475</b>	34105	33650	33708	28334	<b>35449</b>	30505
<b>Benchmark -</b>													
<b>S.W.P.S</b>													
<b>(Req/sec)</b>													
Normalized	65.64%	67.82%	67.21%	68.66%	88.53%	85.02%	94.43%	96.21%	94.93%	95.09%	79.93%	100%	86.05%
Standard Deviation	0.1%	0.4%	2%	0.2%	1%	2.4%	2.2%	0.9%	1.9%	10.2%	0.8%	0.8%	0.8%
<b>Apache</b>	<b>16946</b>	17387	17803	17938	23790	23455	26687	26192	25716	27422	22945	<b>27870</b>	25403
<b>Benchmark -</b>													
<b>S.W.P.S</b>													
<b>(Req/sec)</b>													
Normalized	60.8%	62.39%	63.88%	64.36%	85.36%	84.16%	95.76%	93.98%	92.27%	98.39%	82.33%	100%	91.15%
Standard Deviation	0.3%	0.5%	0.2%	0.1%	0.2%	0.1%	0.9%	0.6%	1.4%	1.1%	1%	1.1%	2.9%
<b>PHPBench -</b>	<b>485811</b>	440363	446739	430005	367527	370928	368299	163564	163011	161321	161315	164130	<b>146001</b>
<b>P.B.S (Score)</b>													
Normalized	100%	90.64%	91.96%	88.51%	75.65%	76.35%	75.81%	33.67%	33.55%	33.21%	33.21%	33.78%	30.05%
Standard Deviation	3.5%	3.3%	2.7%	12.1%	1.1%	2.9%	1.4%	0.5%	1%	0.8%	0.1%	0.5%	0.5%
<b>Selenium -</b>	91.36	93.12	<b>94.27</b>	91.33	93.23			<b>86.50</b>					
<b>ARES-6 -</b>													
<b>Firefox (ms)</b>													
Normalized	94.68%	92.89%	91.76%	94.71%	92.78%			100%					
Standard Deviation	1.2%	2%	0.6%	1%	0.4%			0.7%					
<b>Selenium -</b>	23305	22920	23187	<b>22912</b>	<b>30497</b>			25566					
<b>Octane -</b>													
<b>Firefox</b>													
<b>(Geometric)</b>													
Normalized	76.42%	75.15%	76.03%	75.13%	100%			83.83%					
Standard Deviation	2%	0.2%	0.7%	1.9%	1.3%			0.3%					
<b>Selenium -</b>	136.04	135.47	138.49	<b>134.70</b>	<b>161.77</b>			144.94					
<b>Jetstream -</b>													
<b>Firefox (Score)</b>													
Normalized	84.09%	83.74%	85.61%	83.27%	100%			89.6%					
Standard Deviation	0.1%	0.2%	0.6%	0.5%	0.6%			0.3%					
<b>Selenium -</b>	9291	9037	<b>8795</b>	9288	<b>13477</b>			9097					
<b>CanvasMark -</b>													
<b>Firefox (Score)</b>													
Normalized	68.94%	67.05%	65.26%	68.92%	100%			67.5%					
Standard Deviation	3%	2.3%	1.2%	2.9%	1.9%			1.3%					
<b>Selenium -</b>	42.40	<b>40.84</b>	41.45	41.67	<b>87.11</b>			51.81					
<b>MotionMark -</b>													
<b>Firefox (Score)</b>													
Normalized	48.67%	46.88%	47.58%	47.84%	100%			59.48%					
Standard Deviation	13.6%	11.8%	13.4%	10.2%	1%			19.1%					

Selenium -	55.4	54.9	<b>56.2</b>	55.3	<b>45.7</b>		55.2													
StyleBench -																				
Firefox (Runs / Minute)																				
Normalized	98.58%	97.69%	100%	98.4%	81.32%		98.22%													
Standard Deviation	0.4%	1.2%	0.5%	0.6%	0.3%		1.5%													
Selenium -	51.9	52.08	51.8	52.56	<b>48.7</b>		<b>55.3</b>													
Speedometer -																				
Firefox (Runs/min)																				
Normalized	93.85%	94.18%	93.67%	95.05%	88.07%		100%													
Standard Deviation	0.1%	0%	0.5%	0.4%	0.6%		0.2%													
Selenium -	2181	2193	2194	2196	<b>3900</b>		<b>1977</b>													
PSPDFKit																				
WASM - Firefox (Score)																				
Normalized	90.65%	90.15%	90.11%	90.03%	50.69%		100%													
Standard Deviation	1%	1.6%	0.8%	0.8%	0.6%		1.4%													
Git -	7.155	7.157	7.146	7.051	<b>7.634</b>	7.299	7.216	7.059	7.085	6.933	<b>6.643</b>	6.742	6.657							
T.T.C.C.G.C (sec)																				
Normalized	92.84%	92.82%	92.96%	94.21%	87.02%	91.01%	92.06%	94.11%	93.76%	95.82%	100%	98.53%	99.79%							
Standard Deviation	0.2%	0.9%	2%	2.6%	0.4%	3.8%	2.9%	0.7%	2%	3%	4.2%	3.1%	0.9%							
Systemd Total	<b>25053</b>	24067	24059	25050	10014	<b>2950</b>	12035	10019	10955											
Boot Time - Total (ms)																				
Normalized	11.78%	12.26%	12.26%	11.78%	29.46%	100%	24.51%	29.44%	26.93%											
Systemd Total	1208	1618	1486	<b>2529</b>	1494	1410	1271	1192	<b>1138</b>											
Boot Time - Kernel (ms)																				
Normalized	94.21%	70.33%	76.58%	45%	76.17%	80.71%	89.54%	95.47%	100%											
Systemd Total	<b>23845</b>	22449	22573	22521	8520	<b>1540</b>	10764	8827	9817											
Boot Time - Userspace (ms)																				
Normalized	6.46%	6.86%	6.82%	6.84%	18.08%	100%	14.31%	17.45%	15.69%											

## SQLite 3.30.1

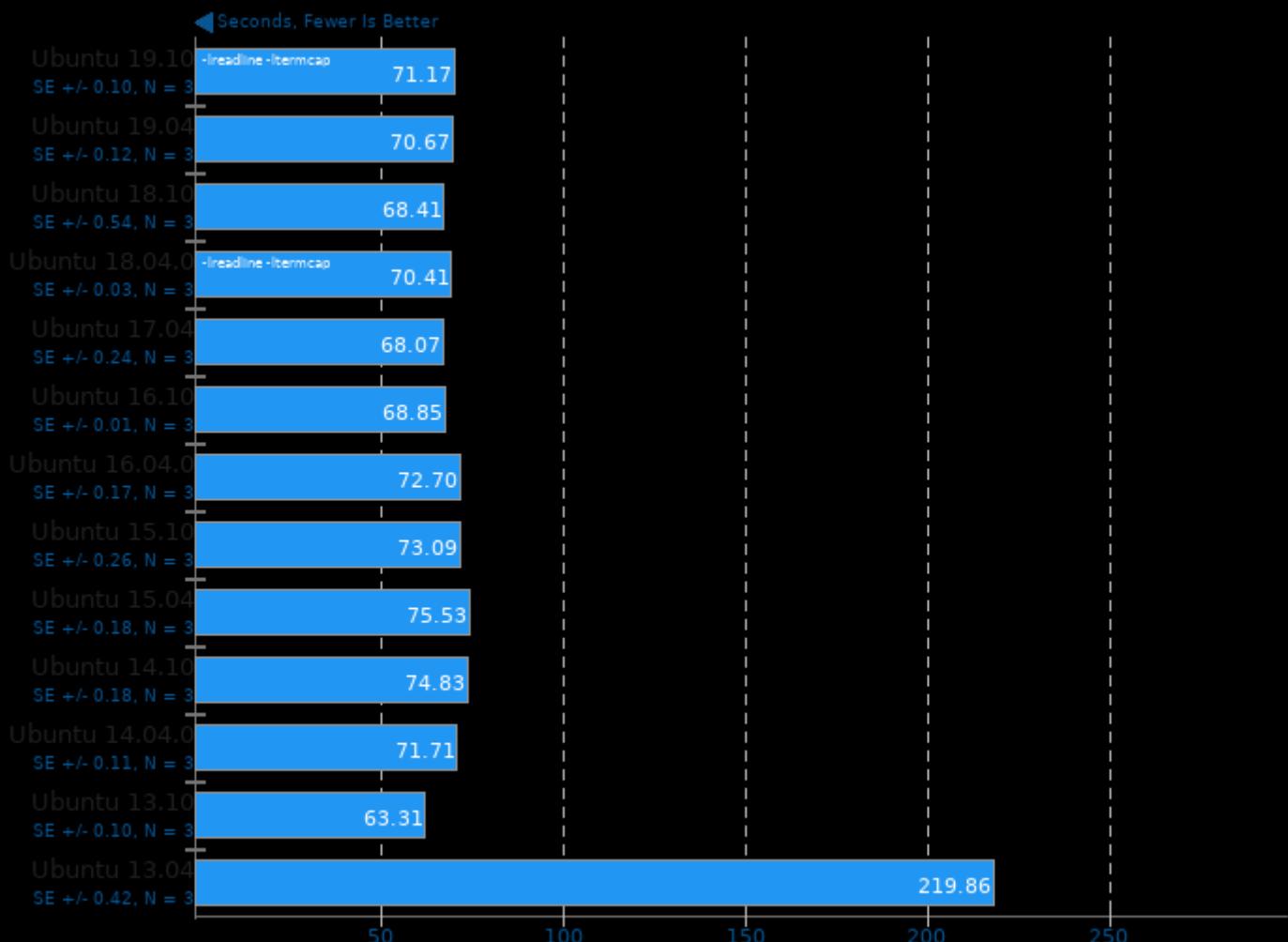
Threads / Copies: 1



1. (CC) gcc options: -O2 -fz -fim -fidi -fthread

## SQLite 3.30.1

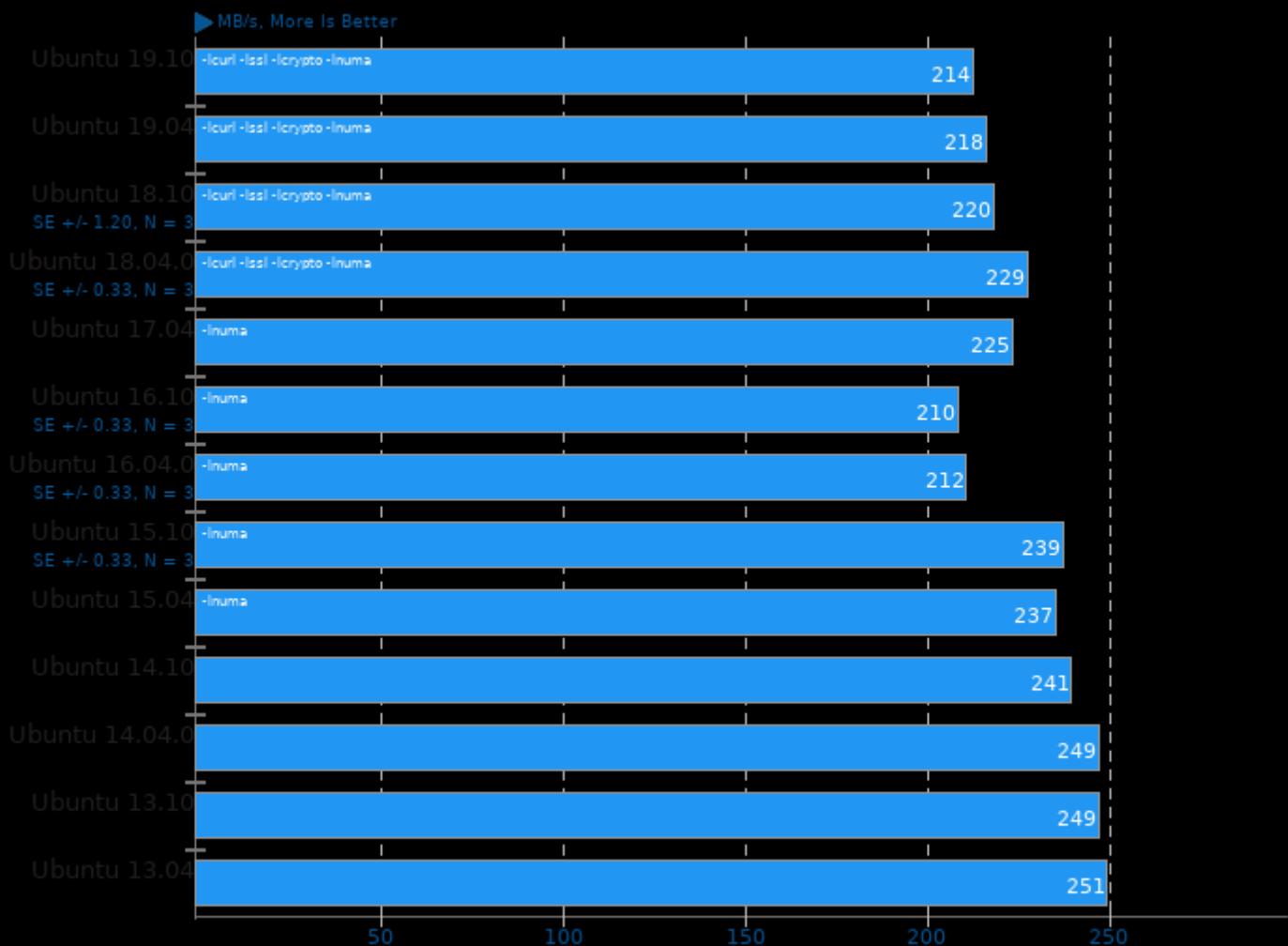
Threads / Copies: 8



1. (CC) gcc options: -O2 -fz -fim -fidi -fthread

## Flexible IO Tester 3.16

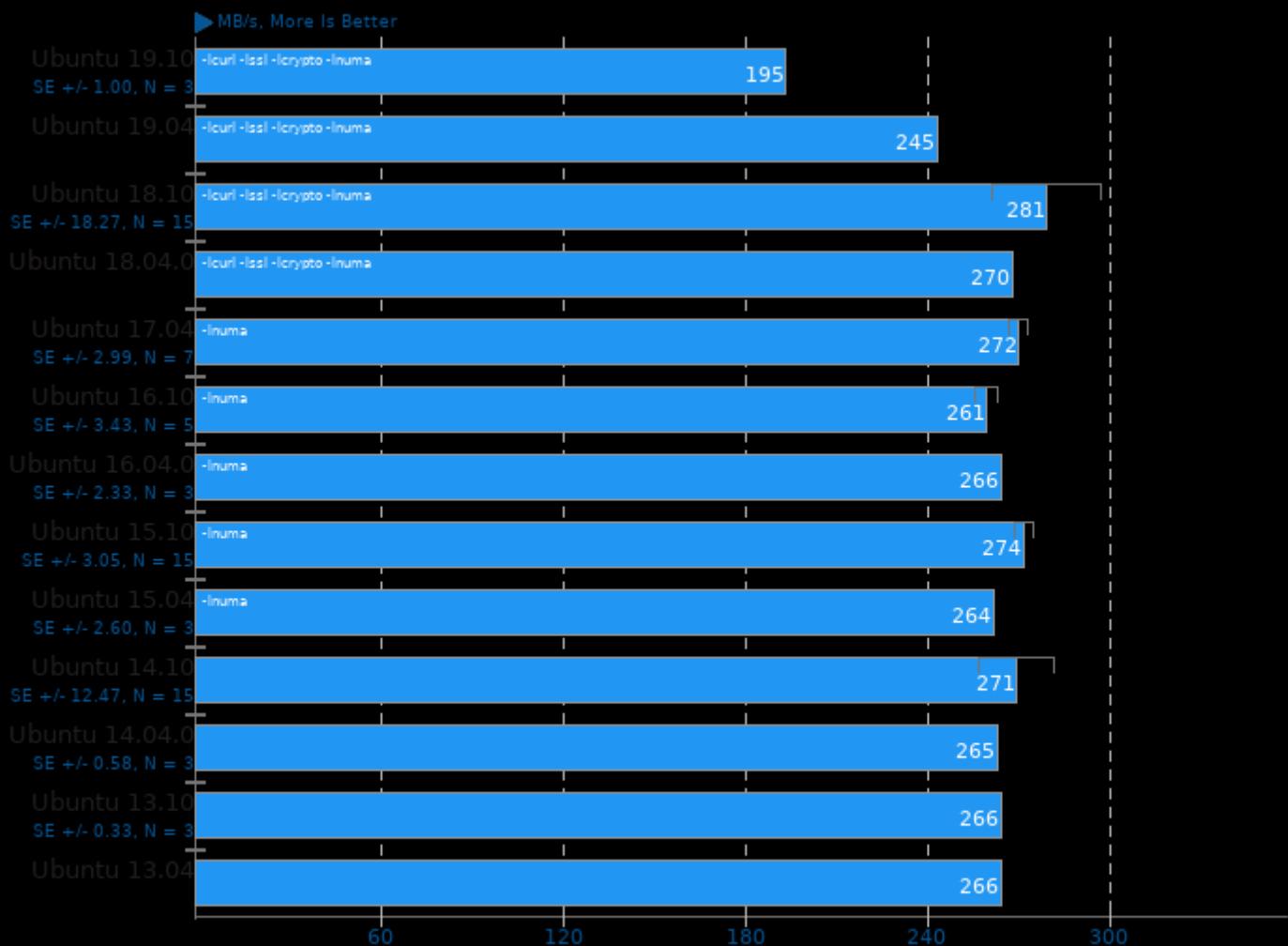
Type: Random Read - IO Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 2MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U\_FORTIFY\_SOURCE -march=native -I -libverbs -Irt -laio -lz -lm -lpthread -ldl

## Flexible IO Tester 3.16

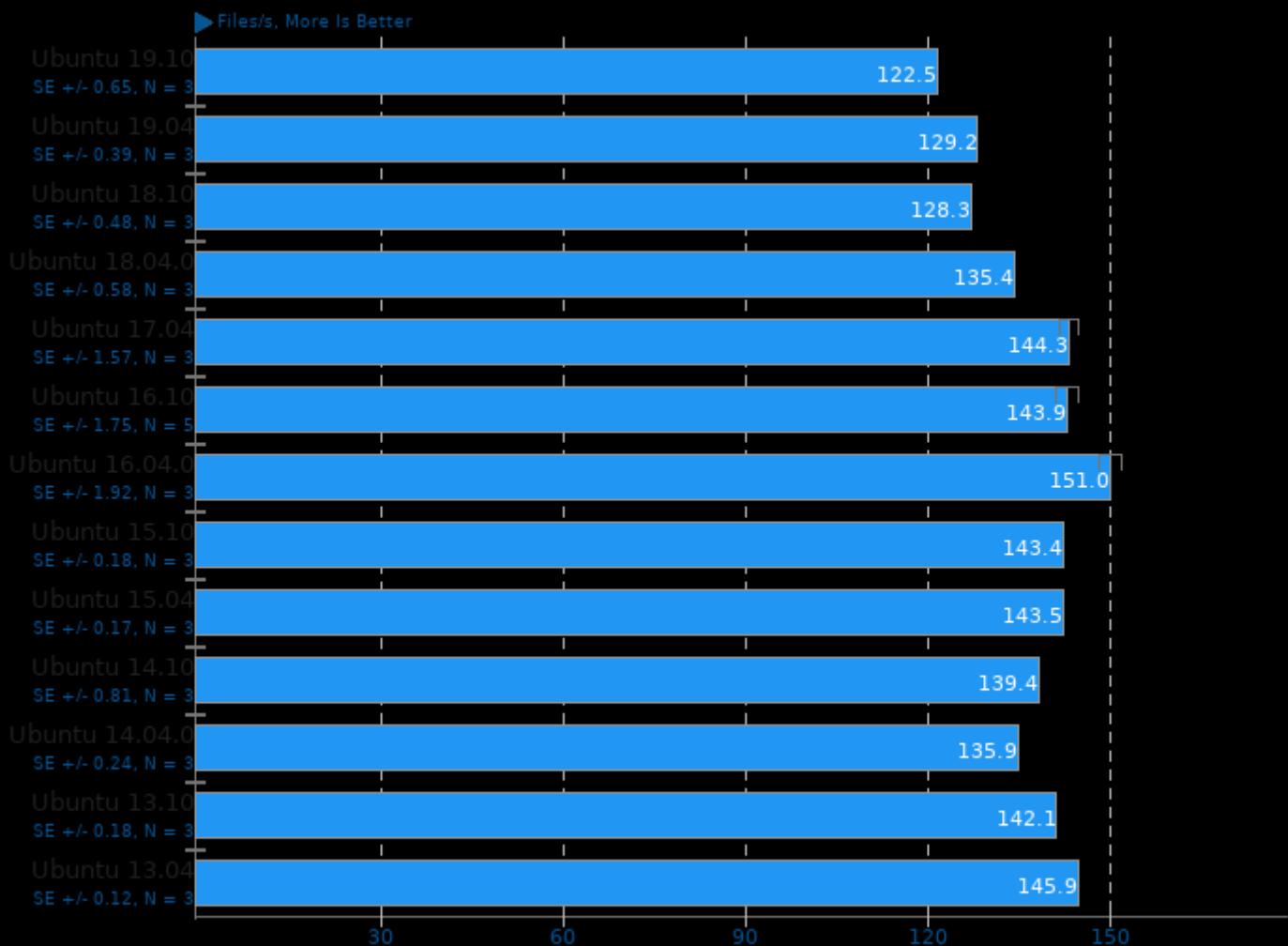
Type: Sequential Write - IO Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 2MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U\_FORTIFY\_SOURCE -march=native -fl -libverbs -lrt -lao -lz -lm -lpthread -ldl

## FS-Mark 3.3

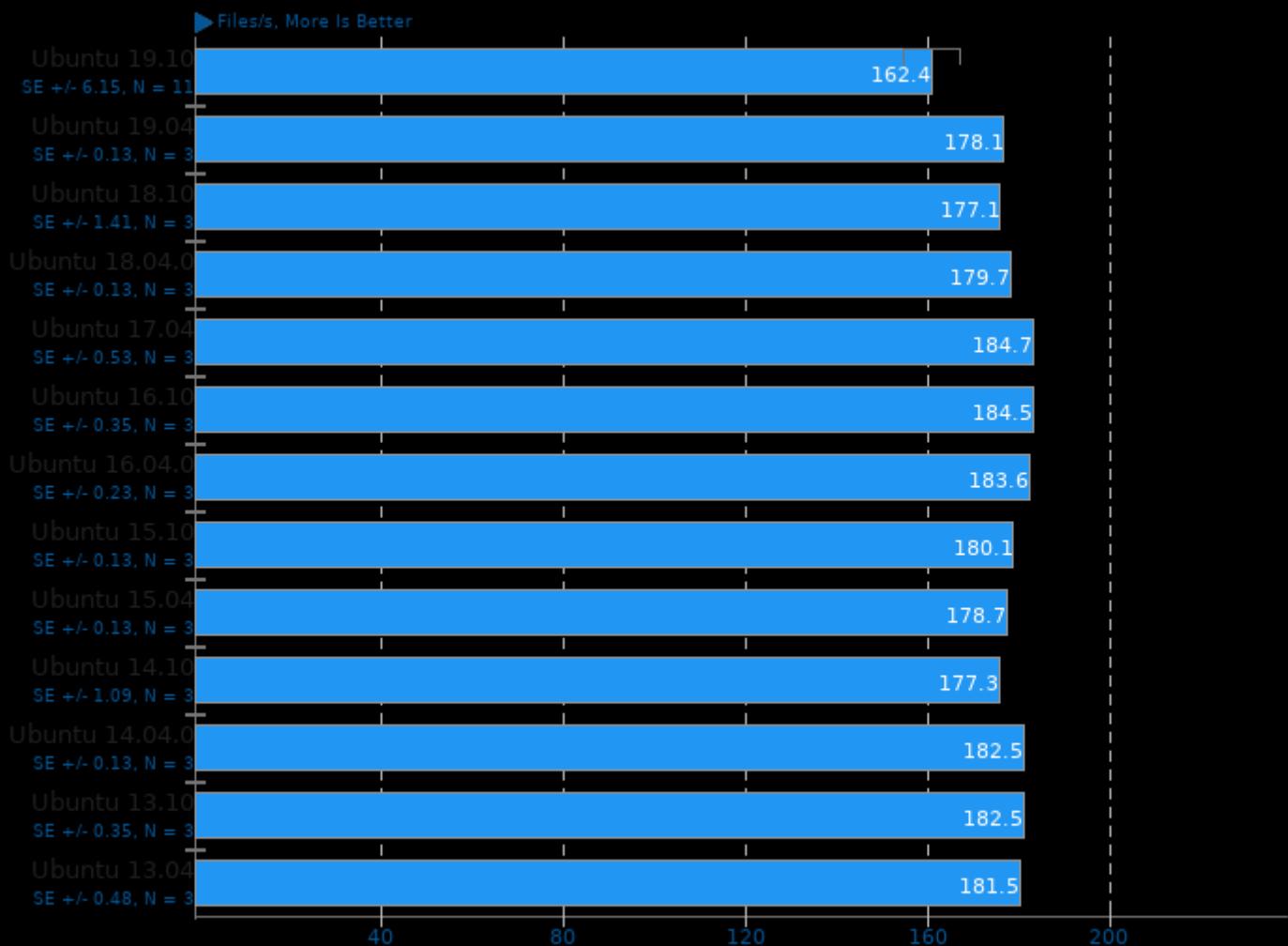
Test: 1000 Files, 1MB Size



1. (CC) gcc options: -static

## FS-Mark 3.3

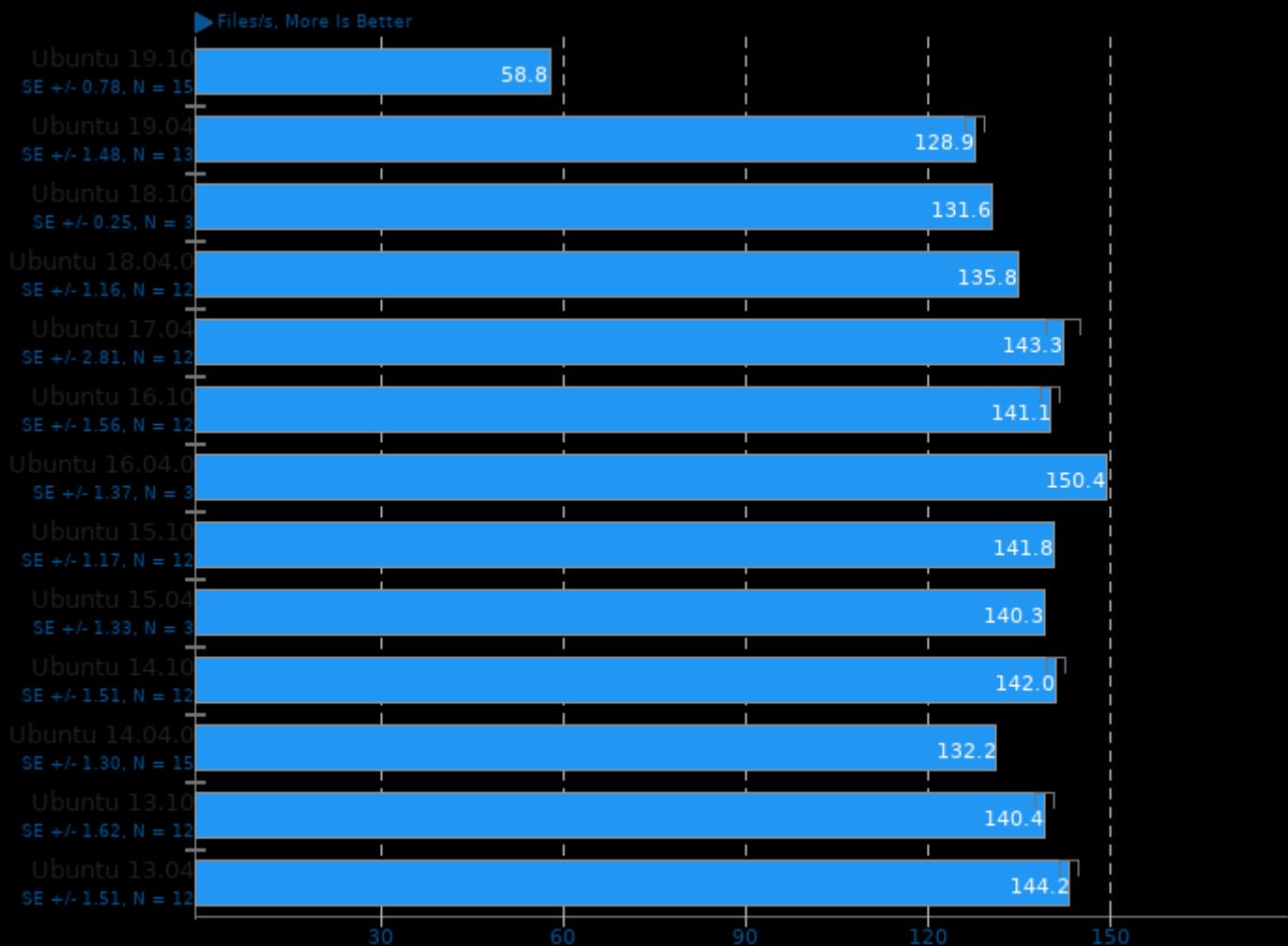
Test: 5000 Files, 1MB Size, 4 Threads



1. (CC) gcc options: -static

## FS-Mark 3.3

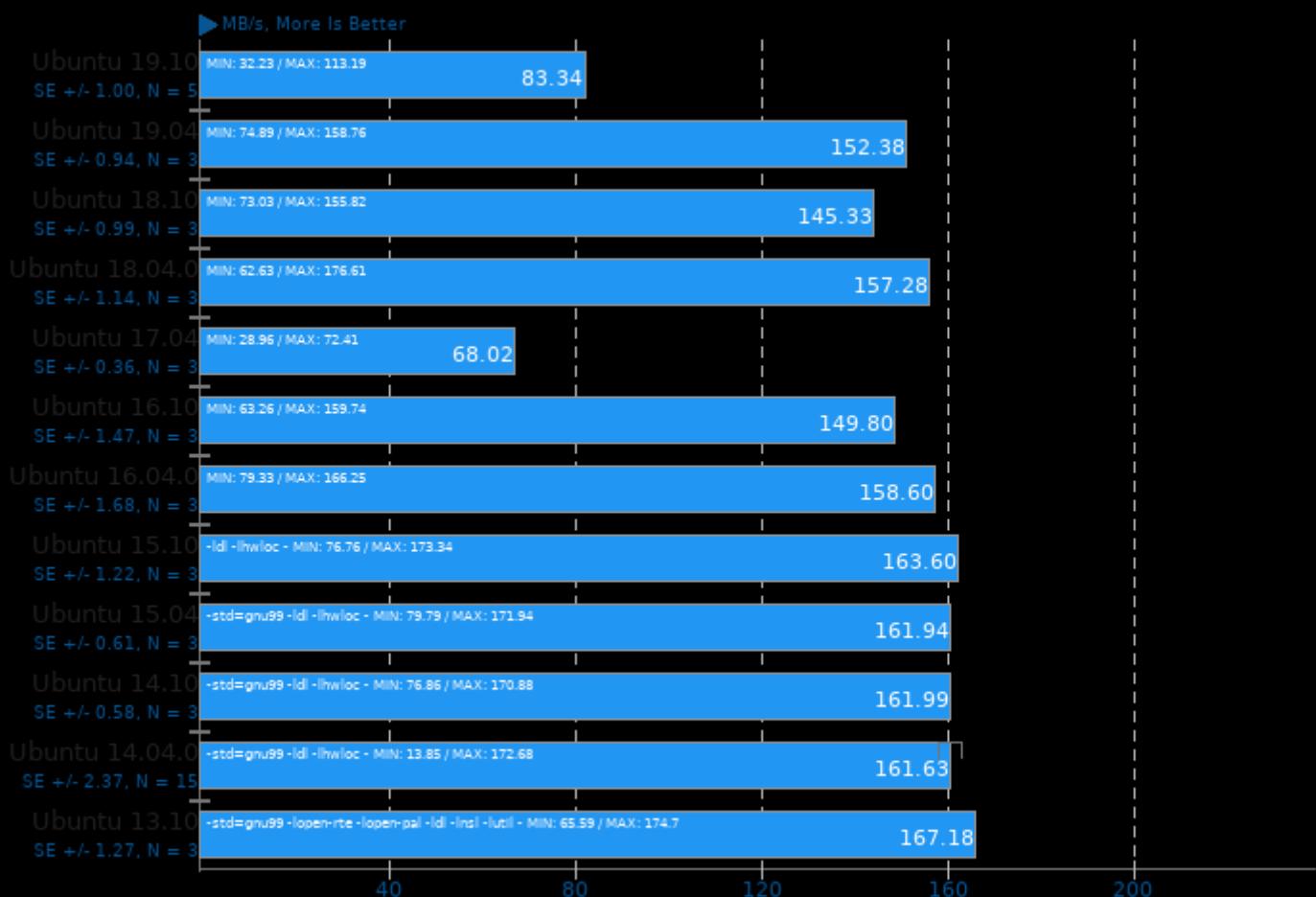
Test: 4000 Files, 32 Sub Dirs, 1MB Size



1. (CC) gcc options: -static

## IOR 3.2.1

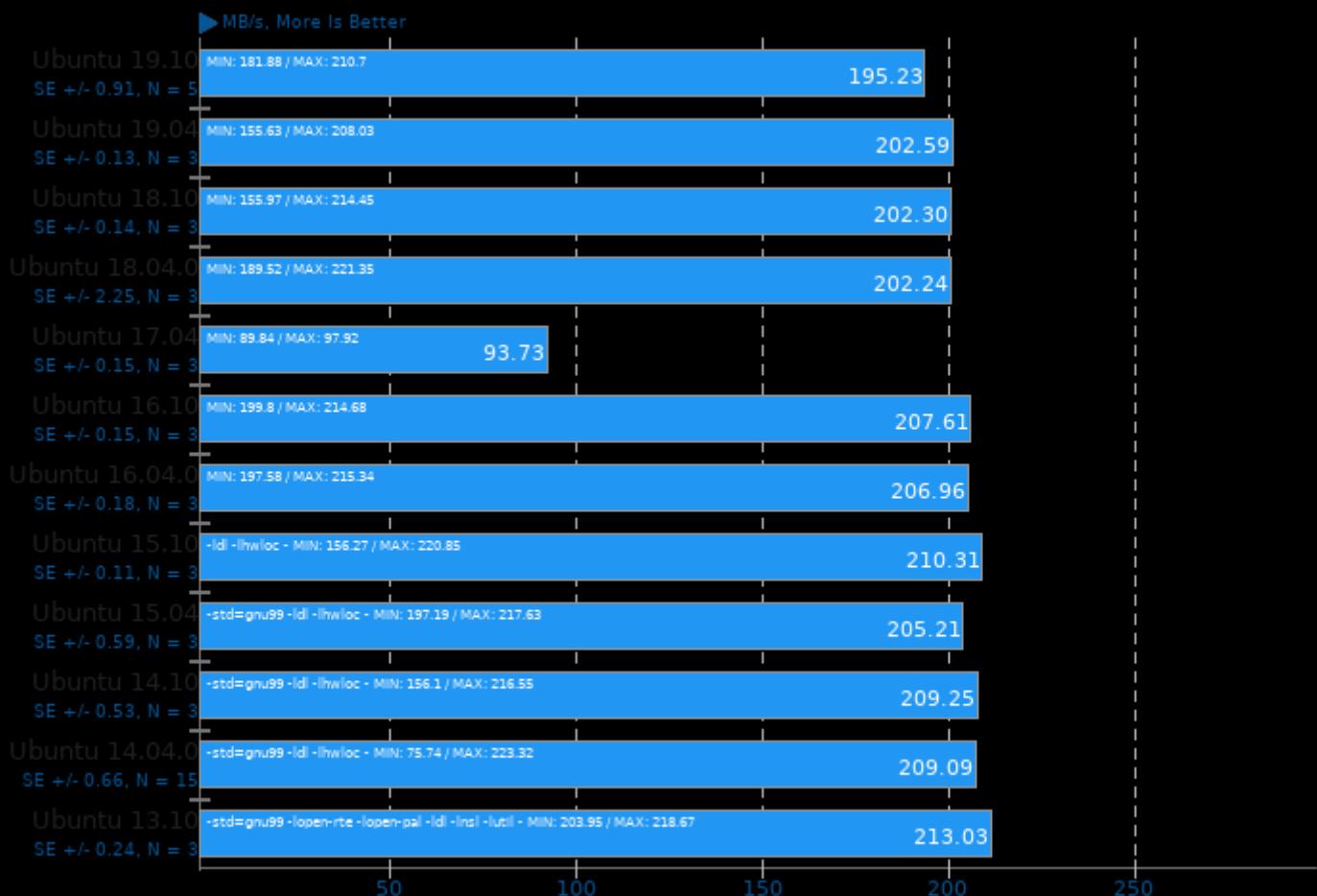
Write Test



1. (CC) gcc options: -O2 -lm -pthread -lmpi

## IOR 3.2.1

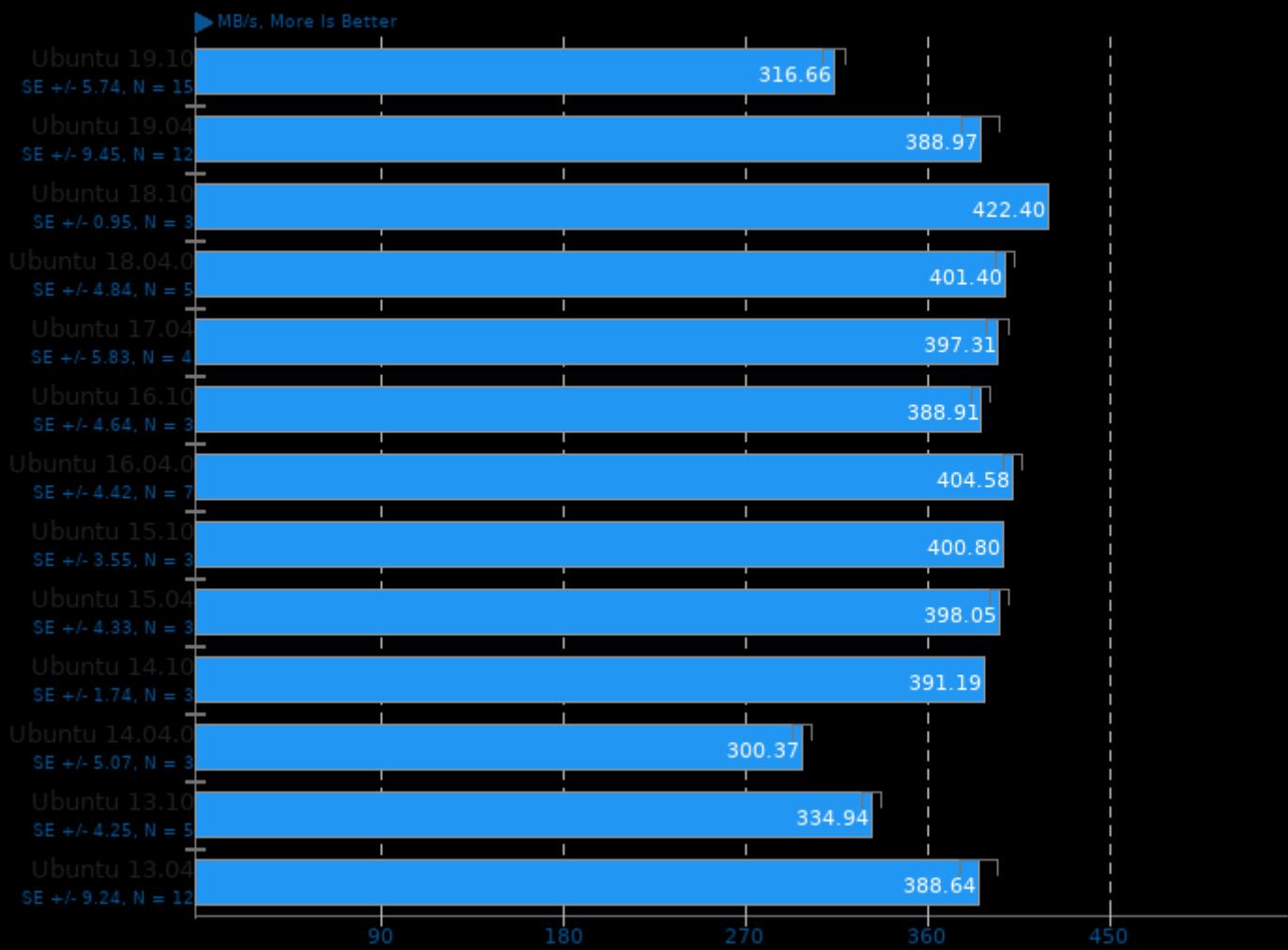
Read Test



1. (CC) gcc options: -O2 -lm -pthread -lmpi

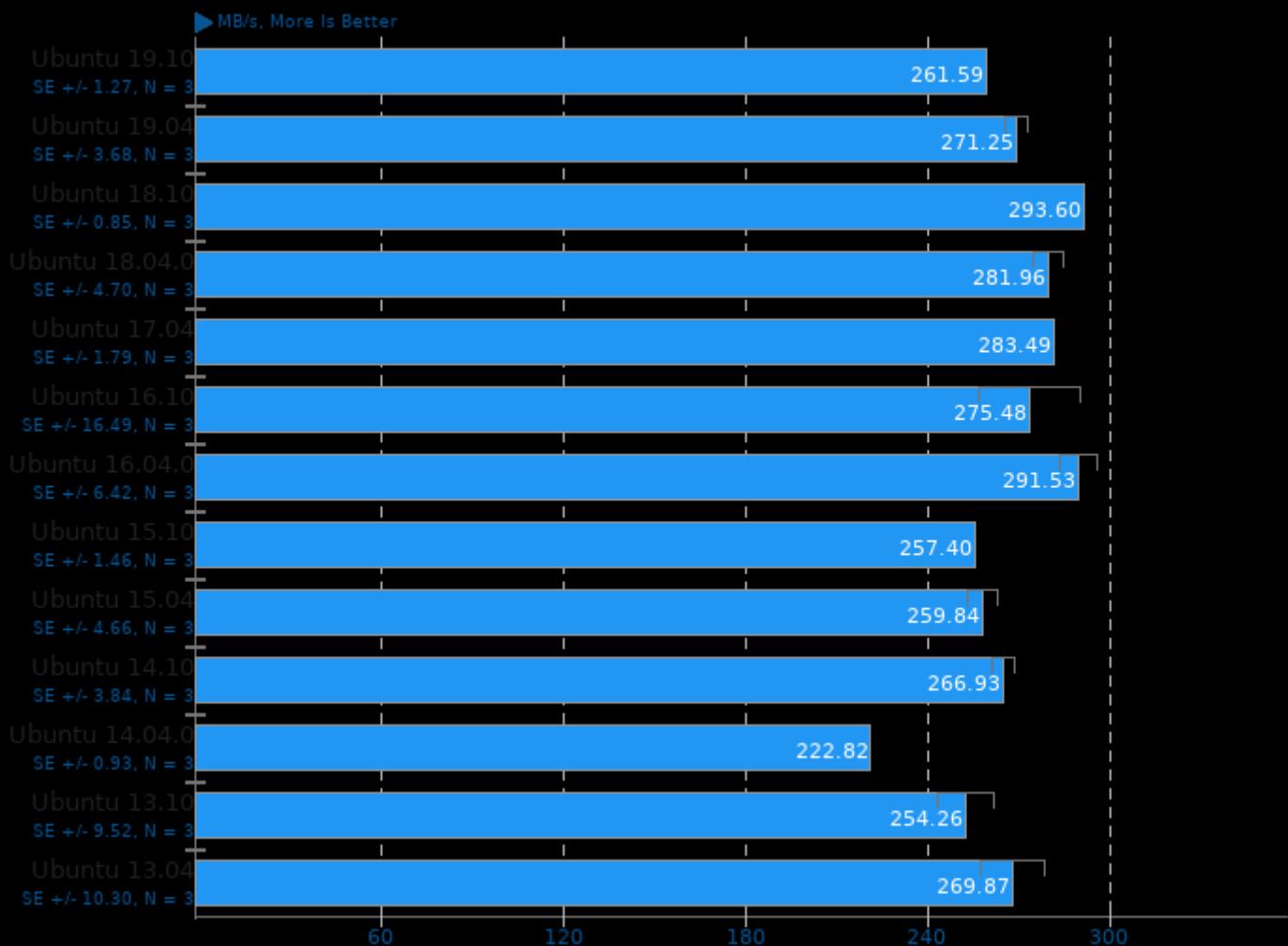
## Compile Bench 0.6

Test: Compile



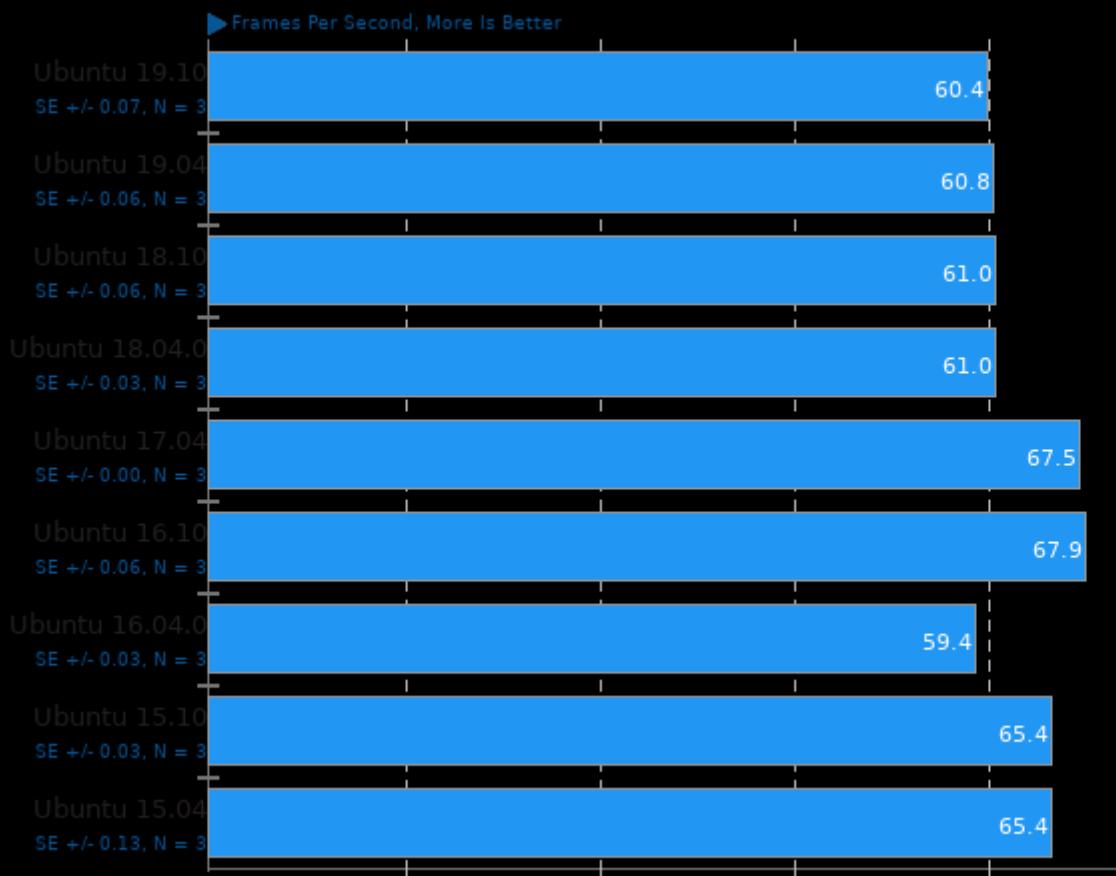
## Compile Bench 0.6

Test: Initial Create



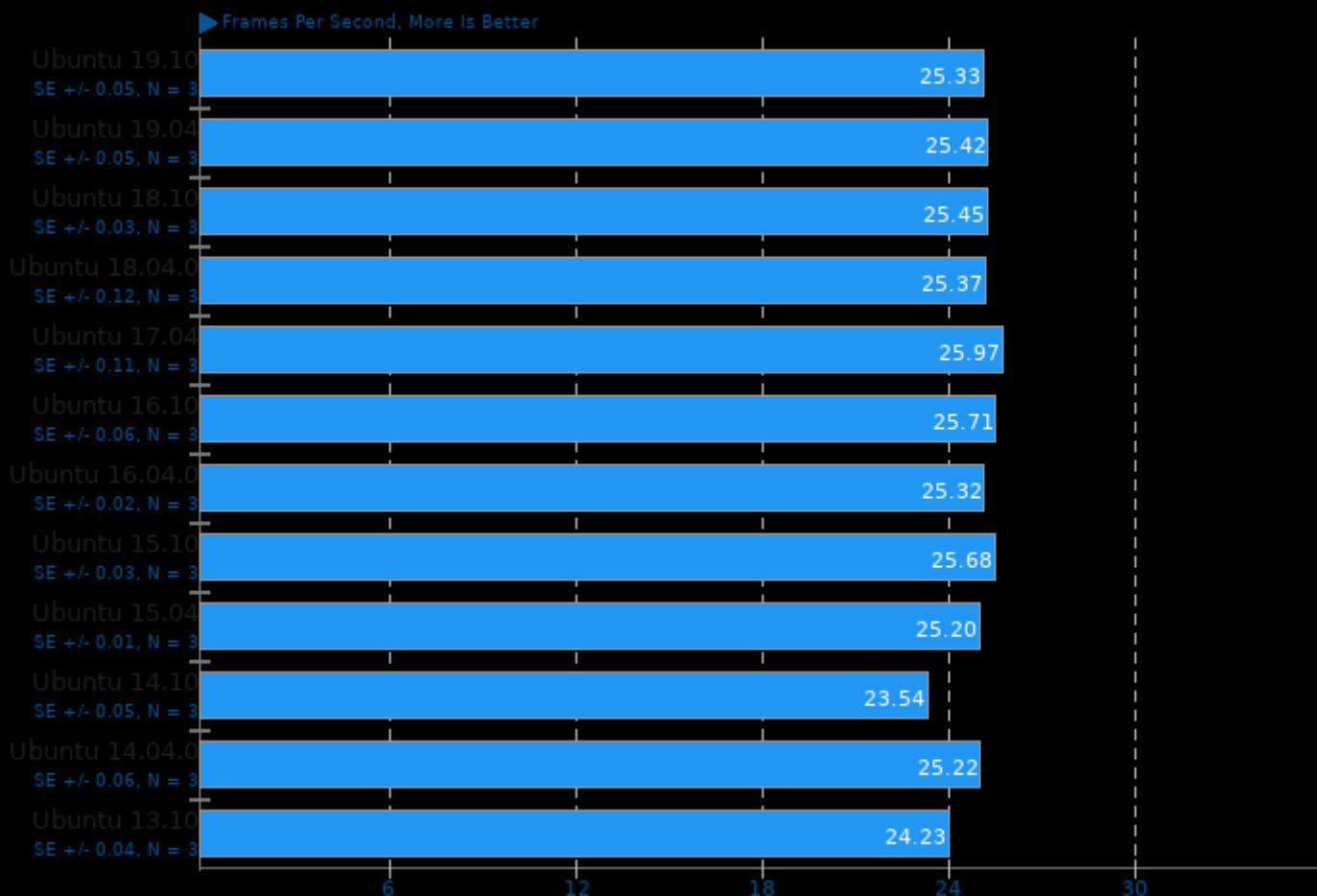
**ET: Legacy 2.75**

Renderer: Renderer2 - Resolution: 1920 x 1080



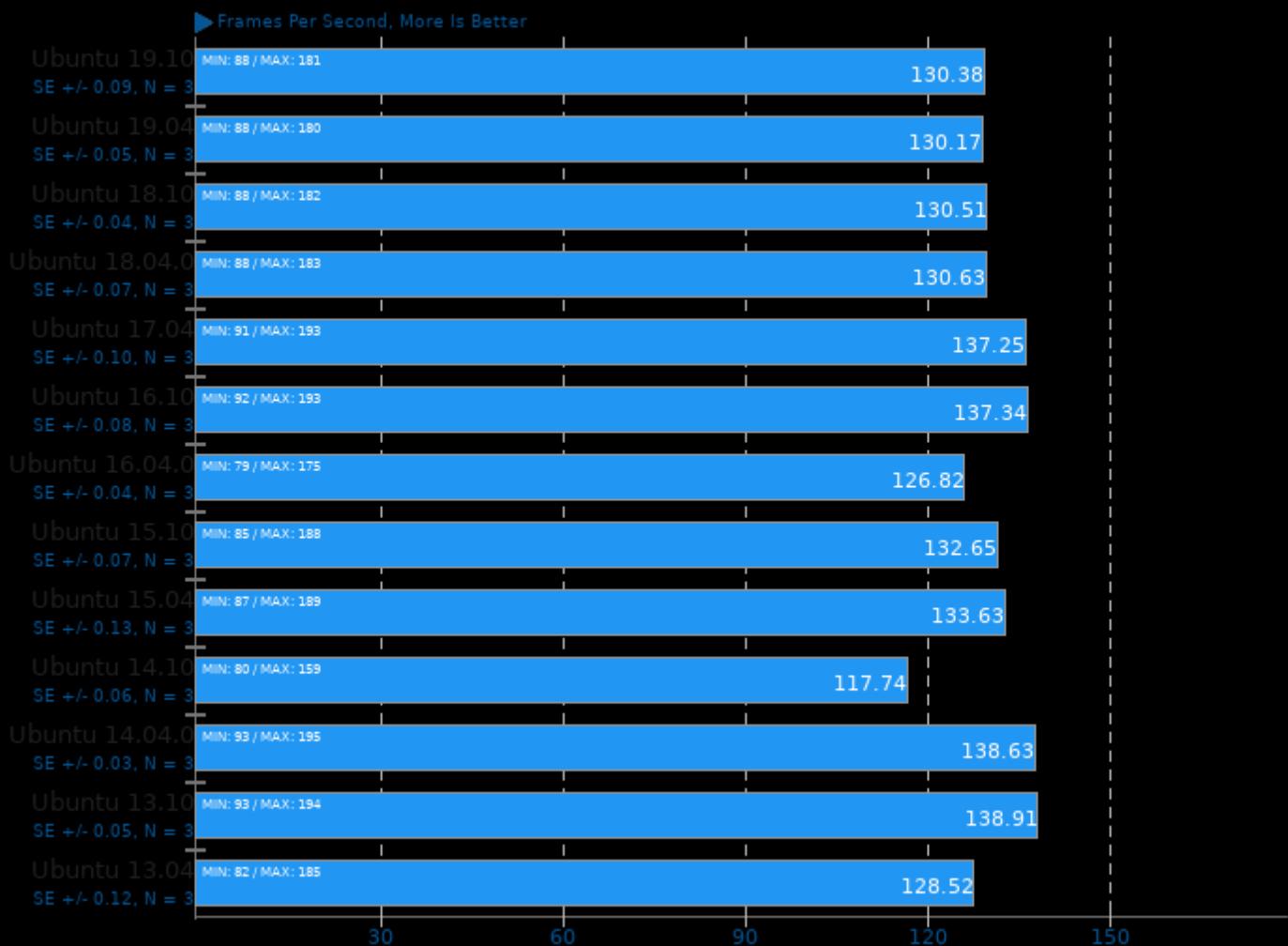
## Tesseract 2014-05-12

Resolution: 1920 x 1080



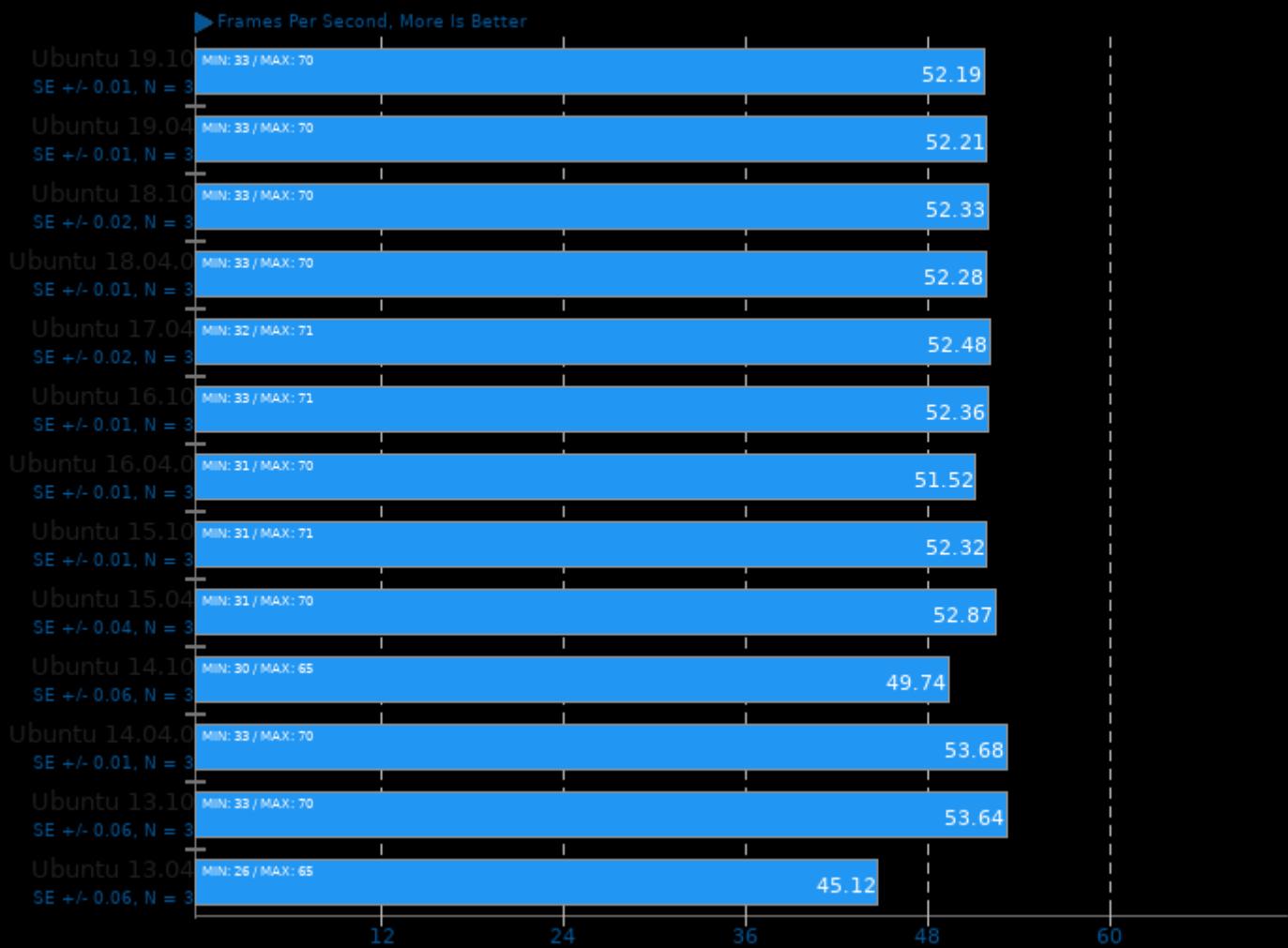
## Xonotic 0.8.2

Resolution: 1920 x 1080 - Effects Quality: Low



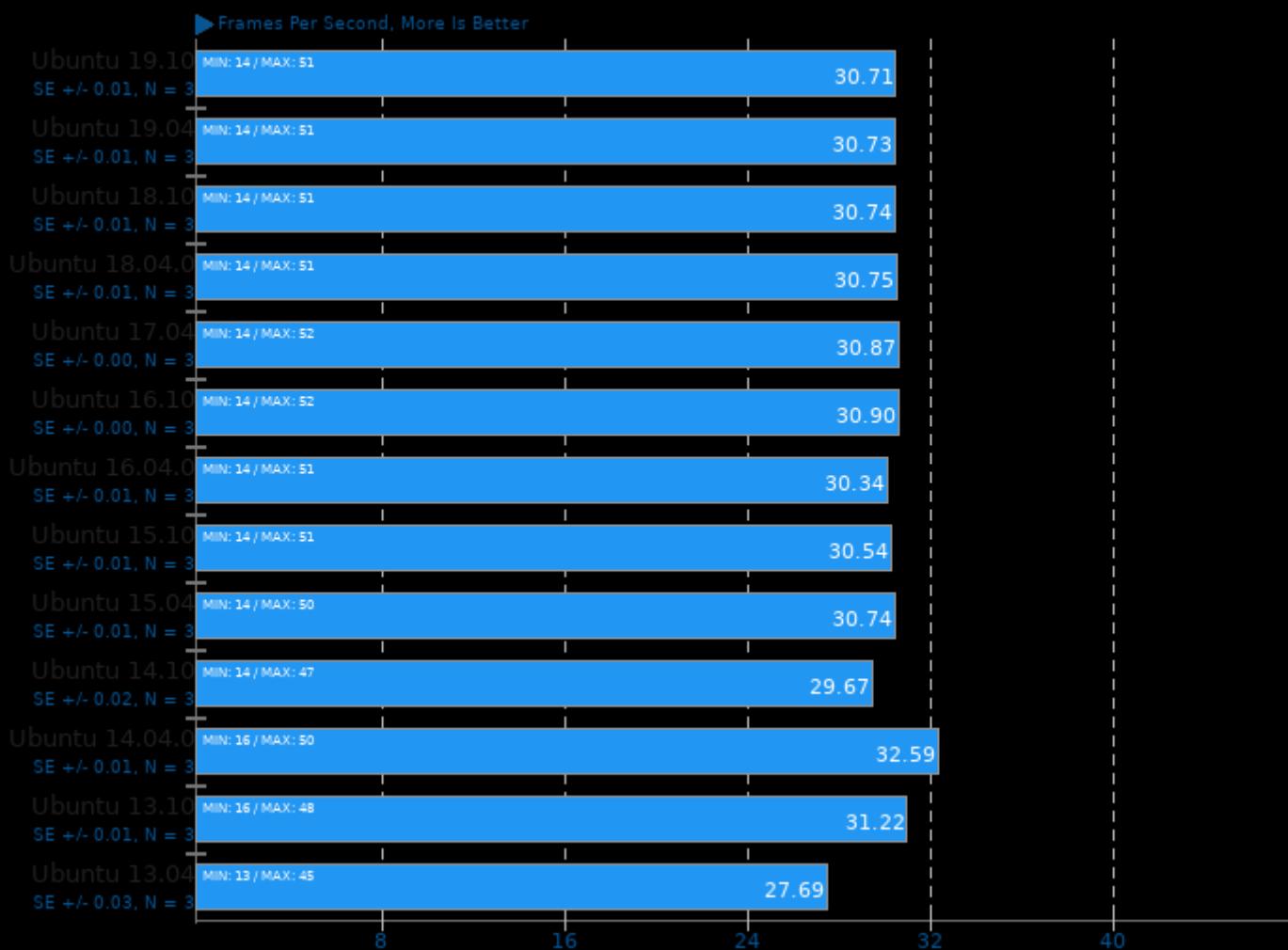
## Xonotic 0.8.2

Resolution: 1920 x 1080 - Effects Quality: High



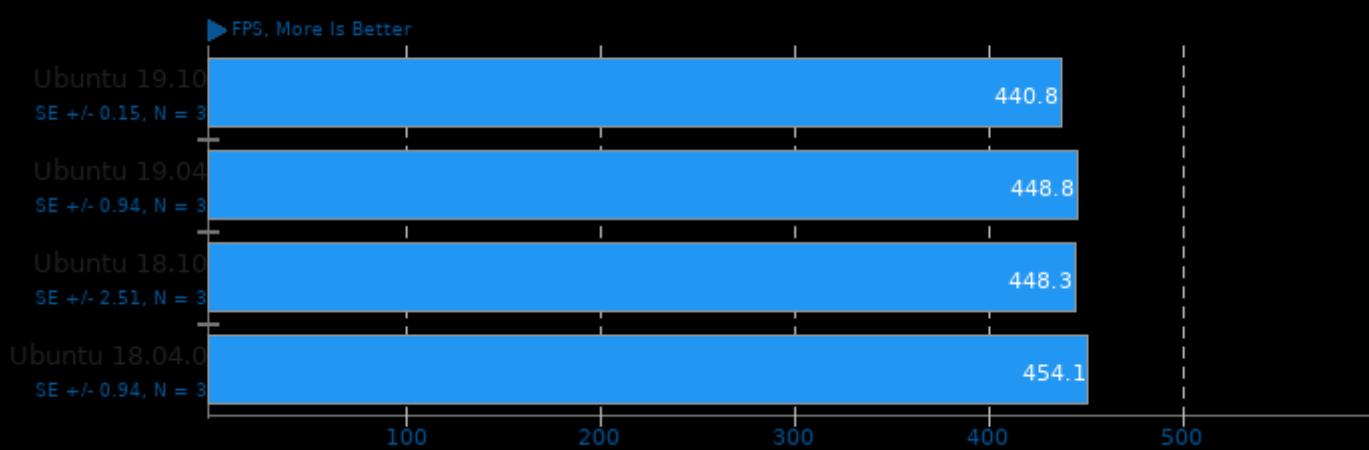
### Xonotic 0.8.2

Resolution: 1920 x 1080 - Effects Quality: Ultra



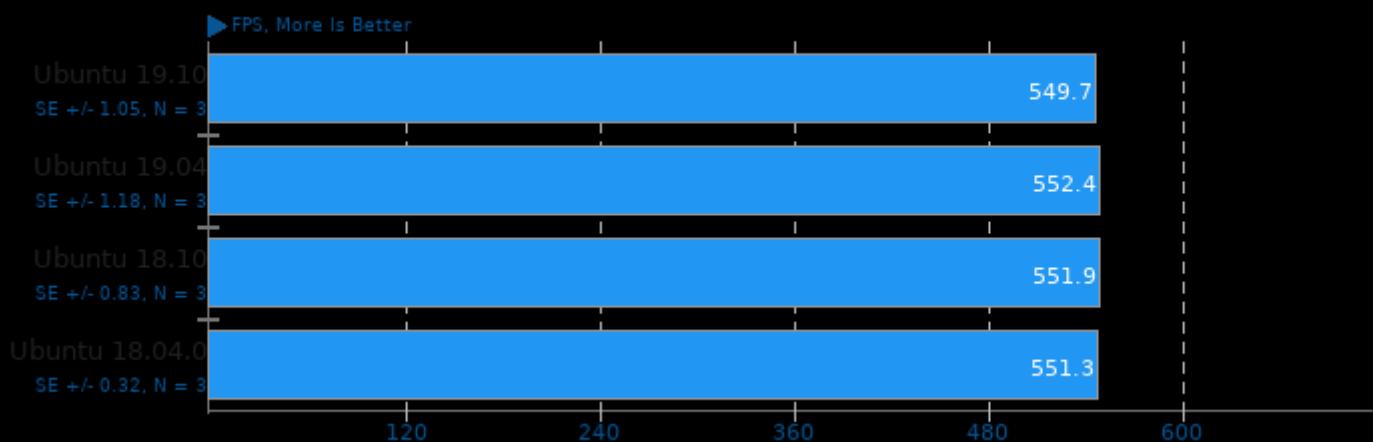
### GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL2 AntTweakBar



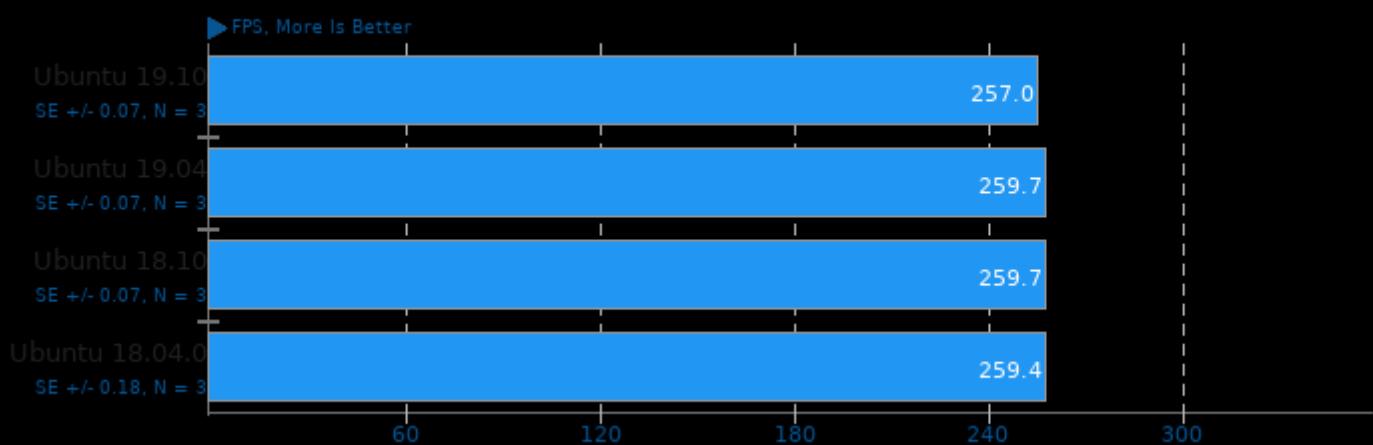
## GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL3 Vertex Pool



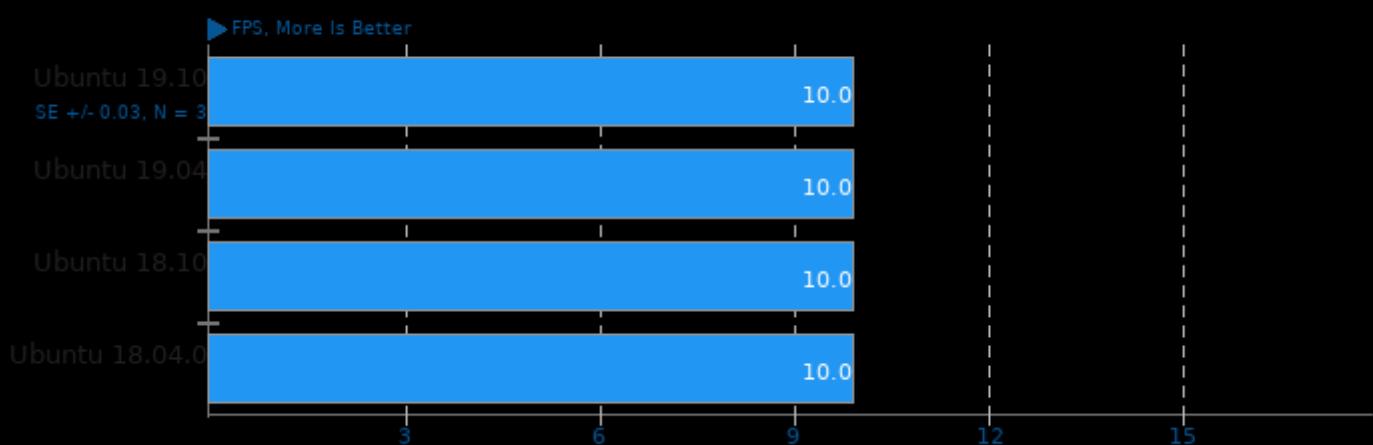
## GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL2 Cell Shading



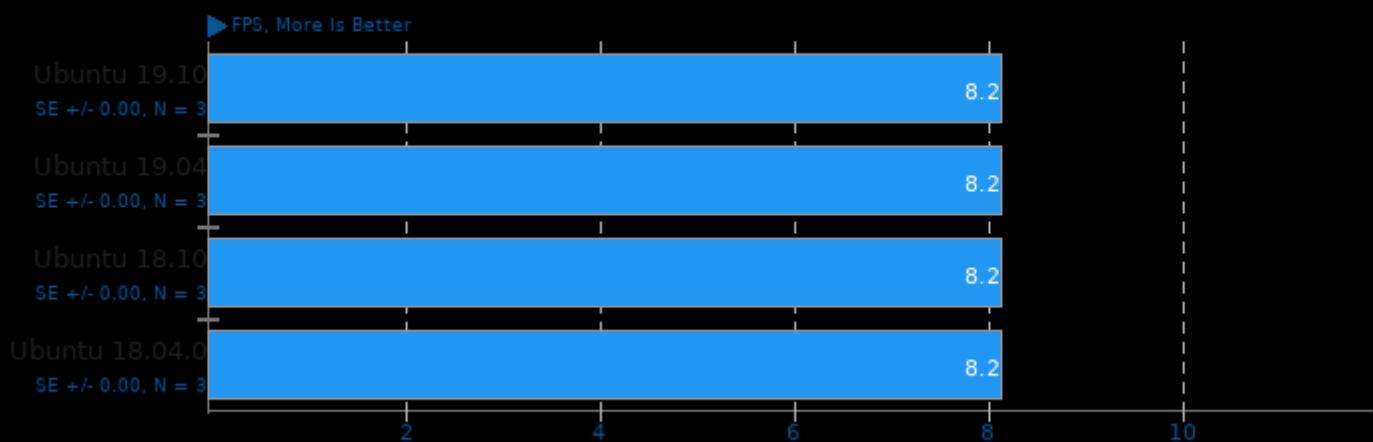
## GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL2 Tunnel Beauty



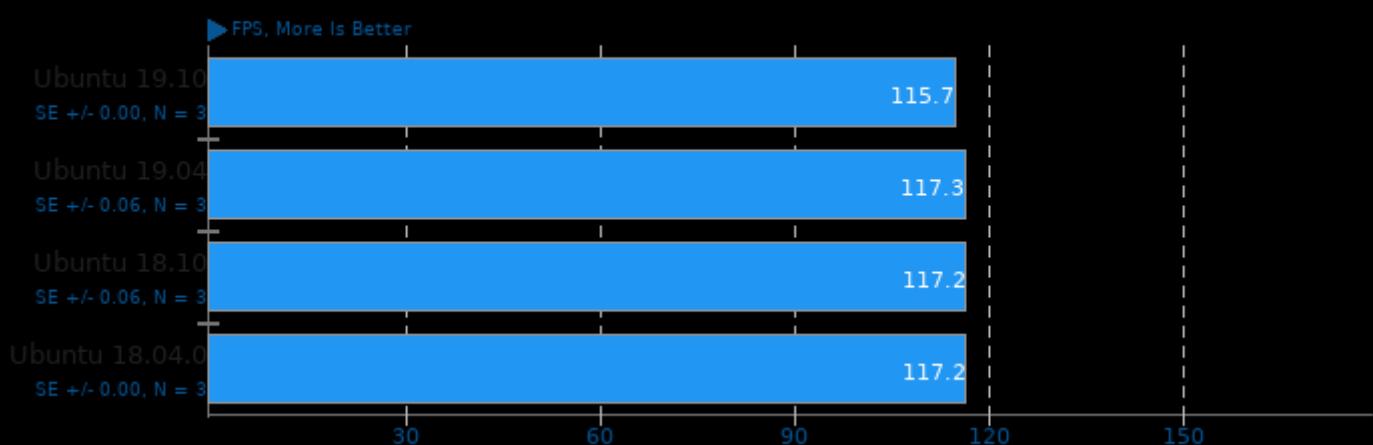
## GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL2 Hot Tunnel DNA



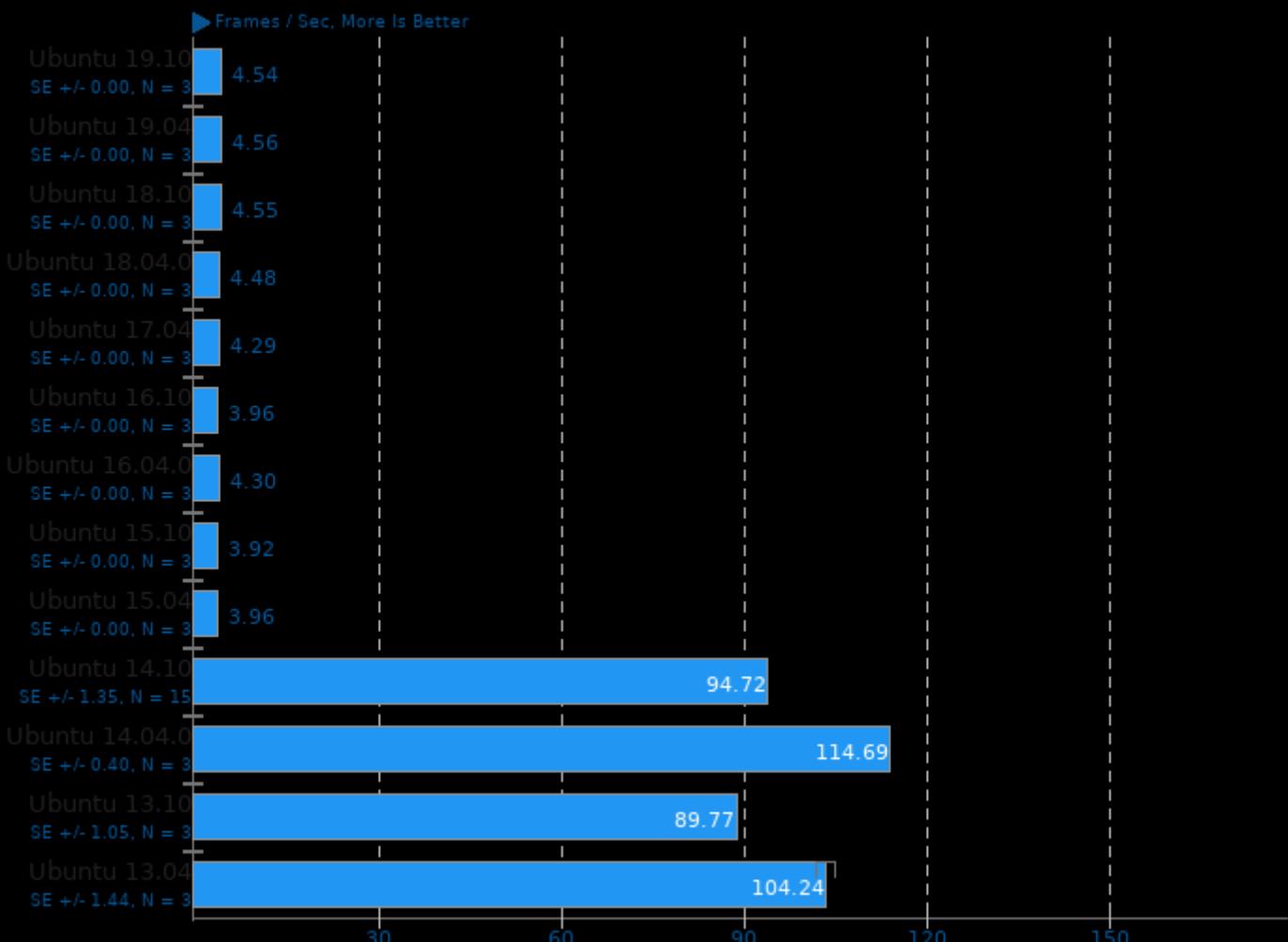
## GeeXLab 0.28.0

Resolution: 1920 x 1080 - Test: GL2 Noise Animation Electric



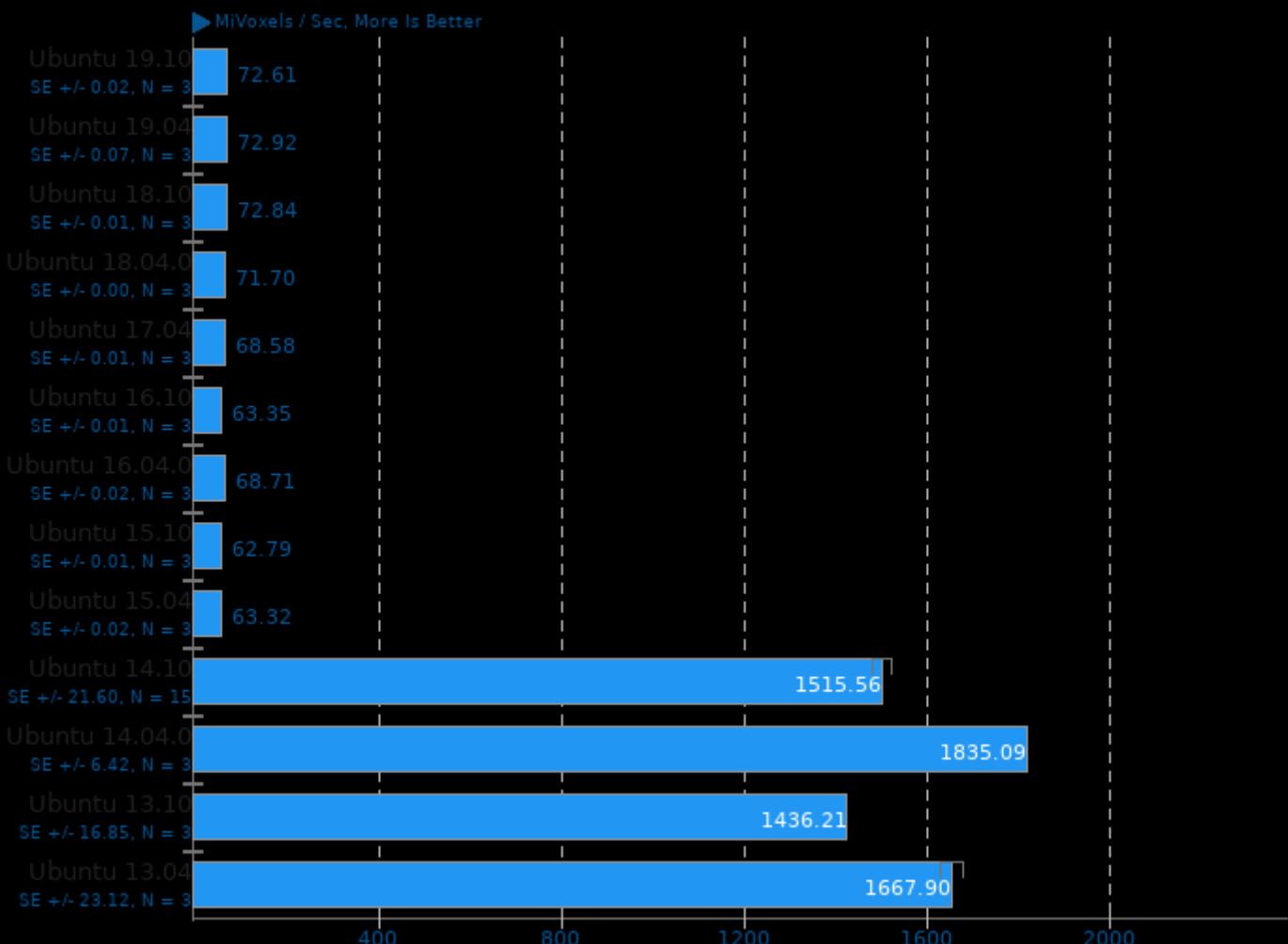
## ParaView 5.4.1

Test: Wavelet Volume - Resolution: 1920 x 1080



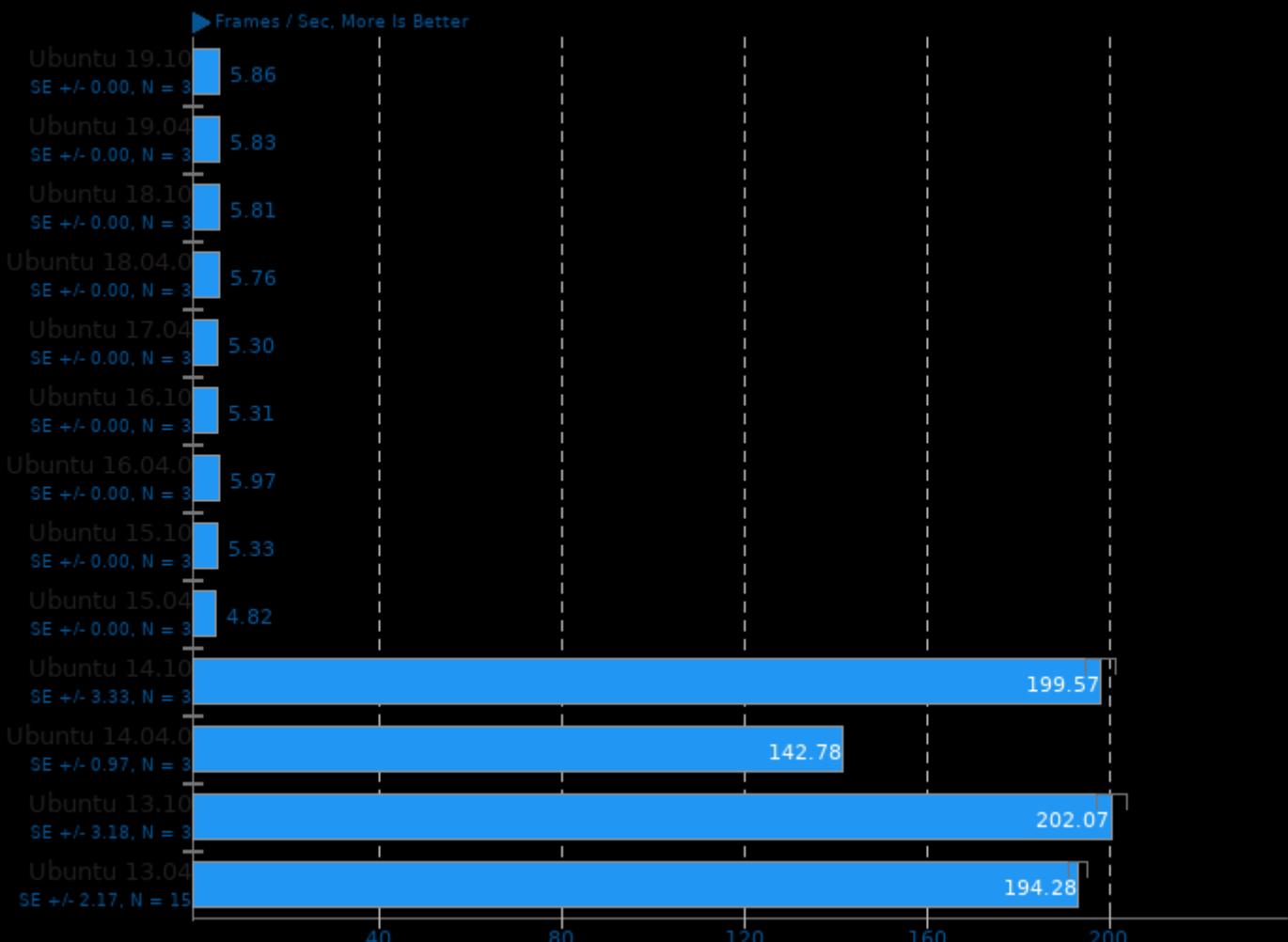
## ParaView 5.4.1

Test: Wavelet Volume - Resolution: 1920 x 1080



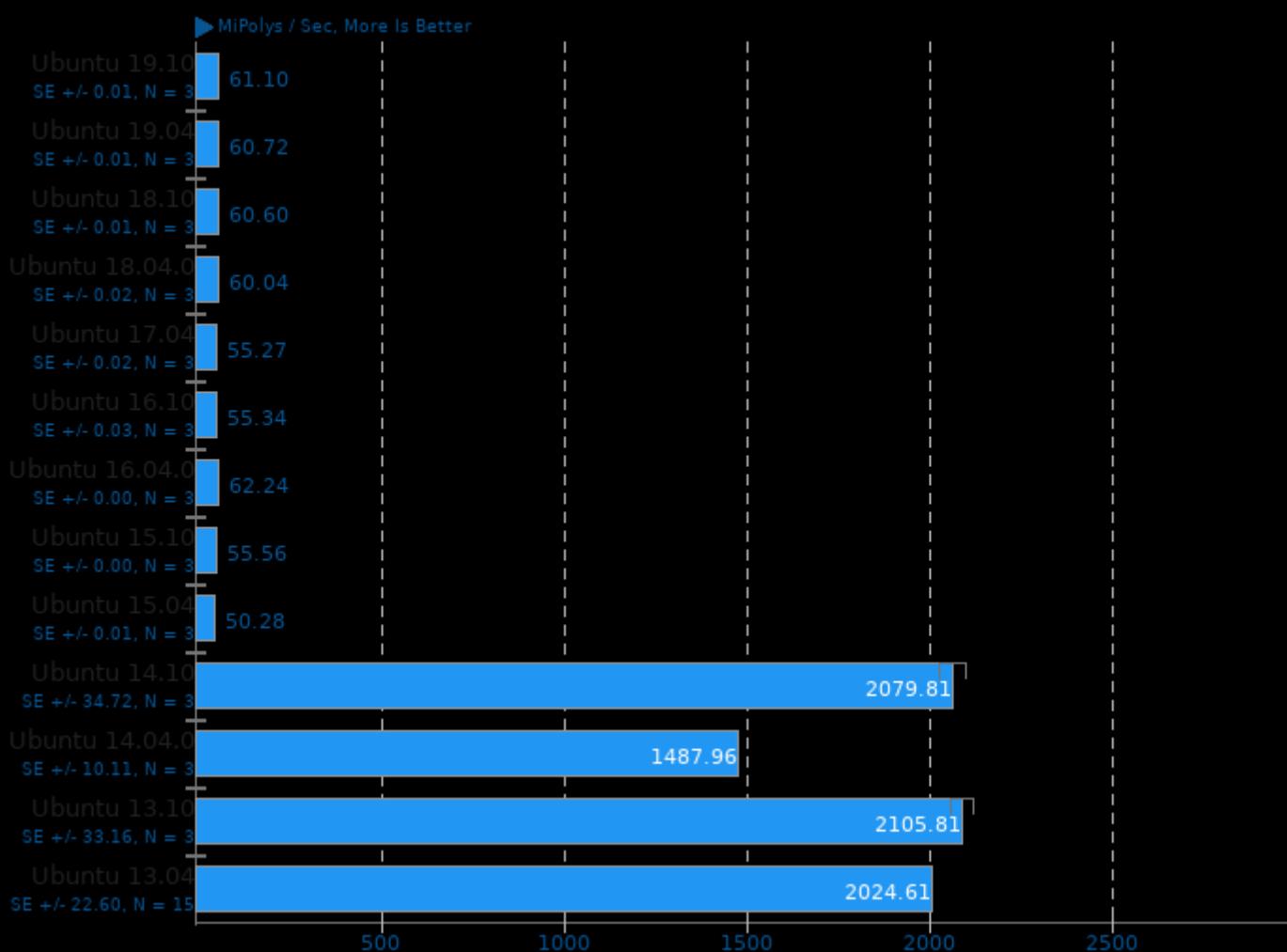
## ParaView 5.4.1

Test: Wavelet Contour - Resolution: 1920 x 1080



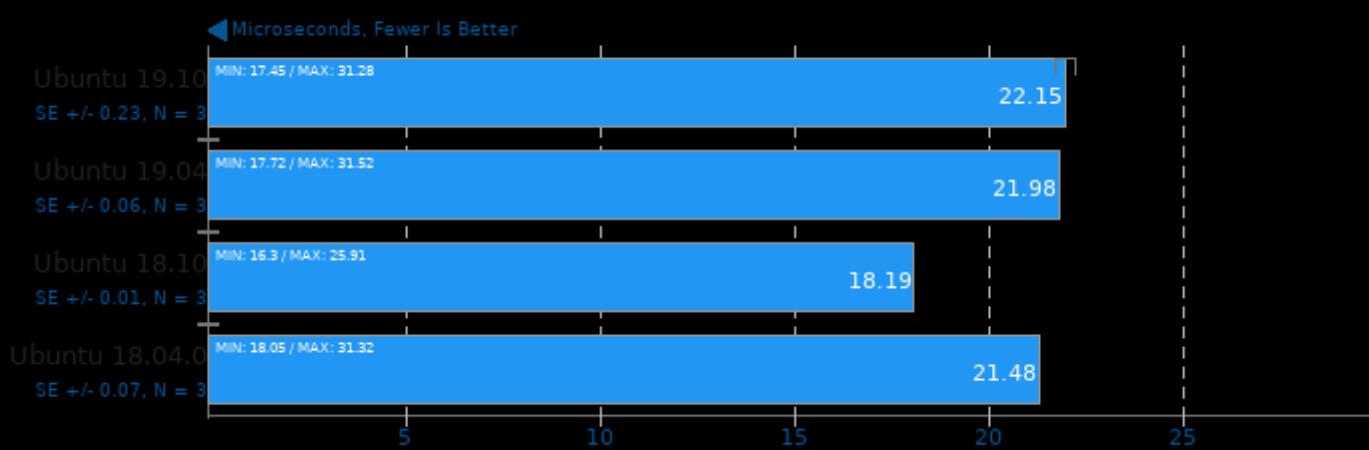
## ParaView 5.4.1

Test: Wavelet Contour - Resolution: 1920 x 1080



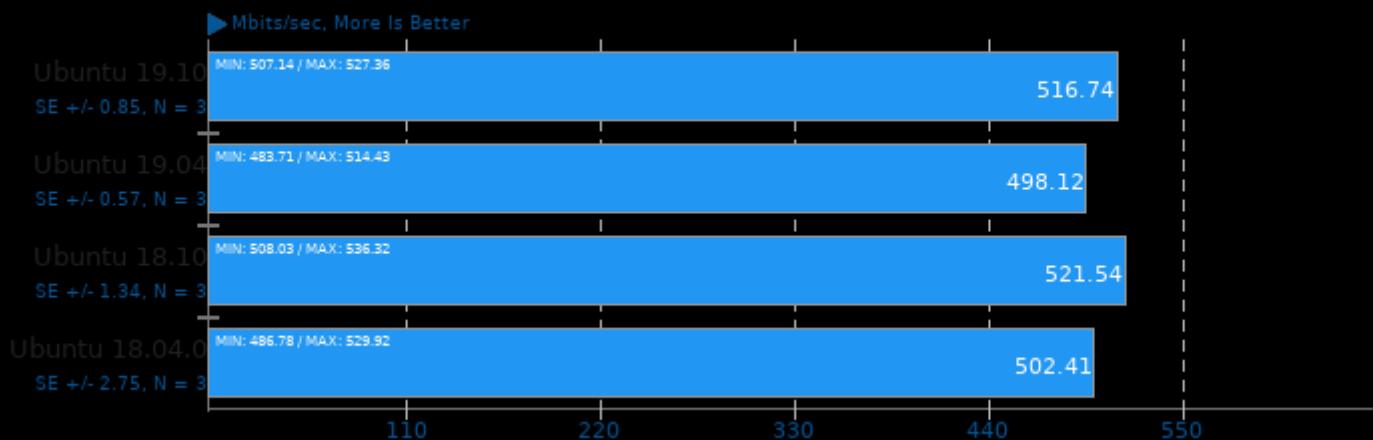
## Ethr 2019-01-02

Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1



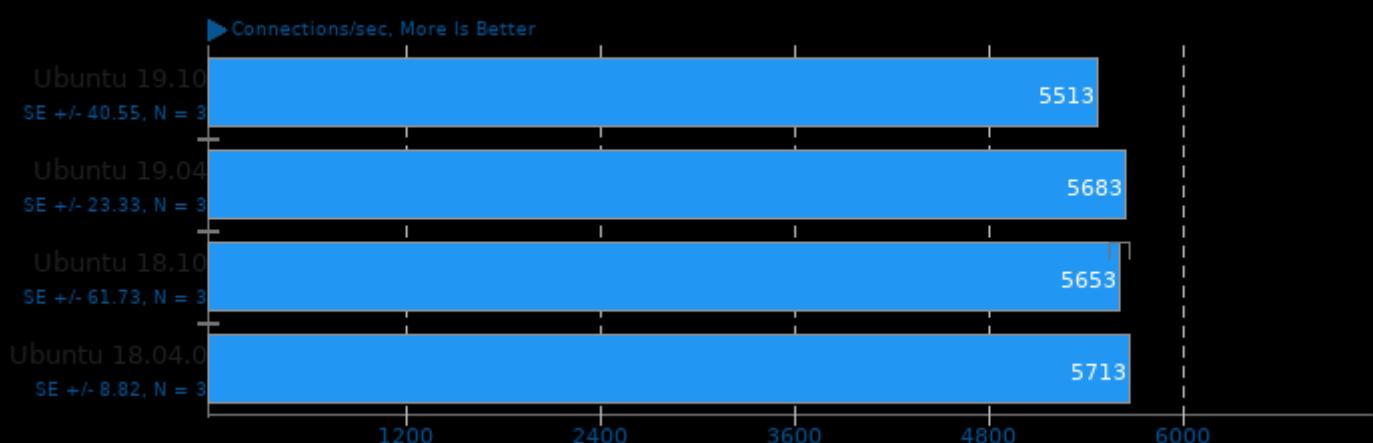
## Ethr 2019-01-02

Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 1



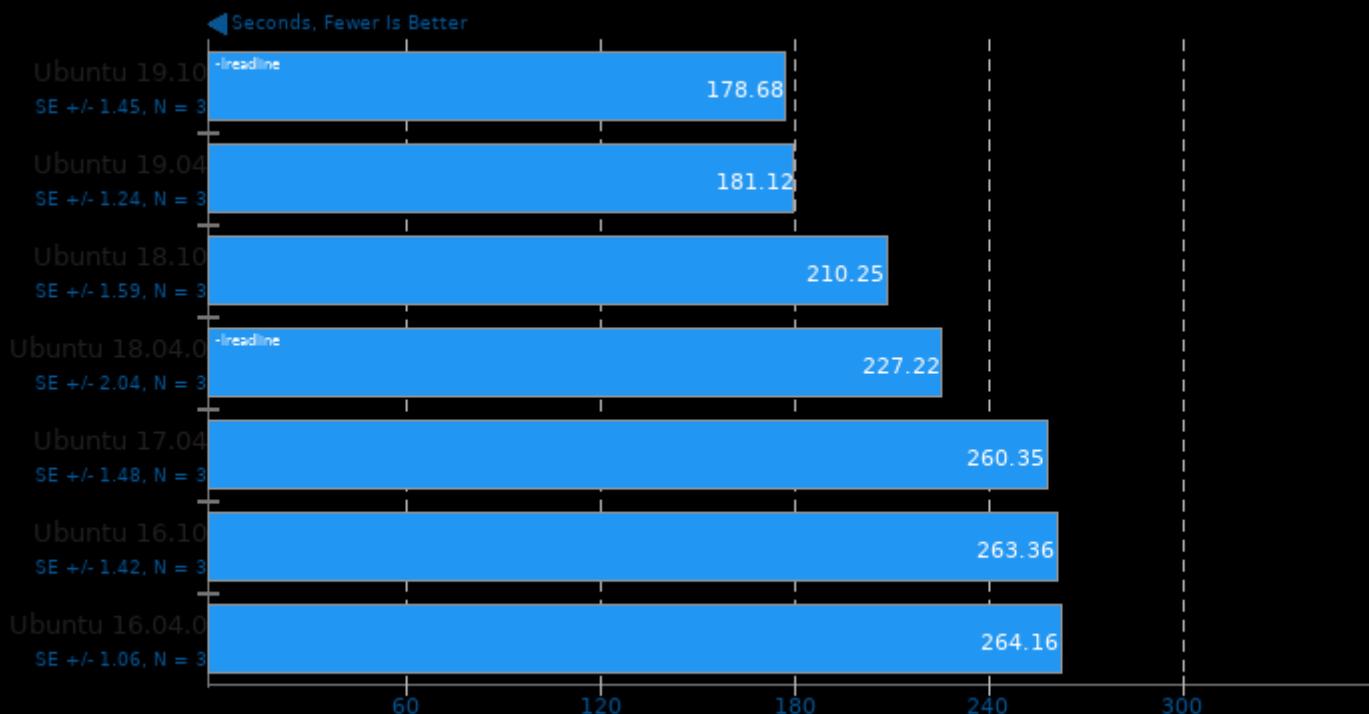
## Ethr 2019-01-02

Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1



## Timed MrBayes Analysis 3.2.7

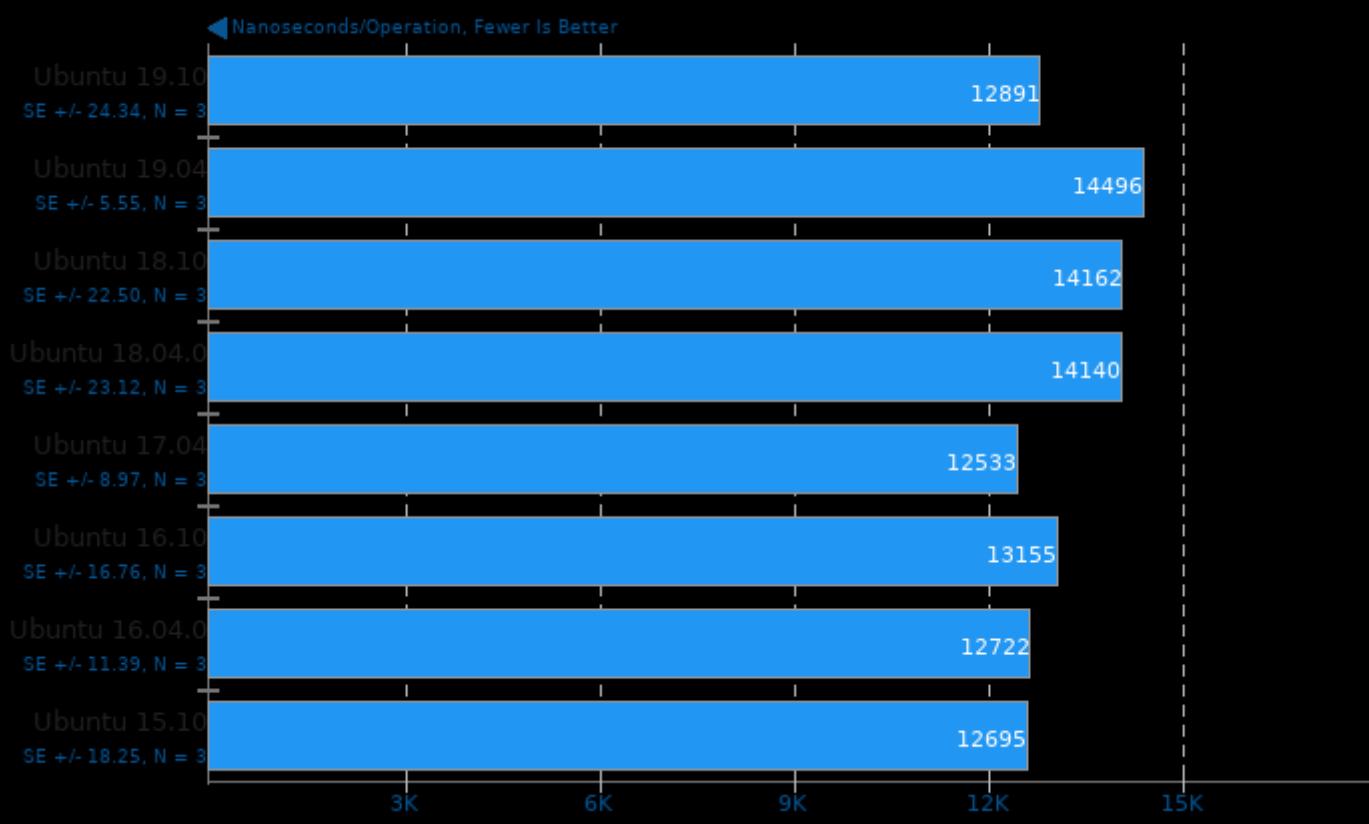
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -msse3 -msse4.1 -msse4.2 -maes -mavx -O3 -std=c99 -pedantic -lm

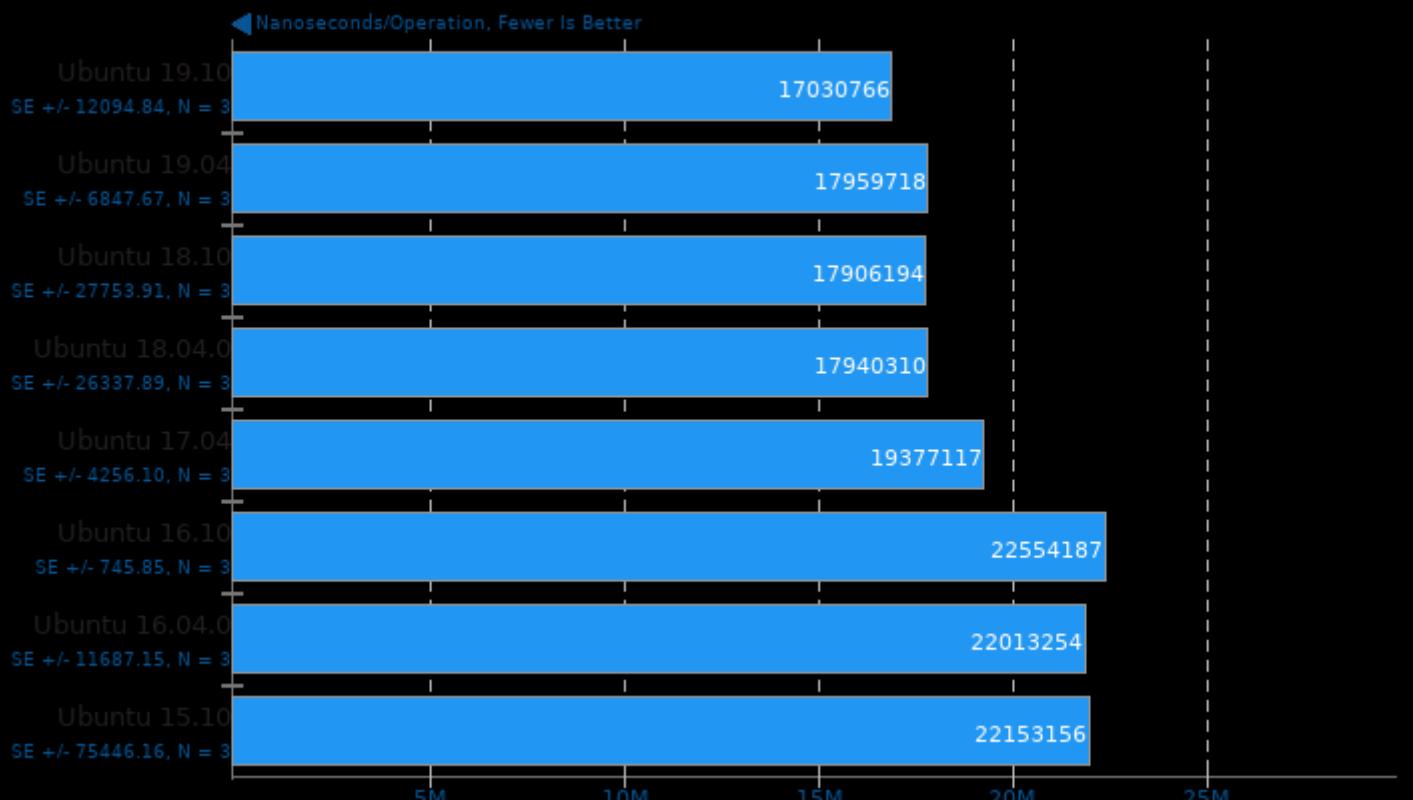
## Go Benchmarks

Test: http



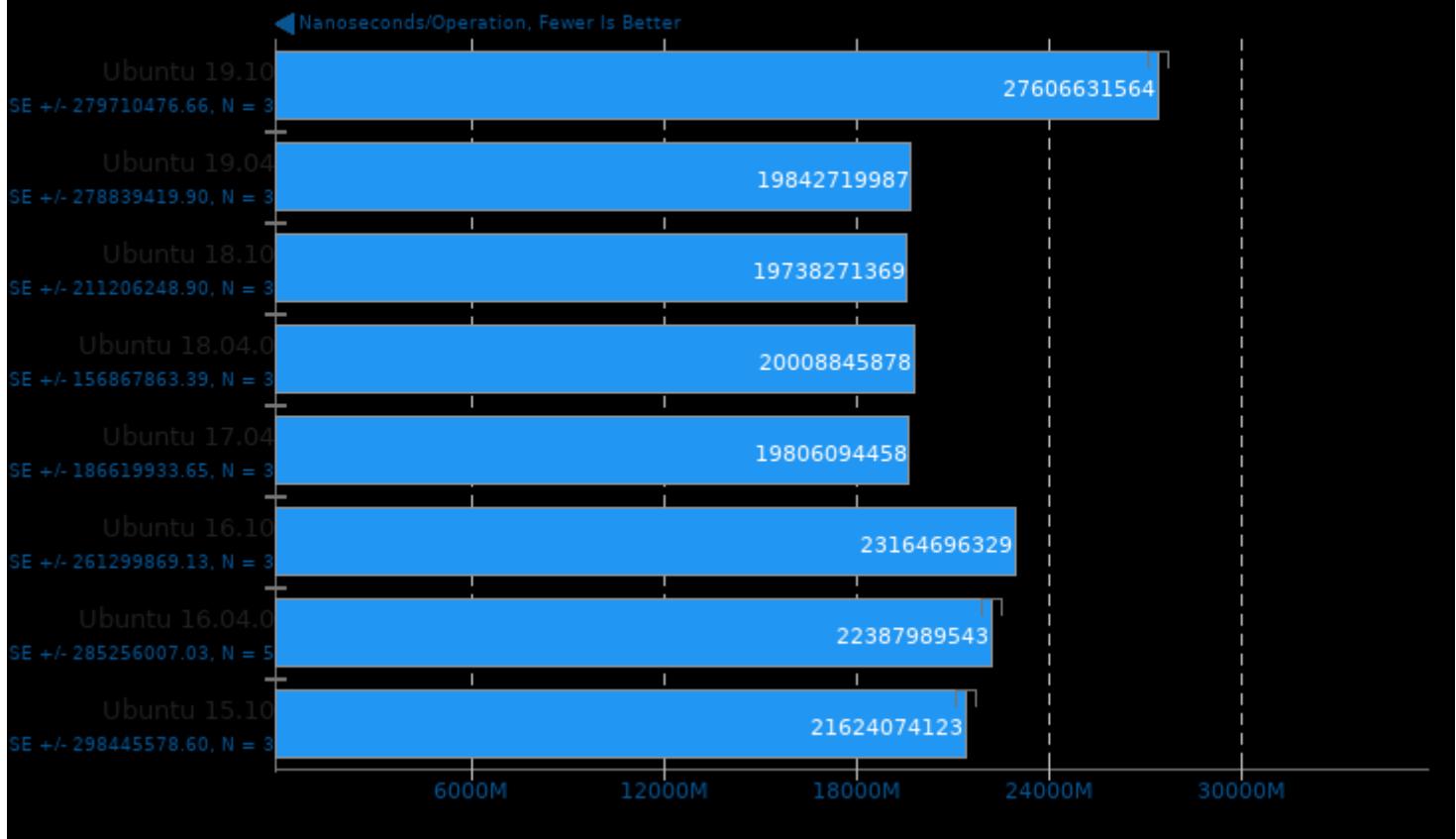
## Go Benchmarks

Test: json



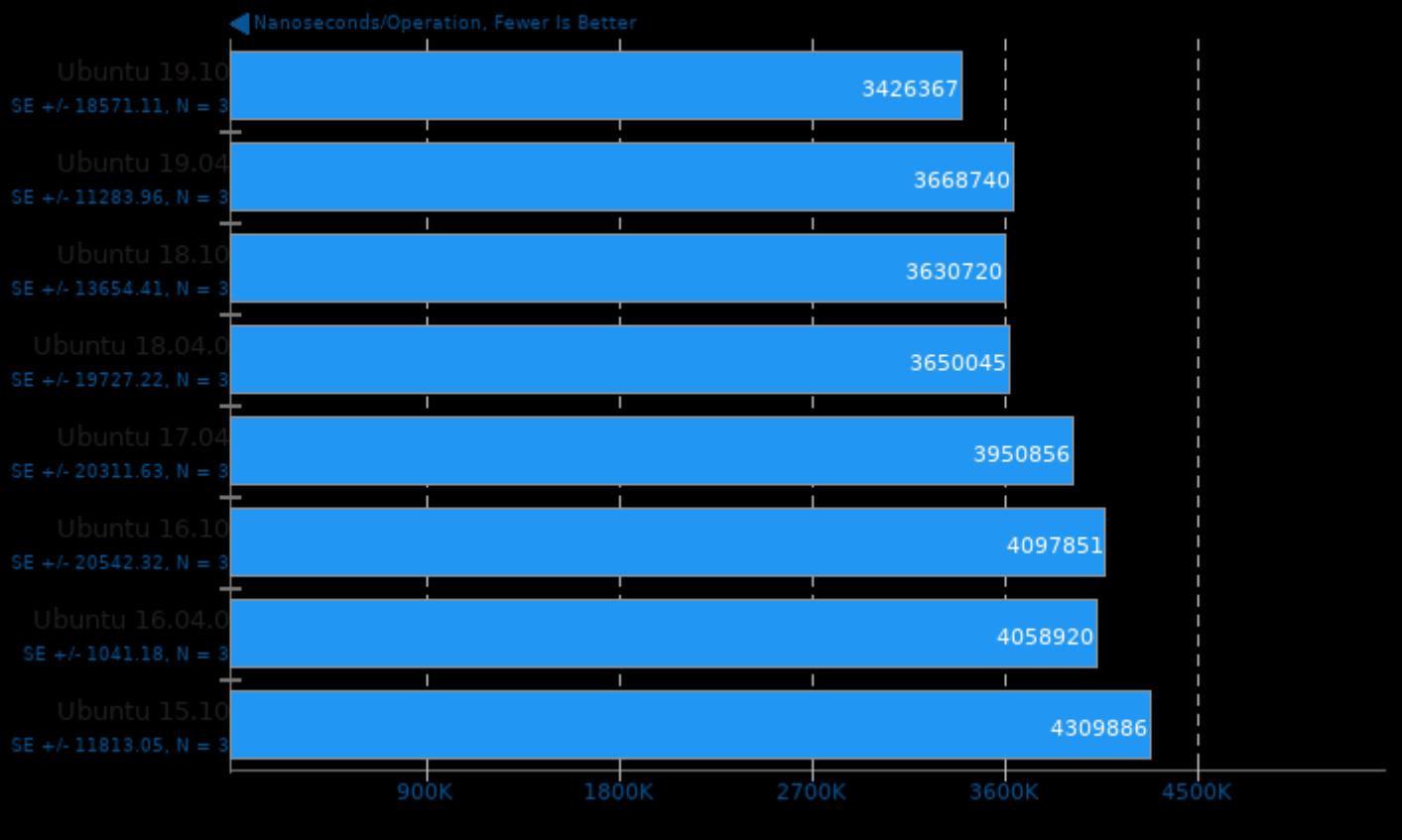
## Go Benchmarks

Test: build



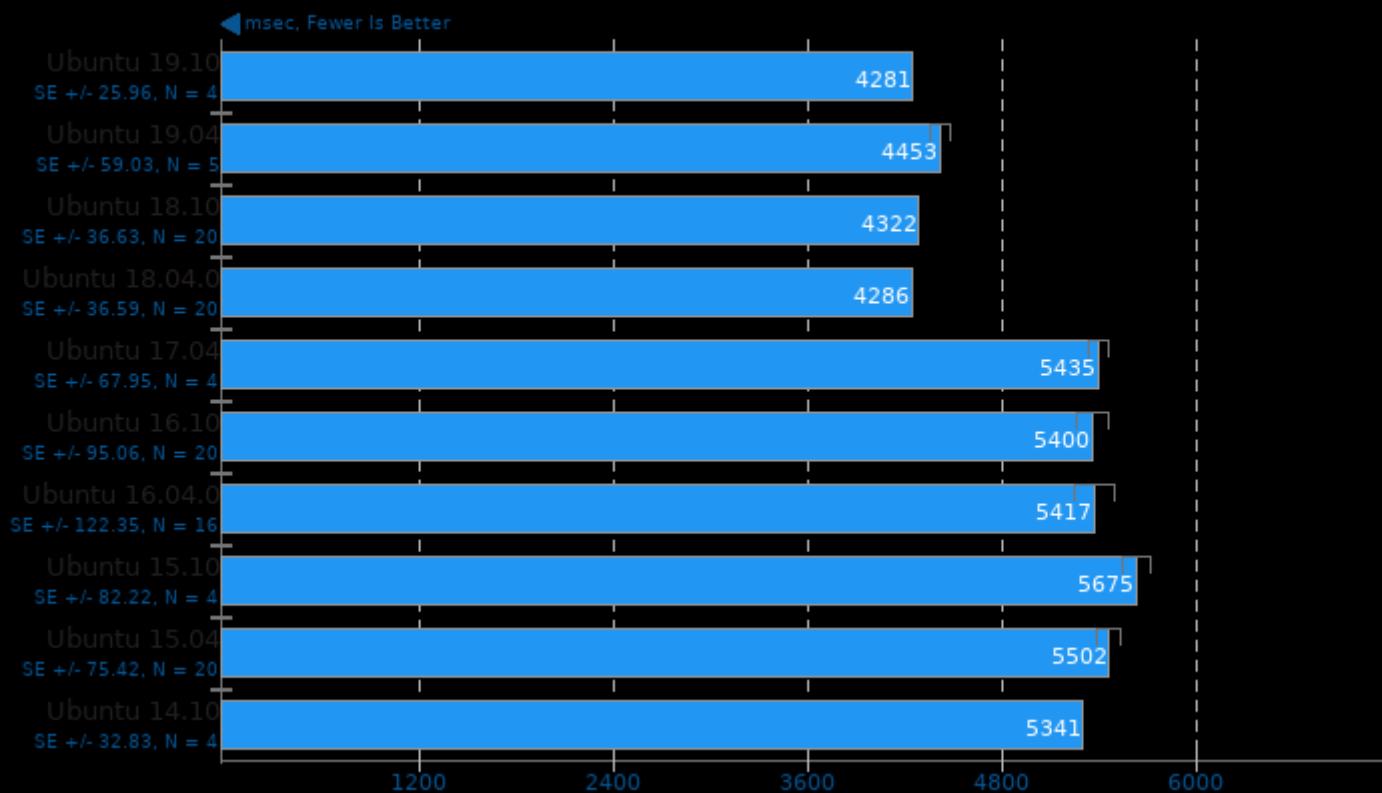
## Go Benchmarks

Test: garbage



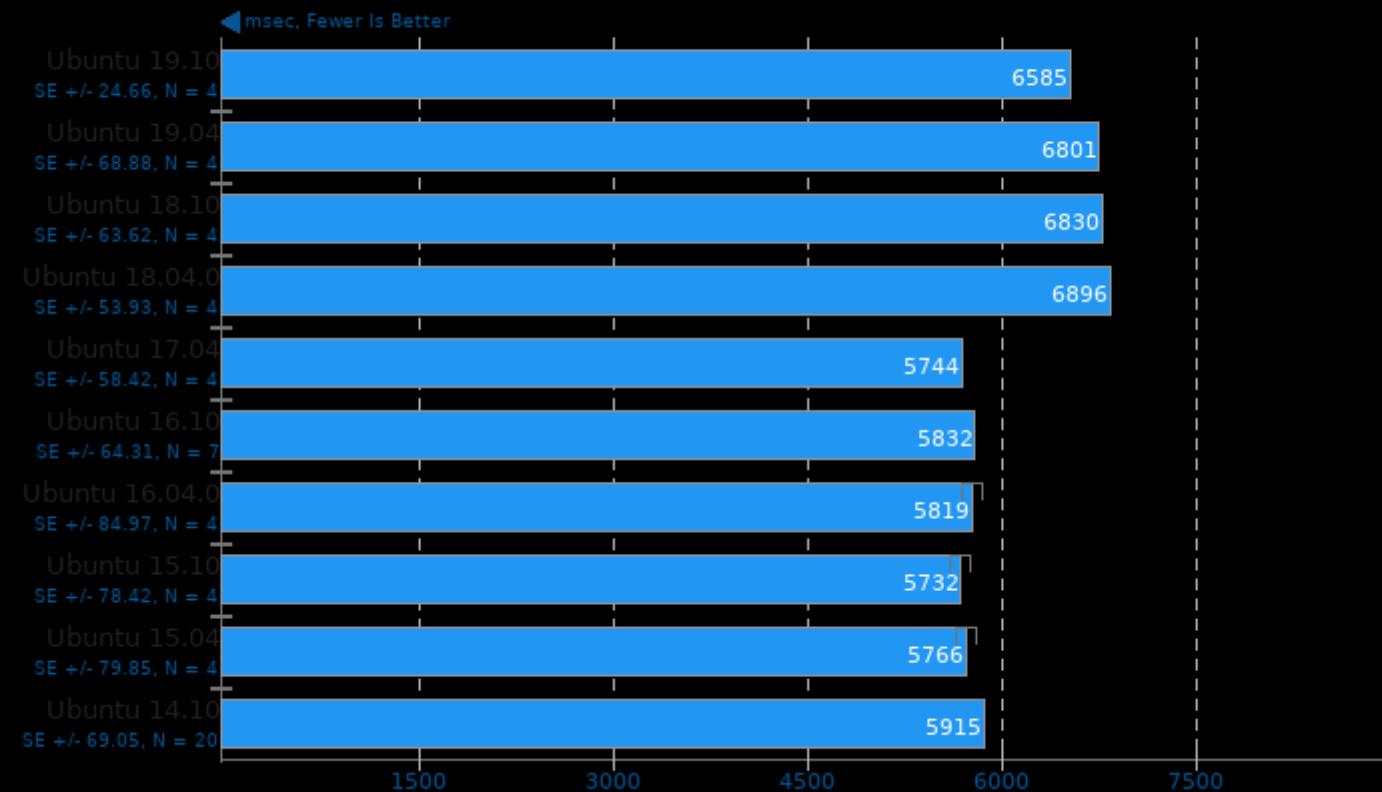
## DaCapo Benchmark 9.12-MR1

Java Test: H2



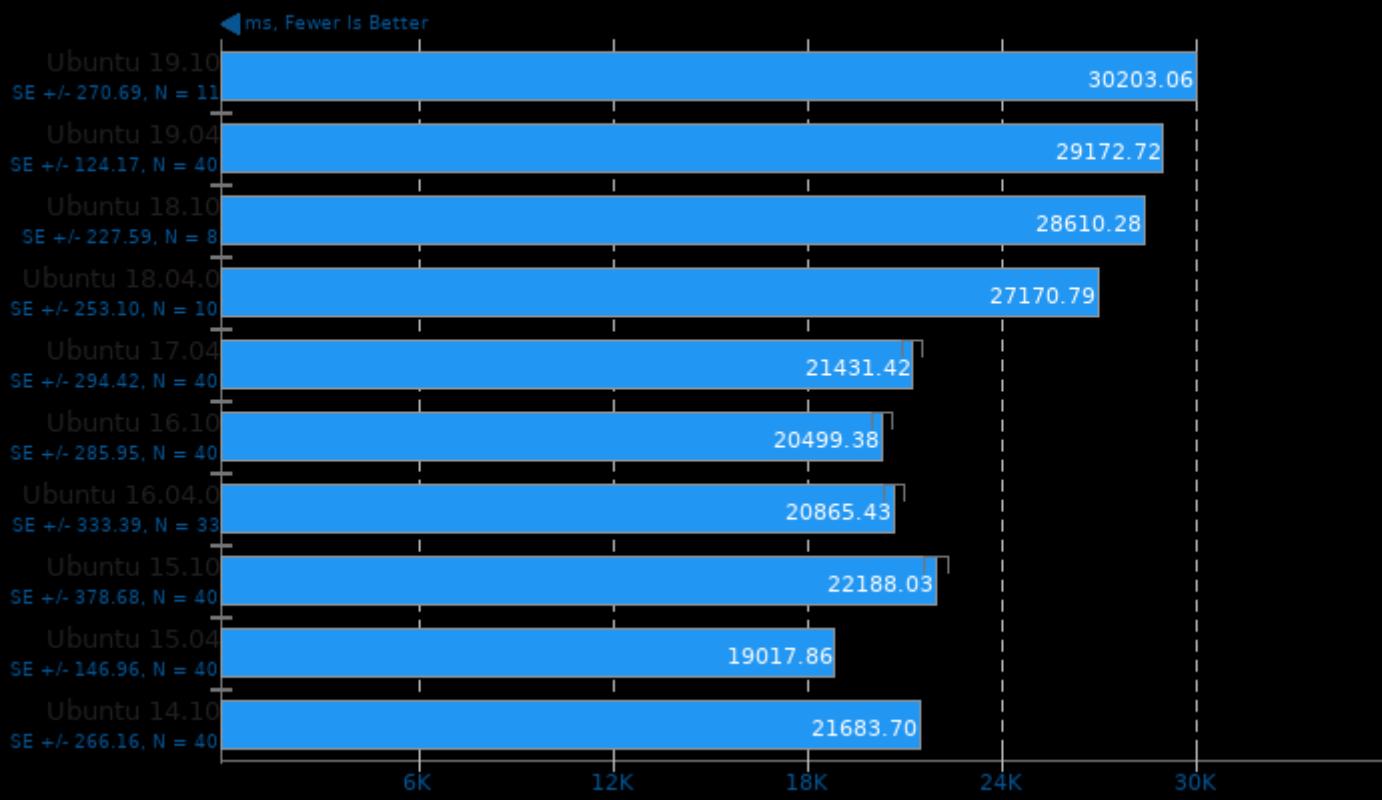
## DaCapo Benchmark 9.12-MR1

Java Test: Jython



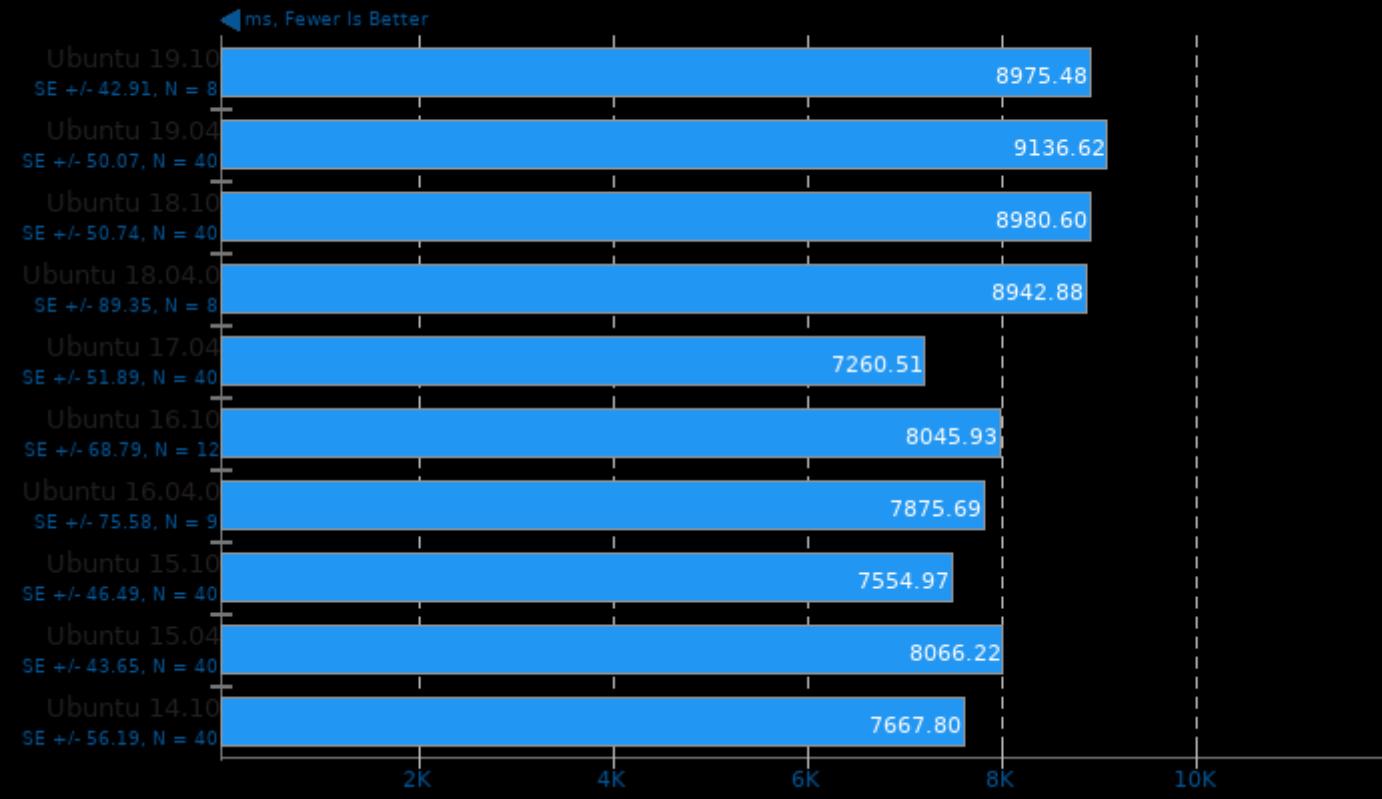
## Renaissance 0.9.0

Test: Savina Reactors.IO



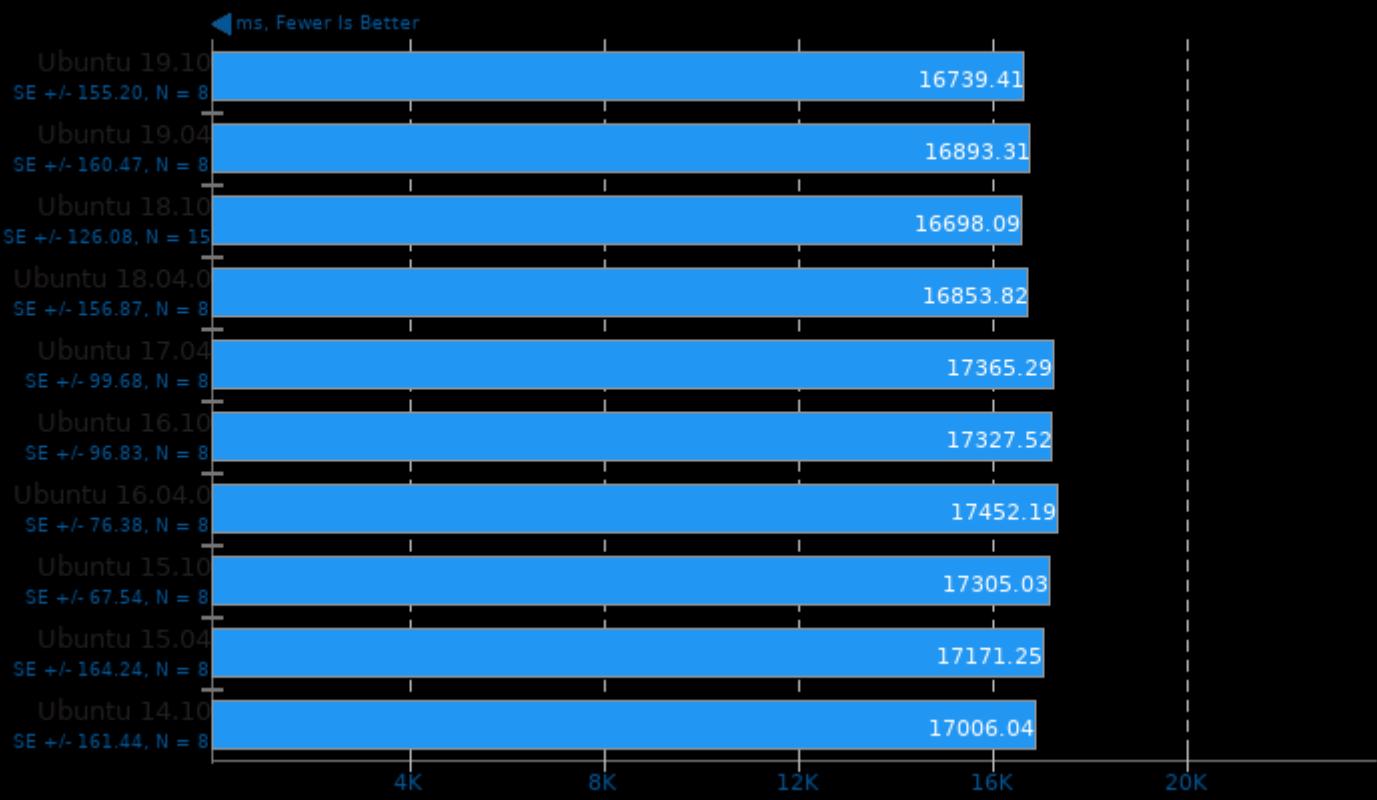
## Renaissance 0.9.0

Test: In-Memory Database Shootout



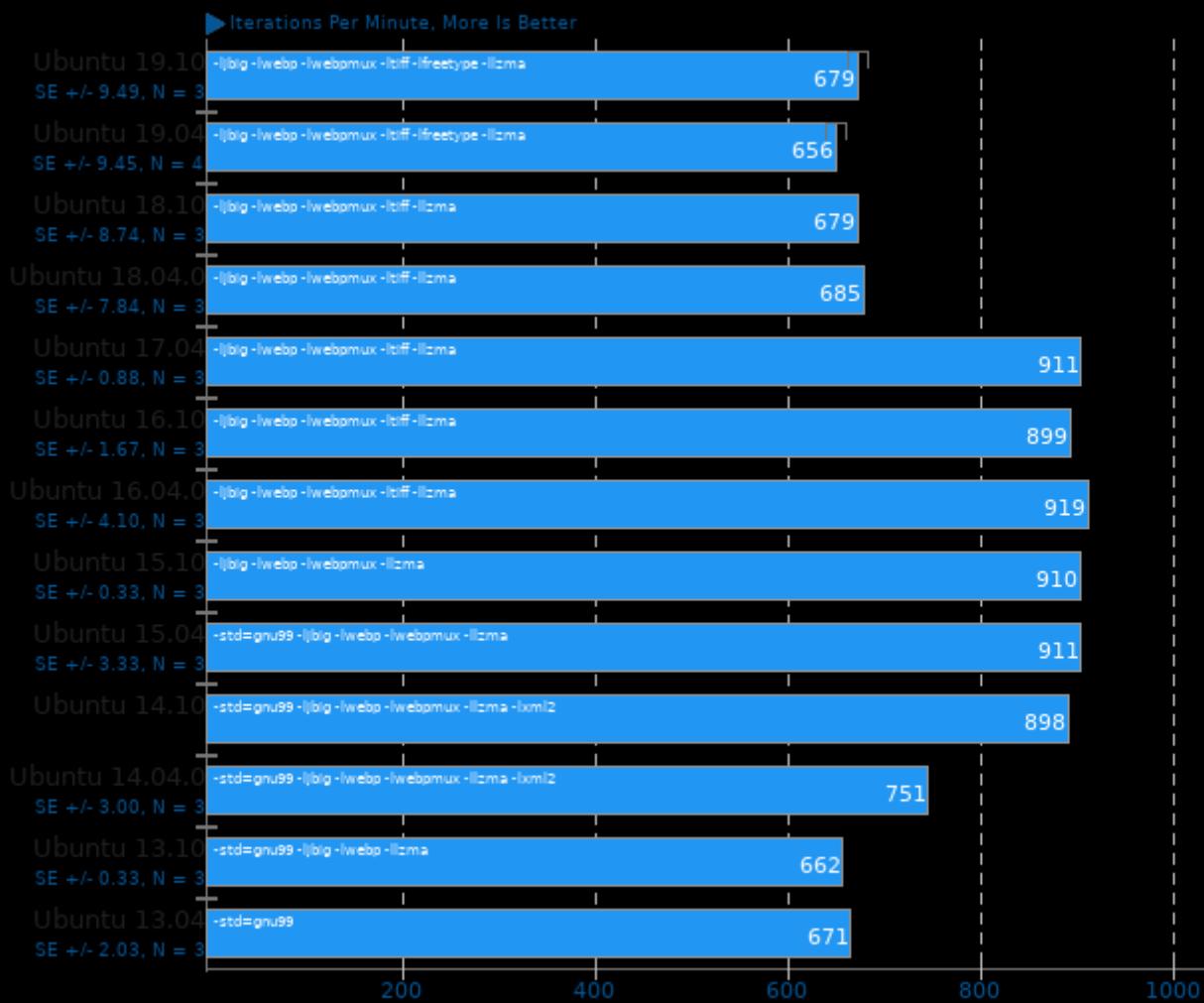
## Renaissance 0.9.0

Test: Akka Unbalanced Cobwebbed Tree



## GraphicsMagick 1.3.33

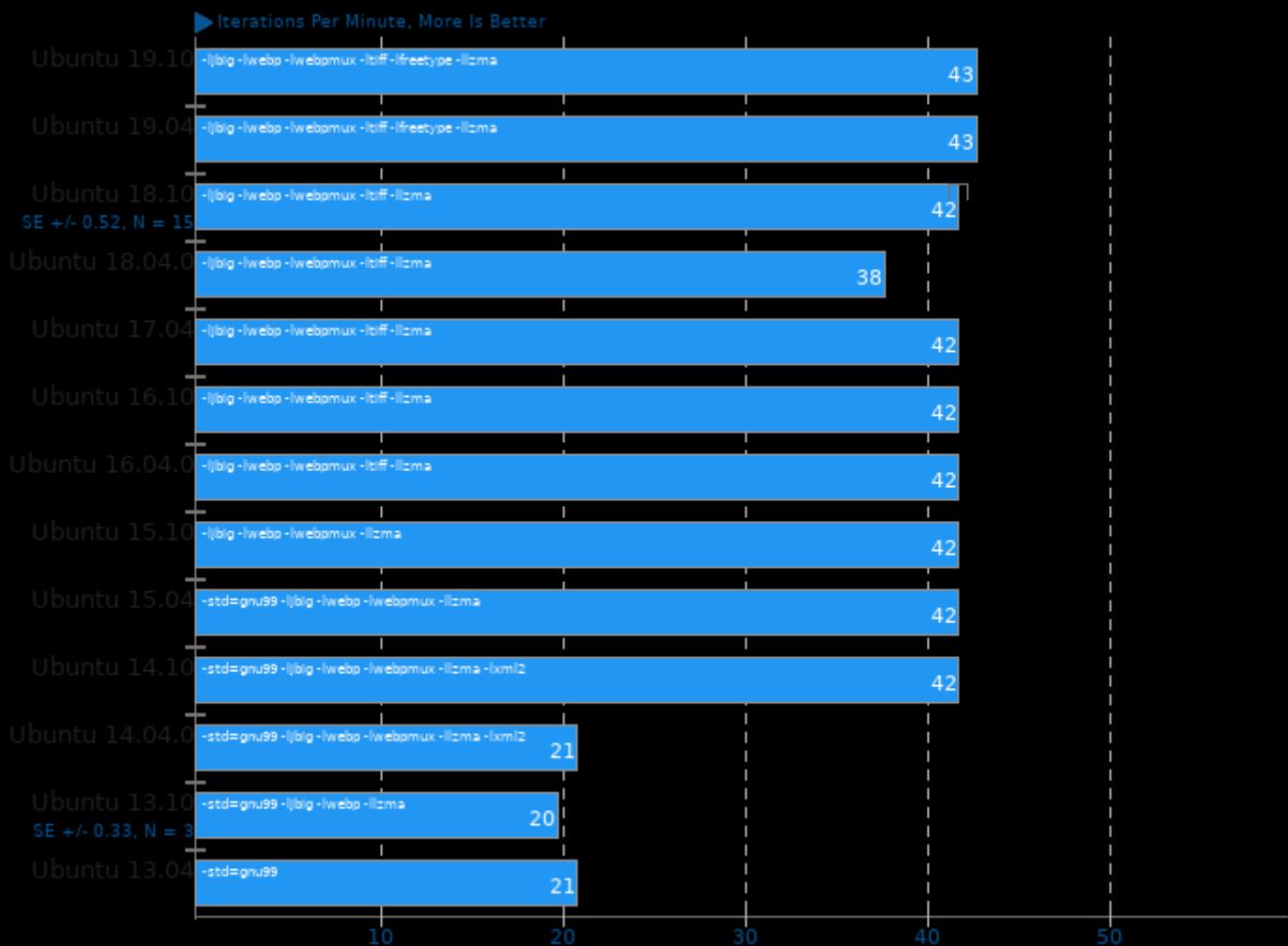
Operation: Rotate



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lz -lm -lpthread

## GraphicsMagick 1.3.33

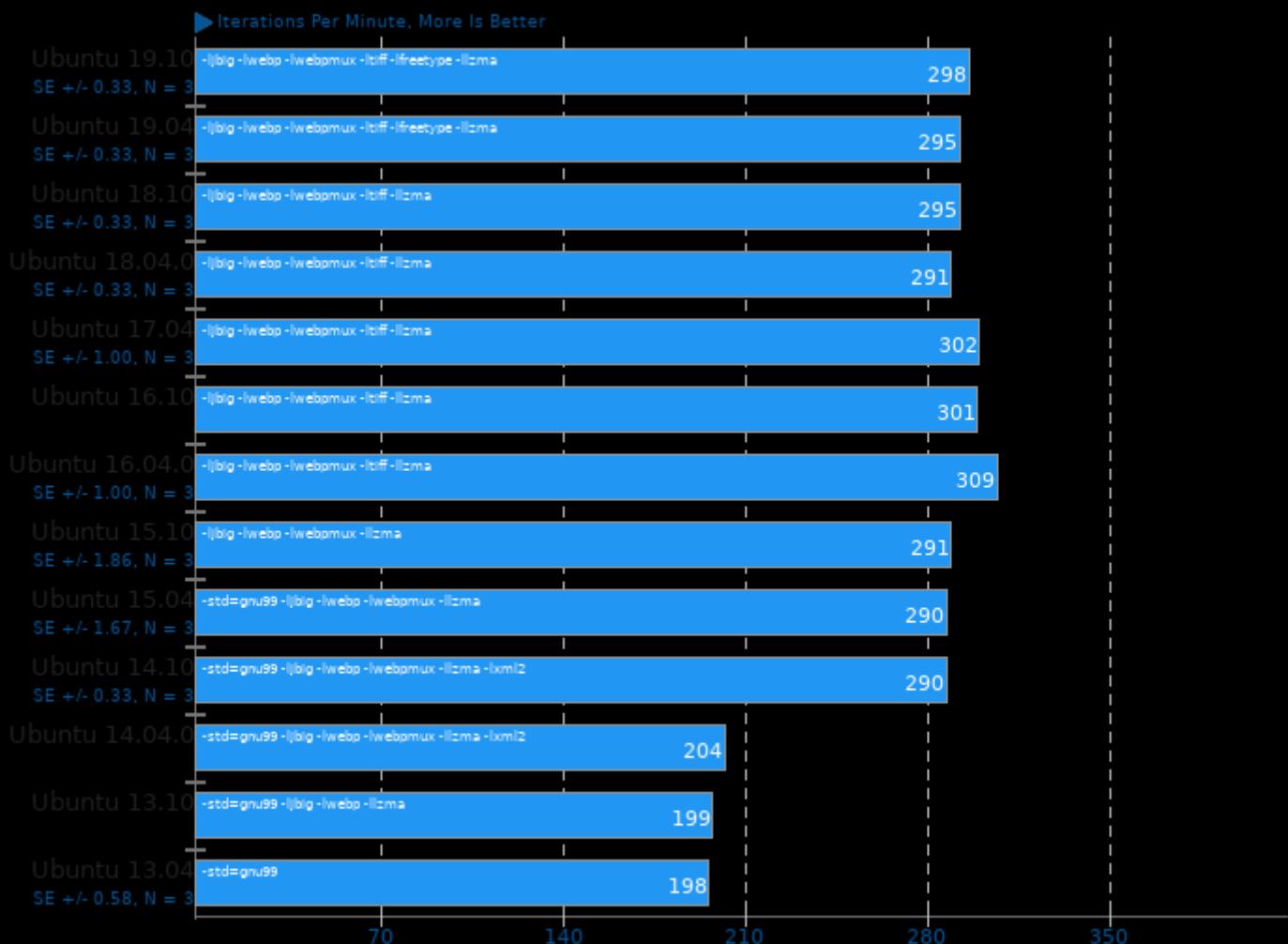
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lz -lm -lpthread

## GraphicsMagick 1.3.33

Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lz -lm -lpthread

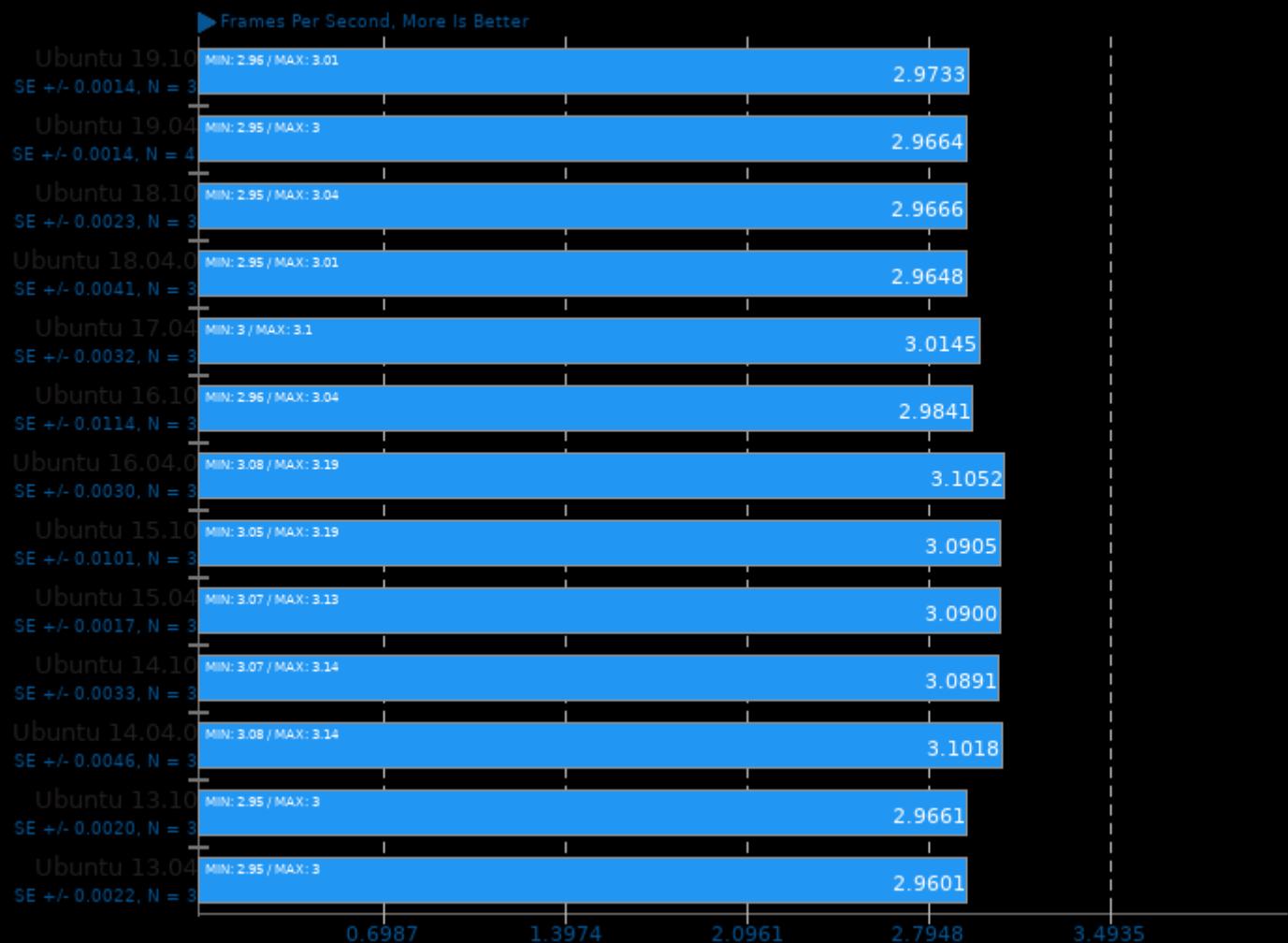
### TTSIOD 3D Renderer 2.3b Phong Rendering With Soft-Shadow Mapping



1. (CXX) g++ options: -O3 -fomit-frame-pointer -ffast-math -mtune=native -fno -msse -mrecip -mfpmath=sse -msse2 -msse3 -fopenmp -fwhole-pr

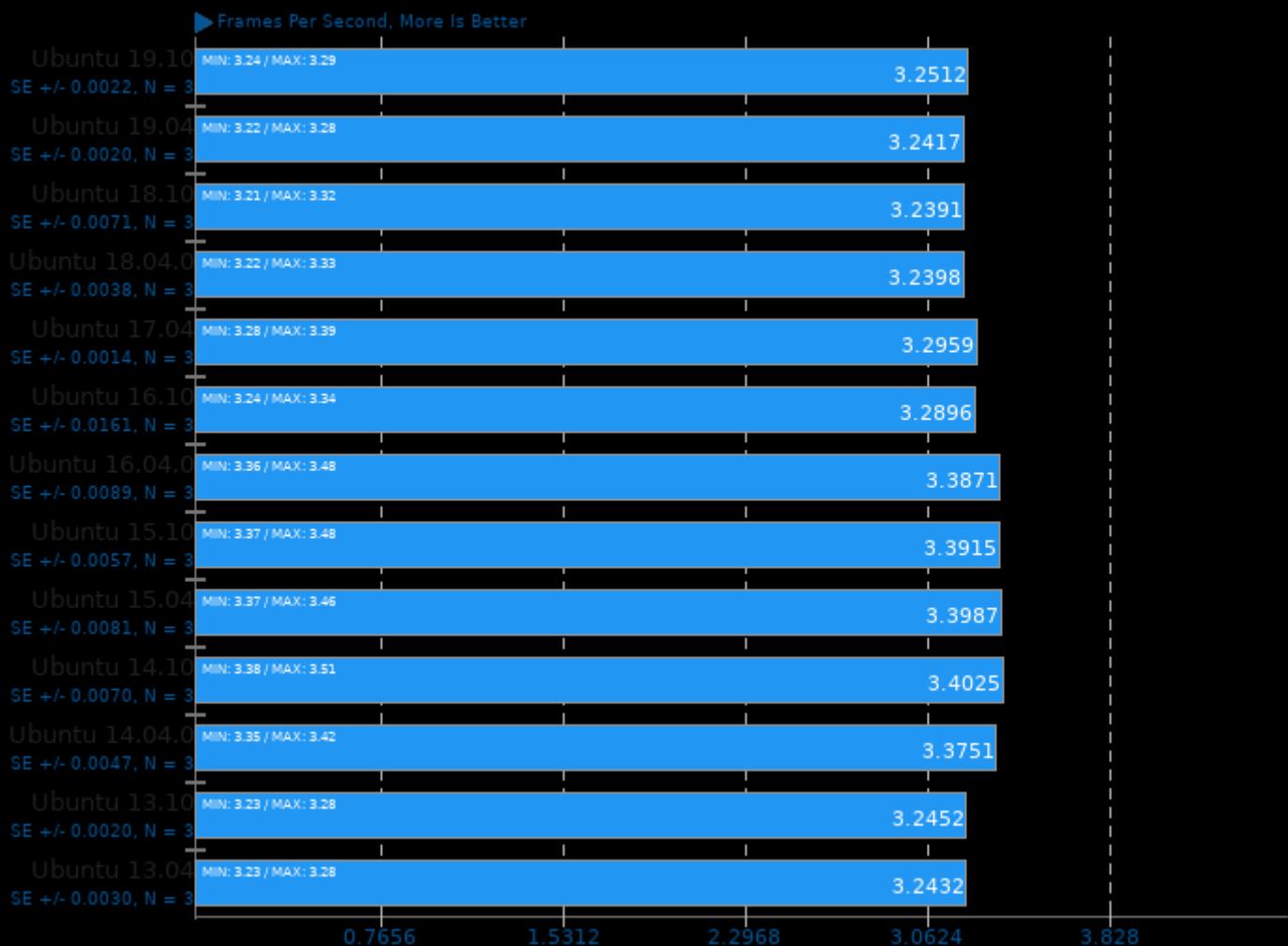
## Embree 3.6.1

Binary: Pathtracer - Model: Crown



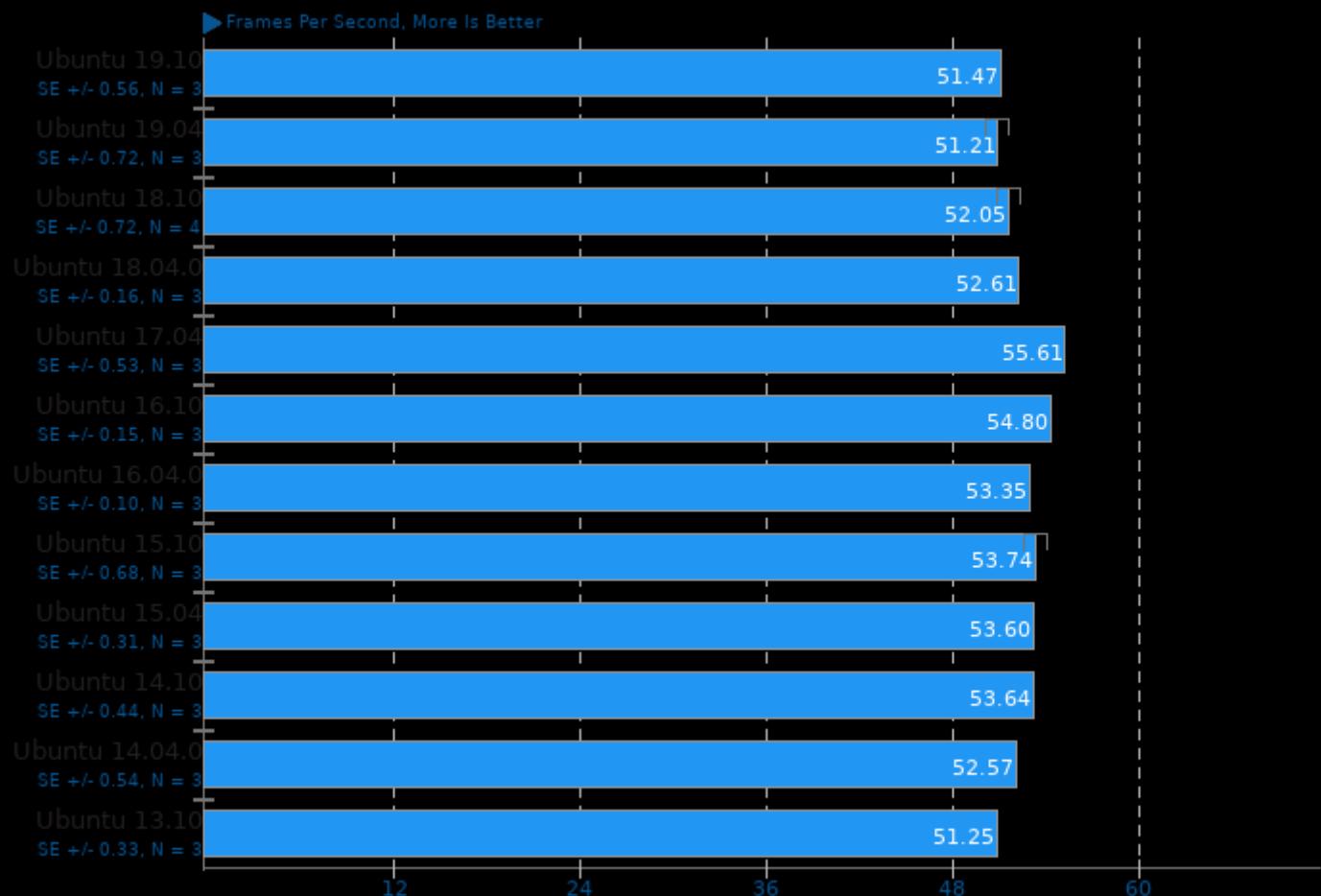
## Embree 3.6.1

Binary: Pathtracer ISPC - Model: Crown



## VP9 libvpx Encoding 1.8.1

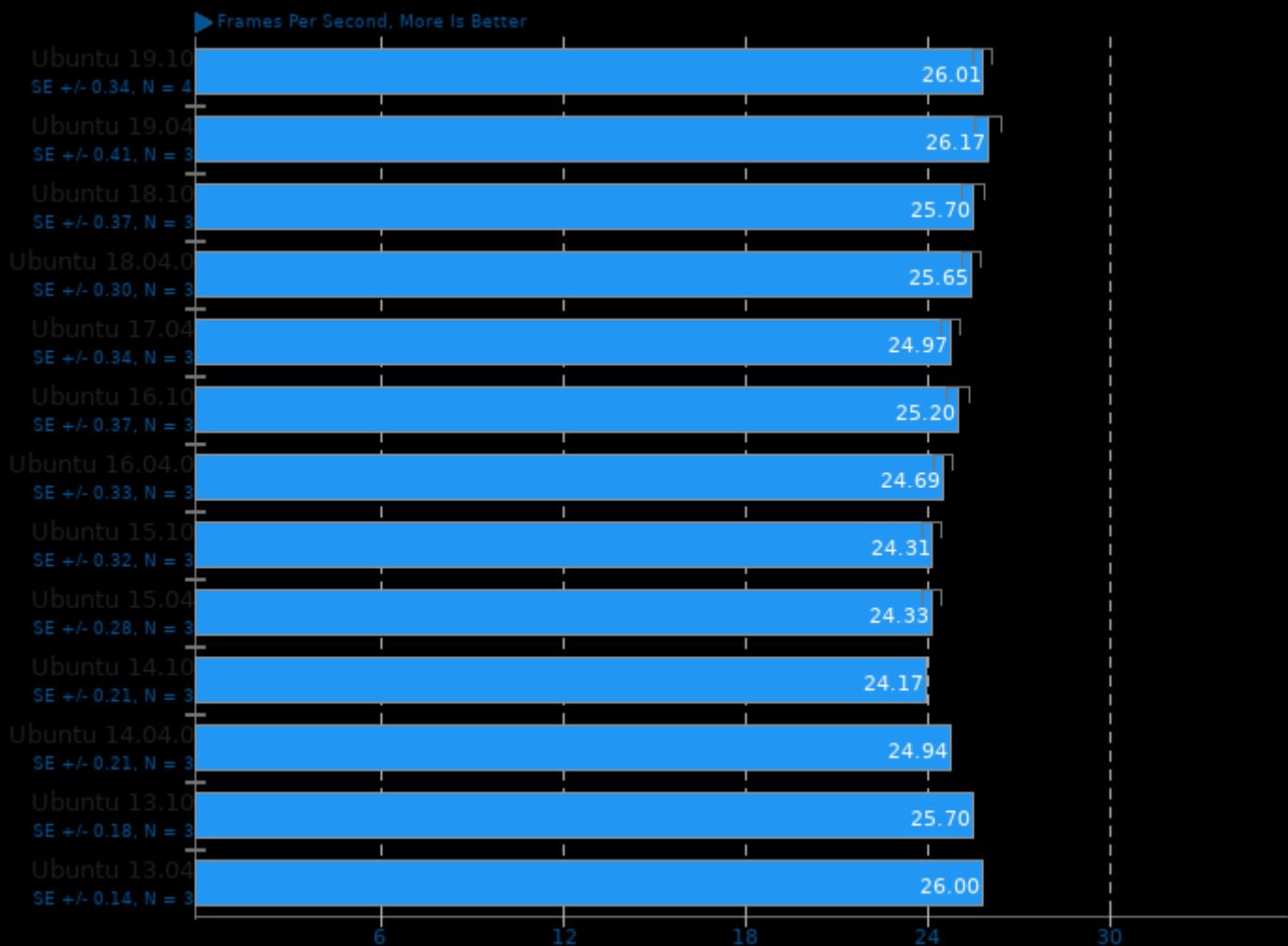
vpxenc VP9 1080p Video Encode



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U\_FORTIFY\_SOURCE -std=c++11

## x264 2018-09-25

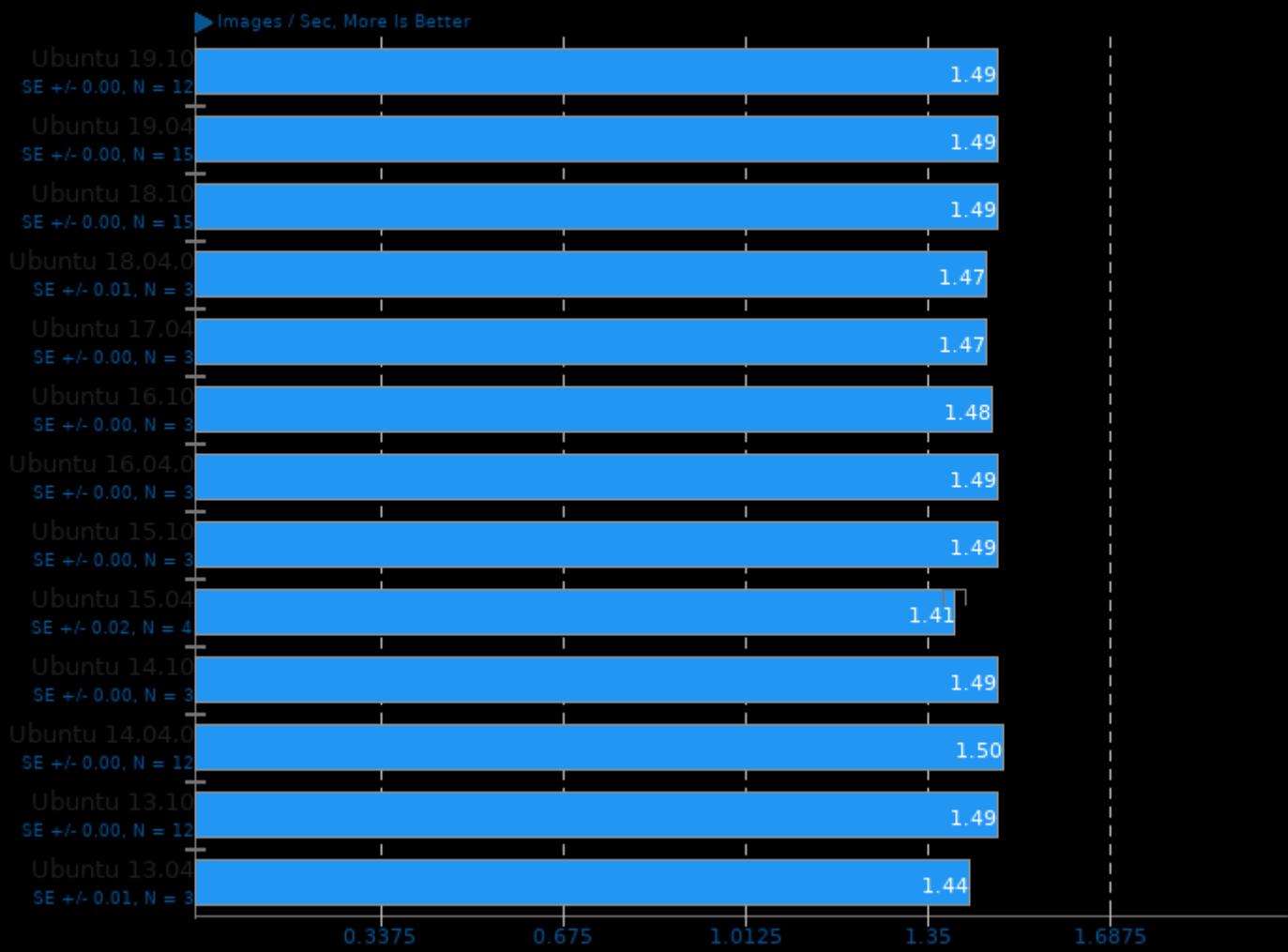
H.264 Video Encoding



1. (CC) gcc options: -fPIC -fno-tree-vectorize

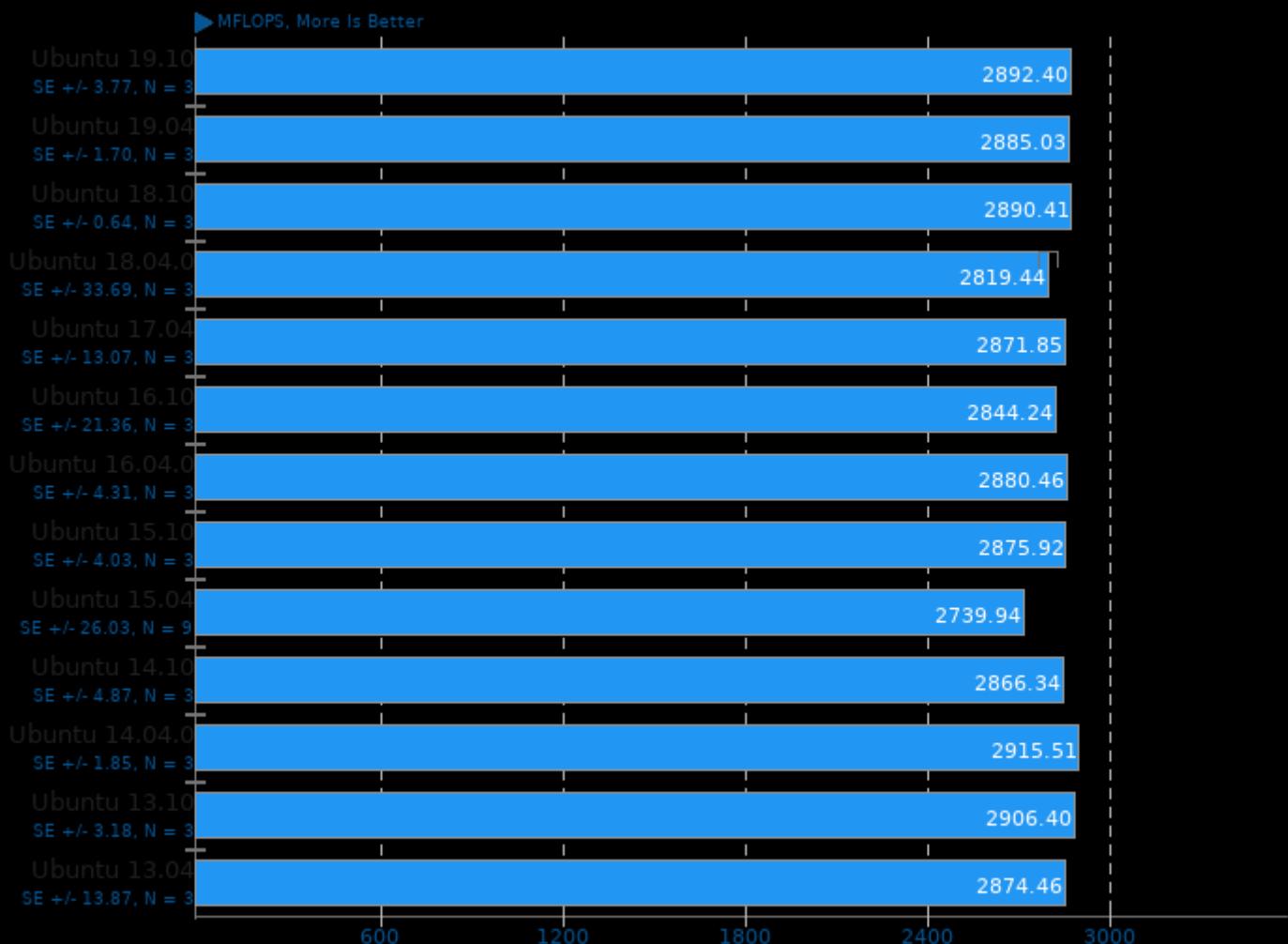
## Intel Open Image Denoise 1.0.0

Scene: Memorial



## Himeno Benchmark 3.0

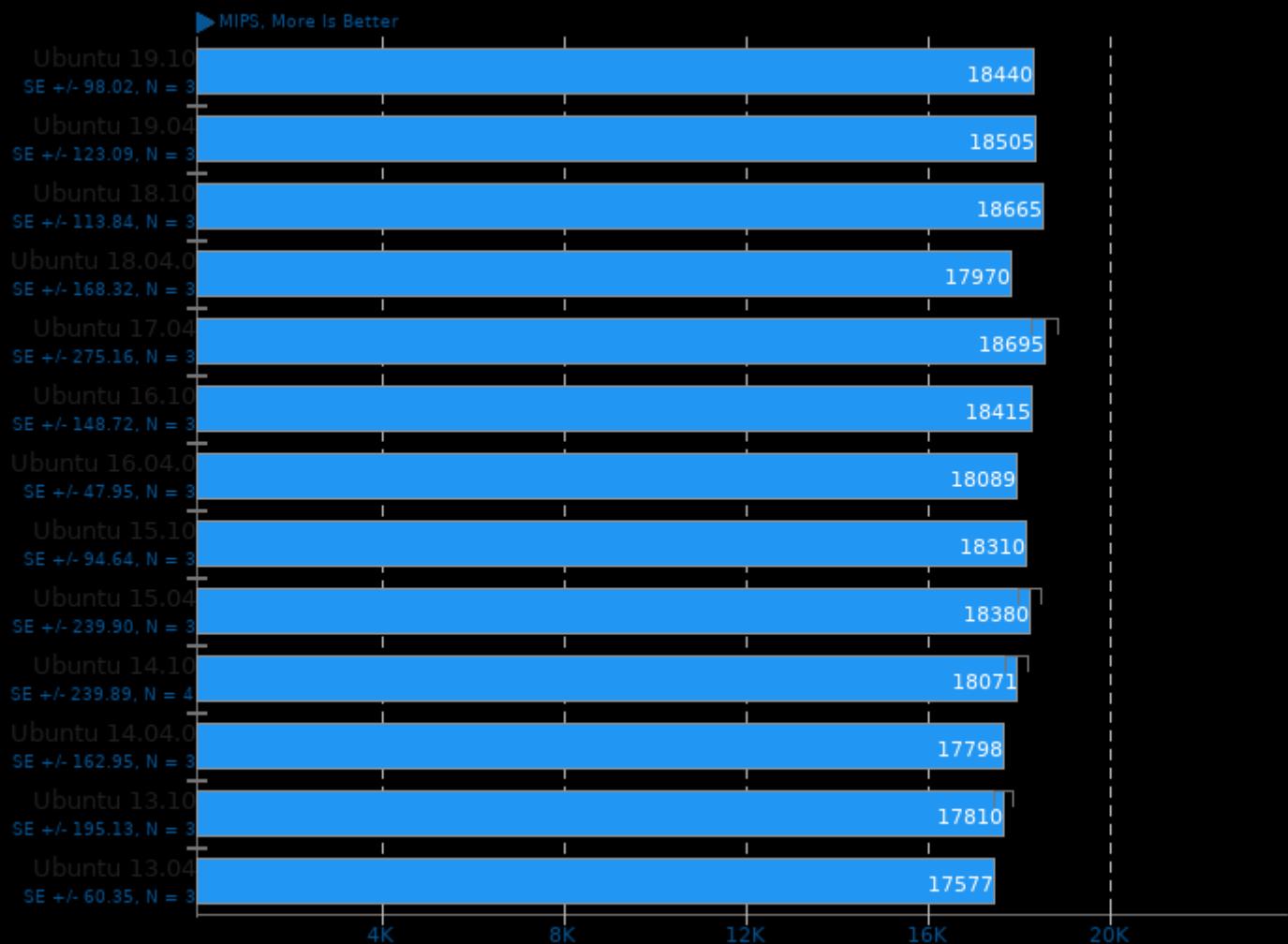
Poisson Pressure Solver



1. (CC) gcc options: -O3

## 7-Zip Compression 16.02

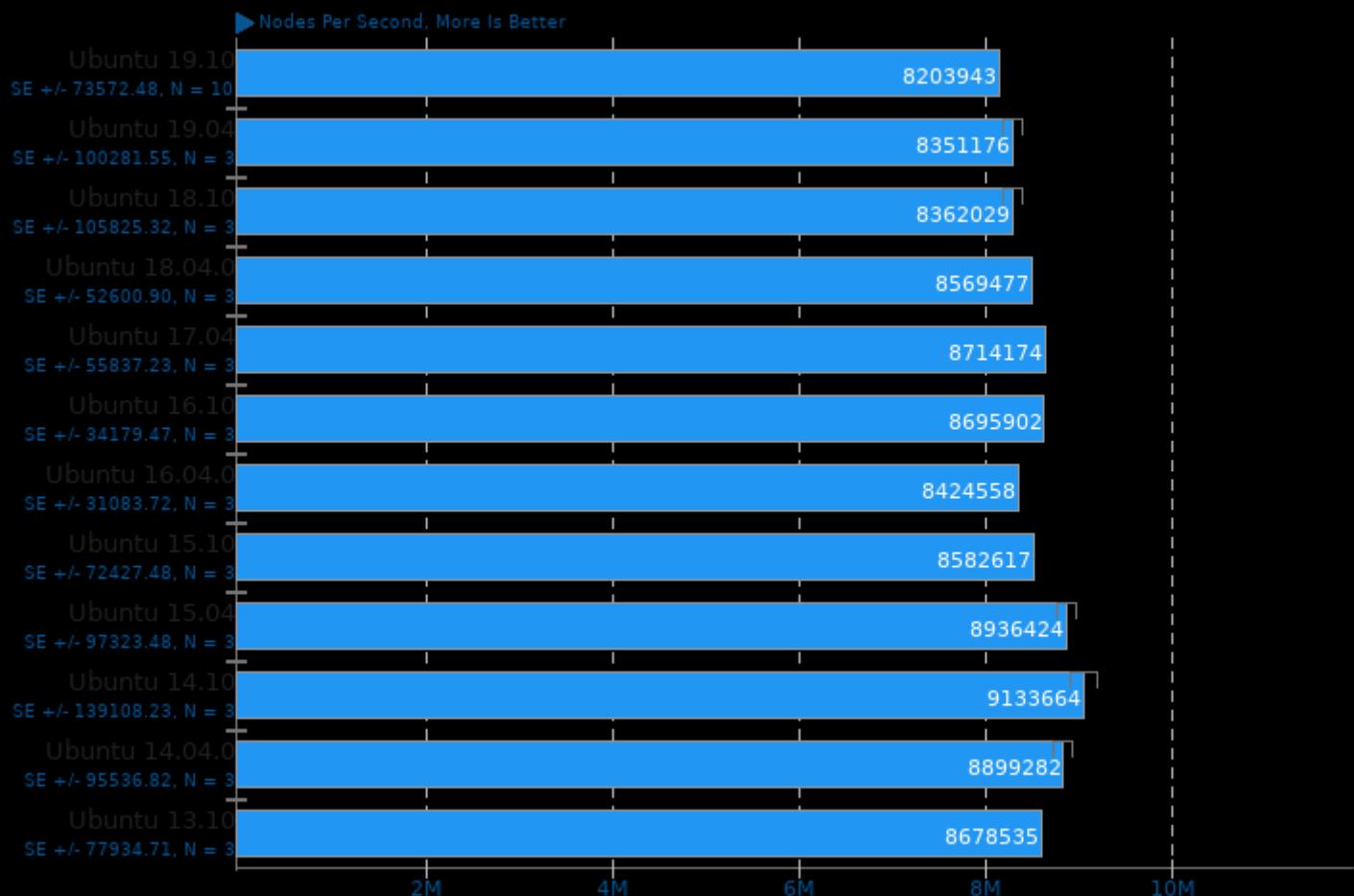
Compress Speed Test



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

## Stockfish 9

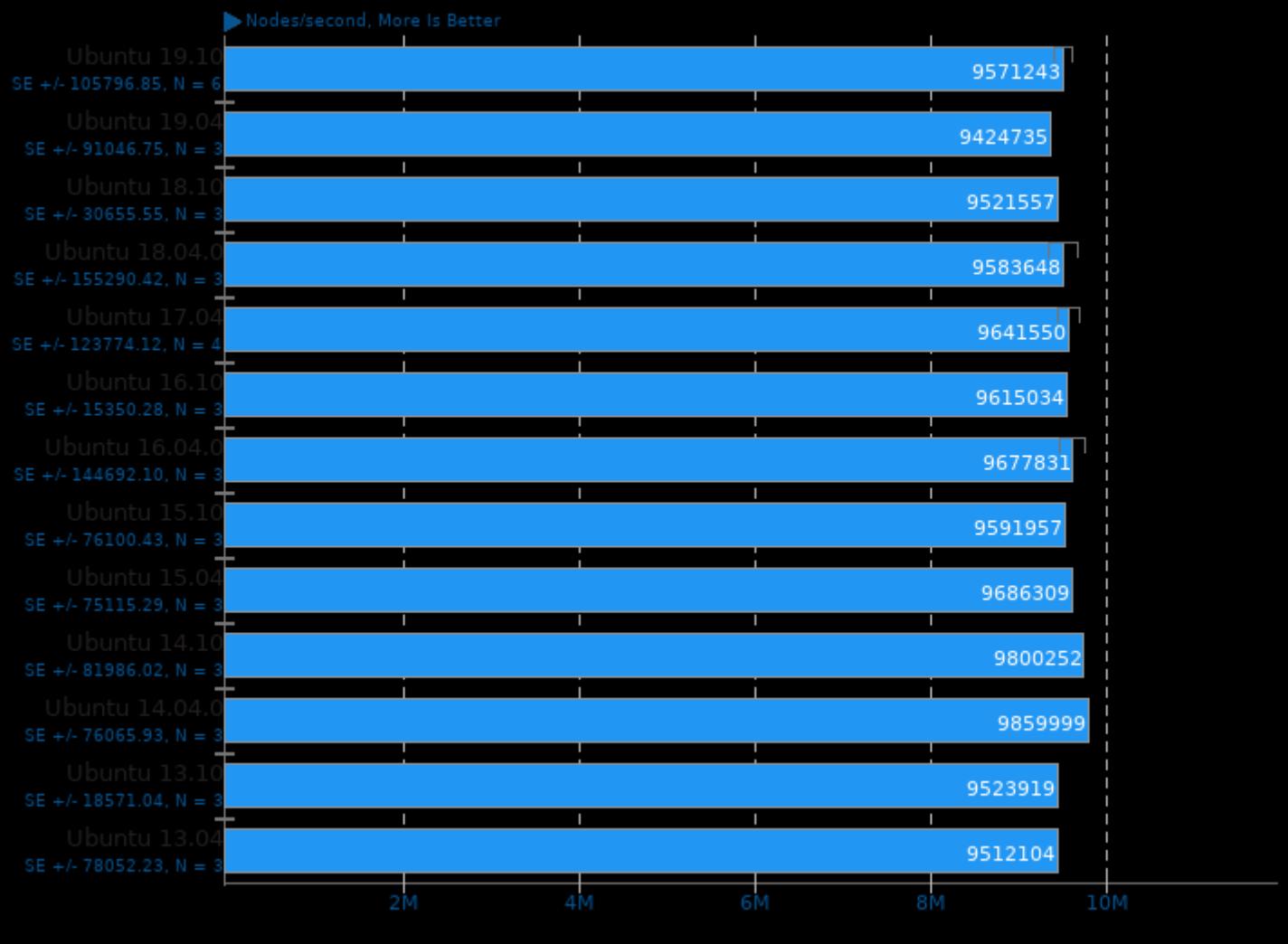
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -fno-

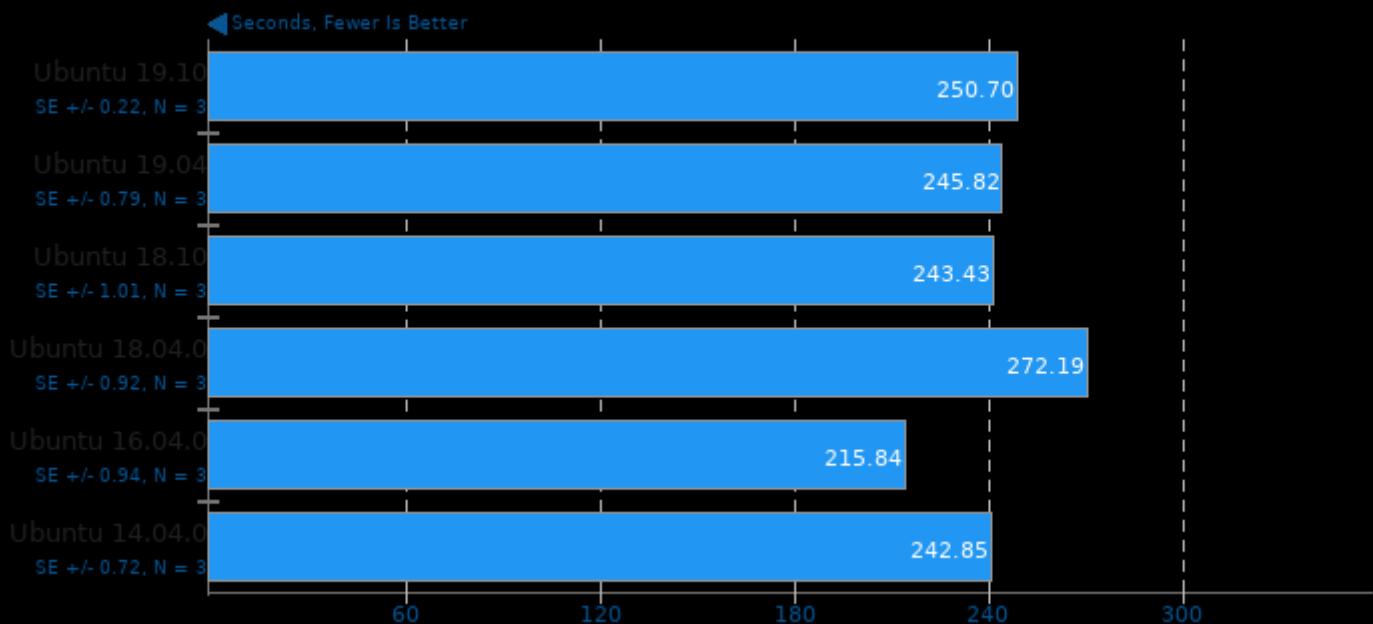
## asmFish 2018-07-23

1024 Hash Memory, 26 Depth



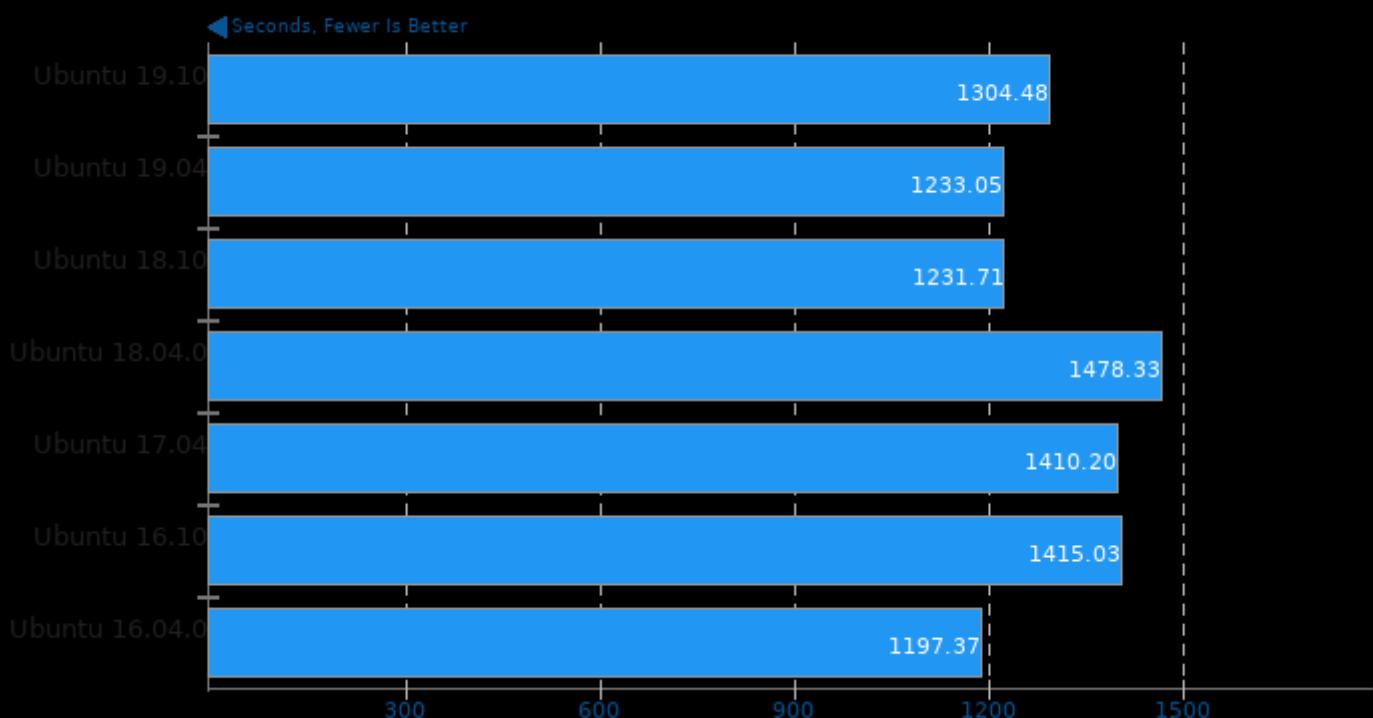
## Timed Linux Kernel Compilation 5.4

Time To Compile



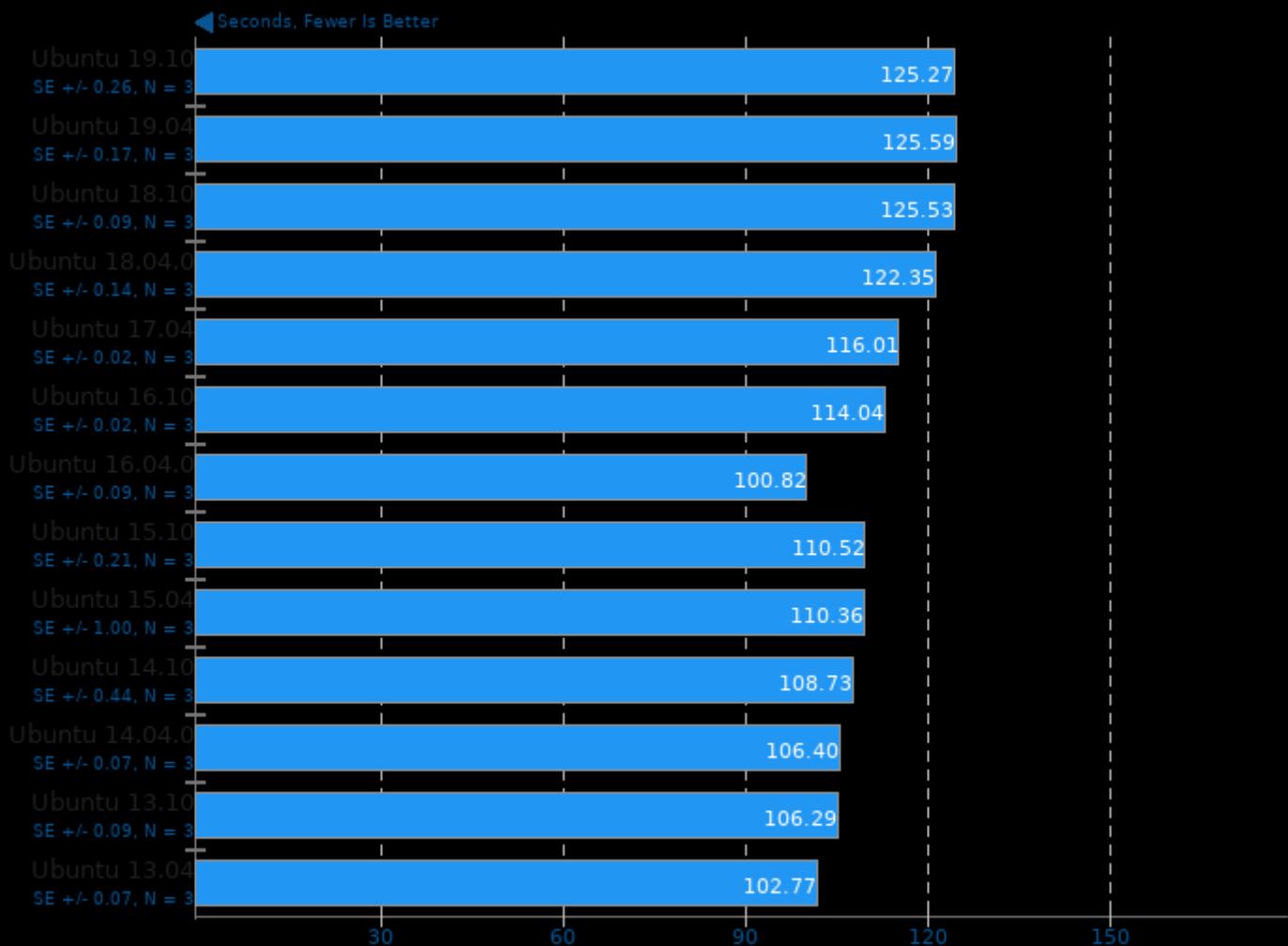
## Timed LLVM Compilation 6.0.1

Time To Compile



## Timed PHP Compilation 7.1.9

Time To Compile

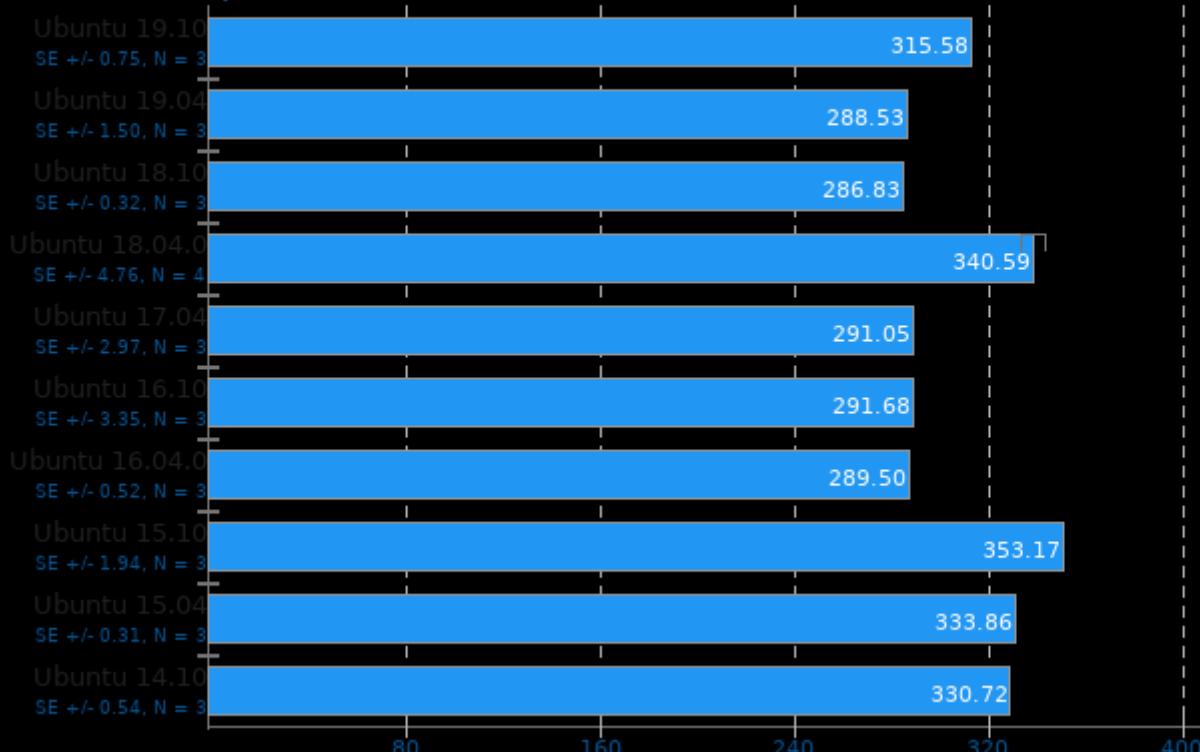


1. (CC) gcc options: -O2 -pedantic -ldl -lz -lm

**Build2 0.12**

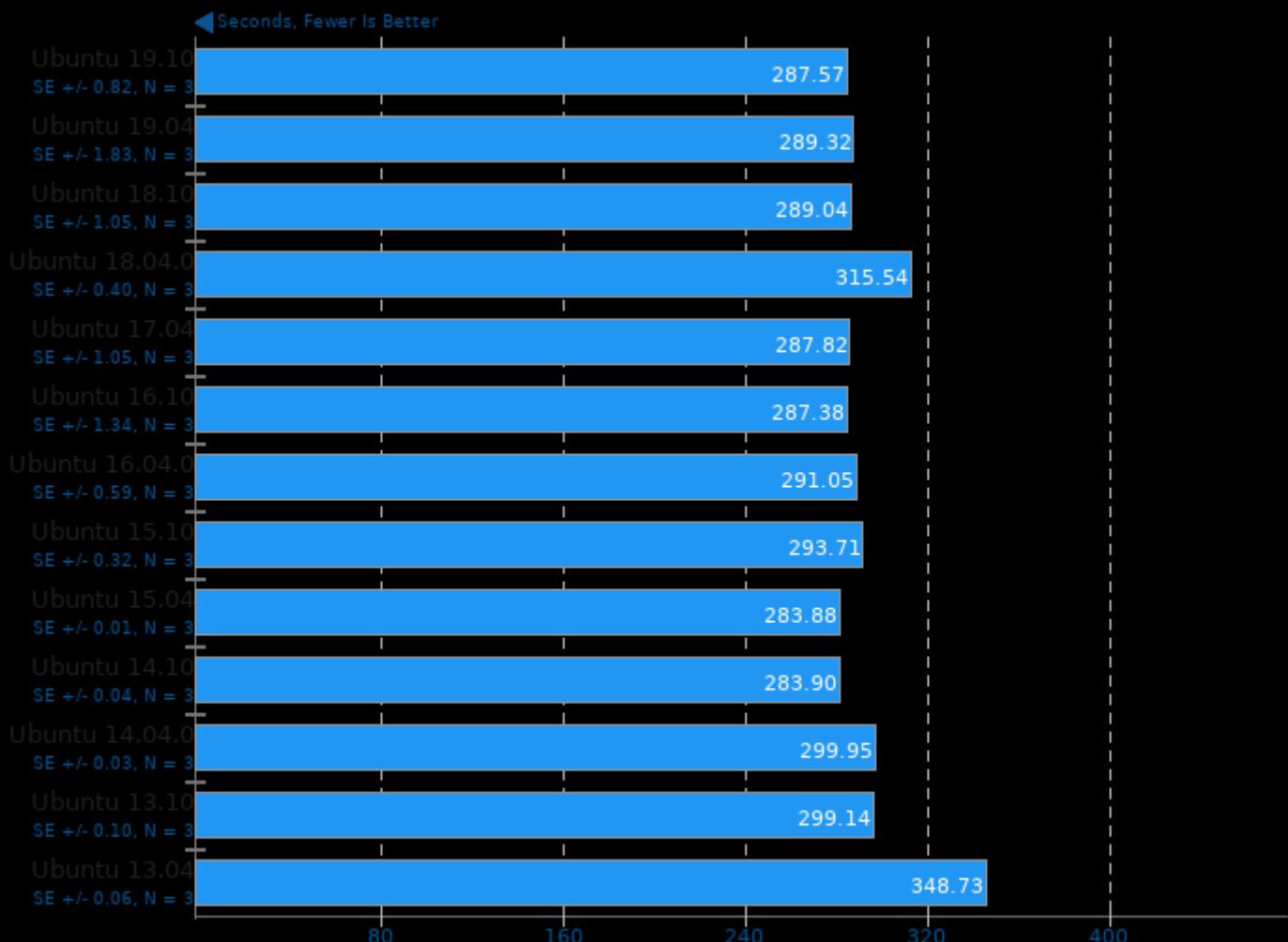
Time To Compile

◀ Seconds, Fewer Is Better



## C-Ray 1.1

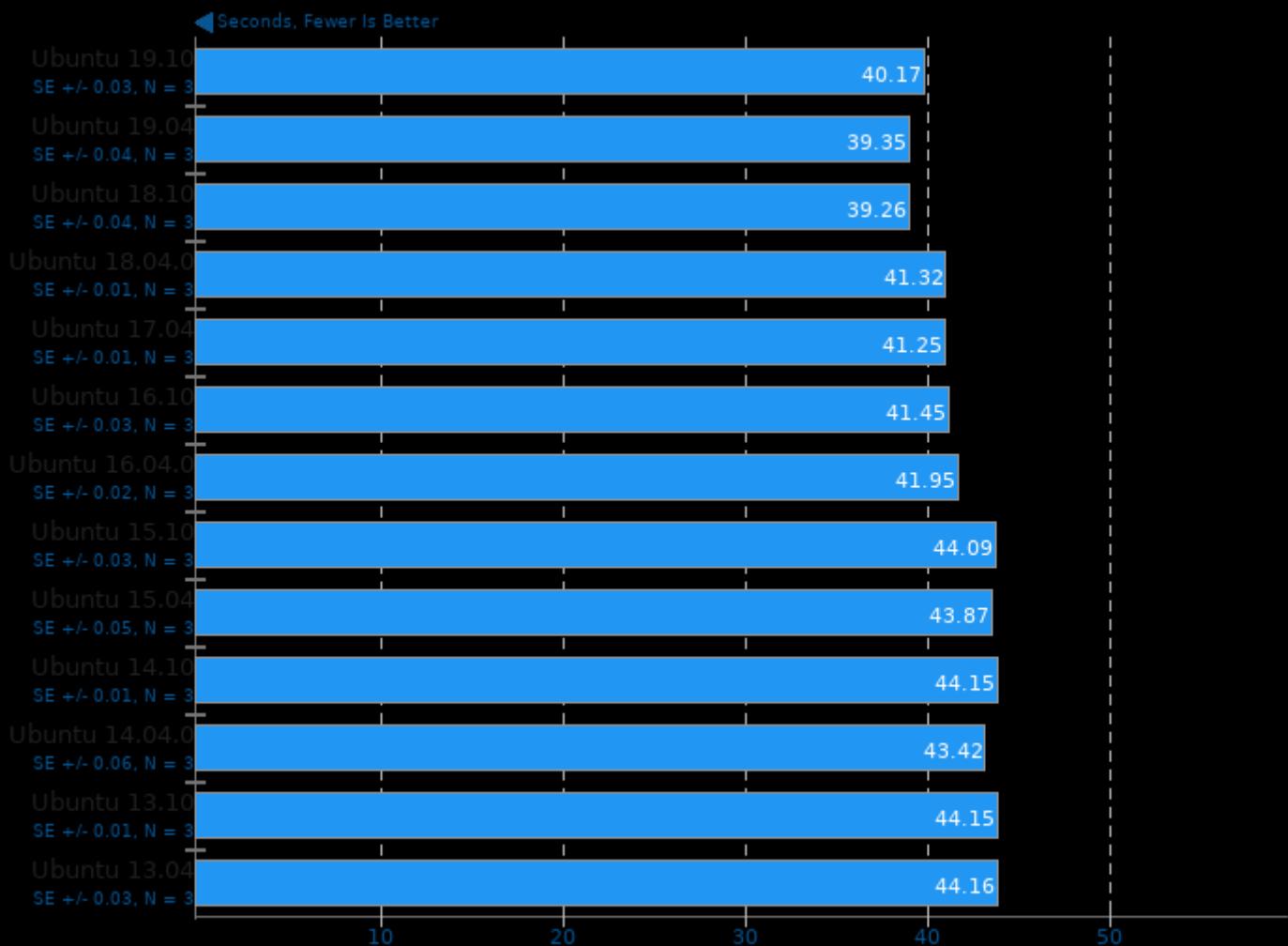
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -lpthread -O3

## Smallpt 1.0

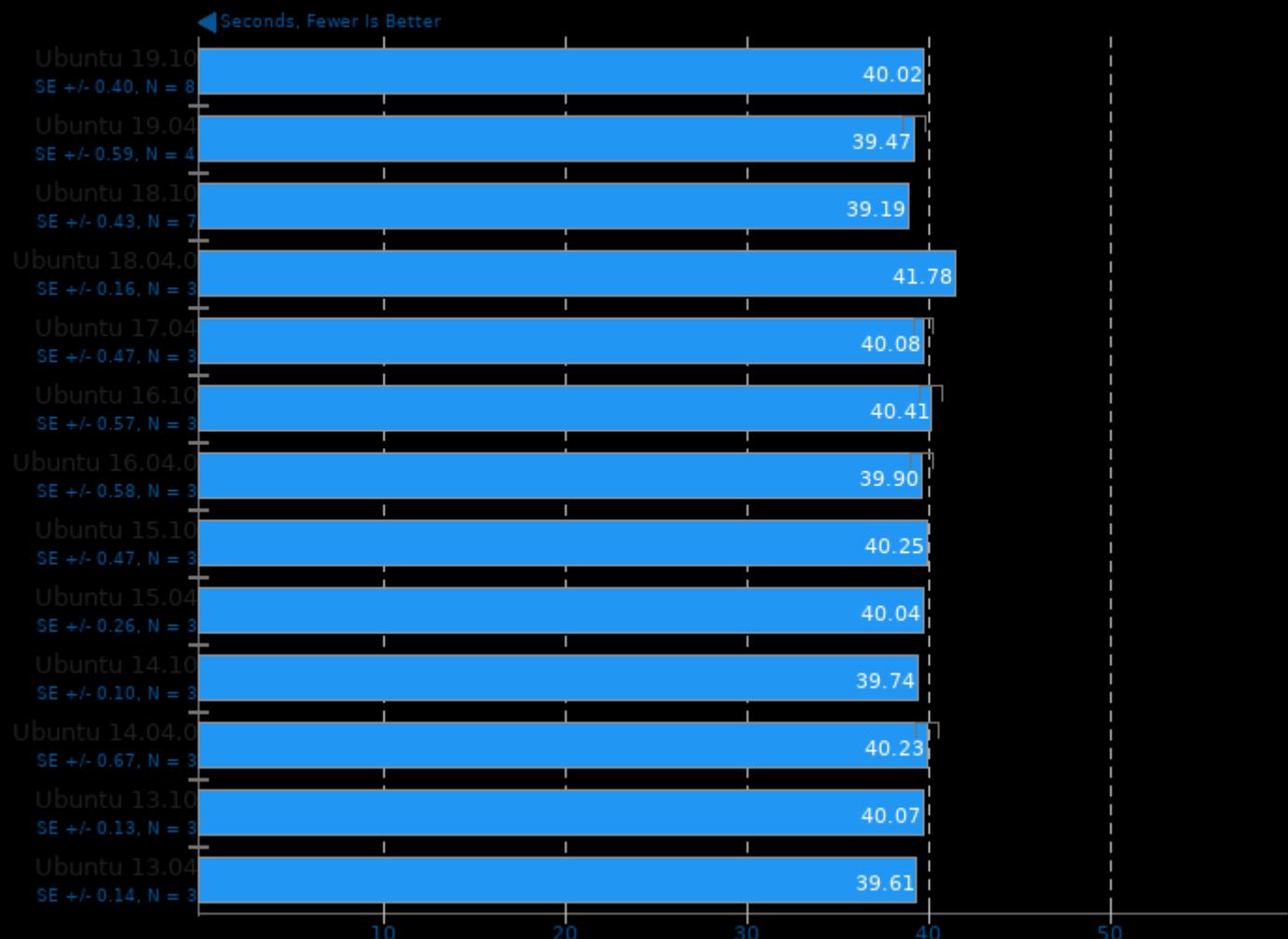
Global Illumination Renderer; 128 Samples



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

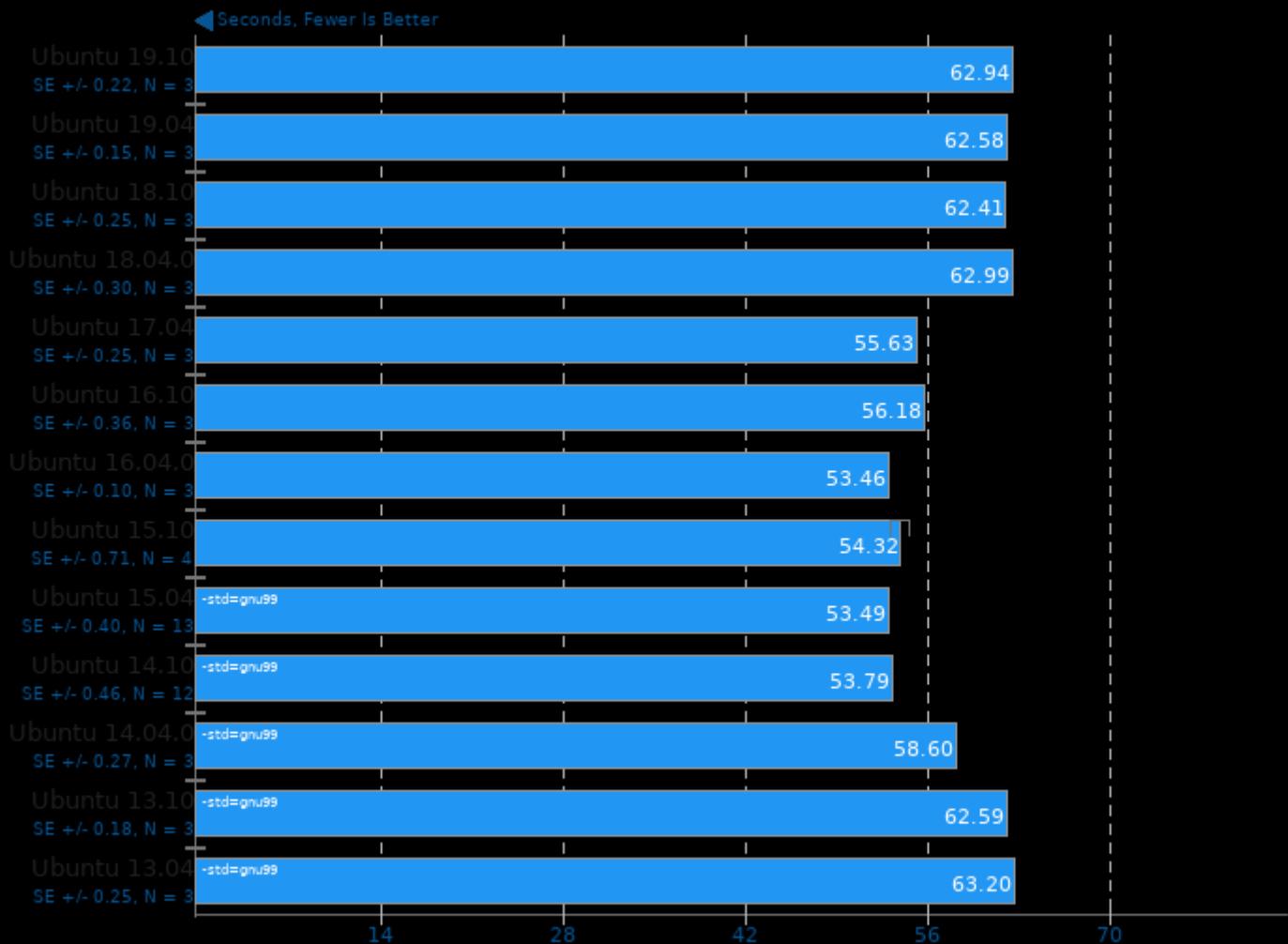
## Gzip Compression

Linux Source Tree Archiving To .tar.gz



### XZ Compression 5.2.4

Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



1. (CC) gcc options: -pthread -fvisibility=hidden -O2

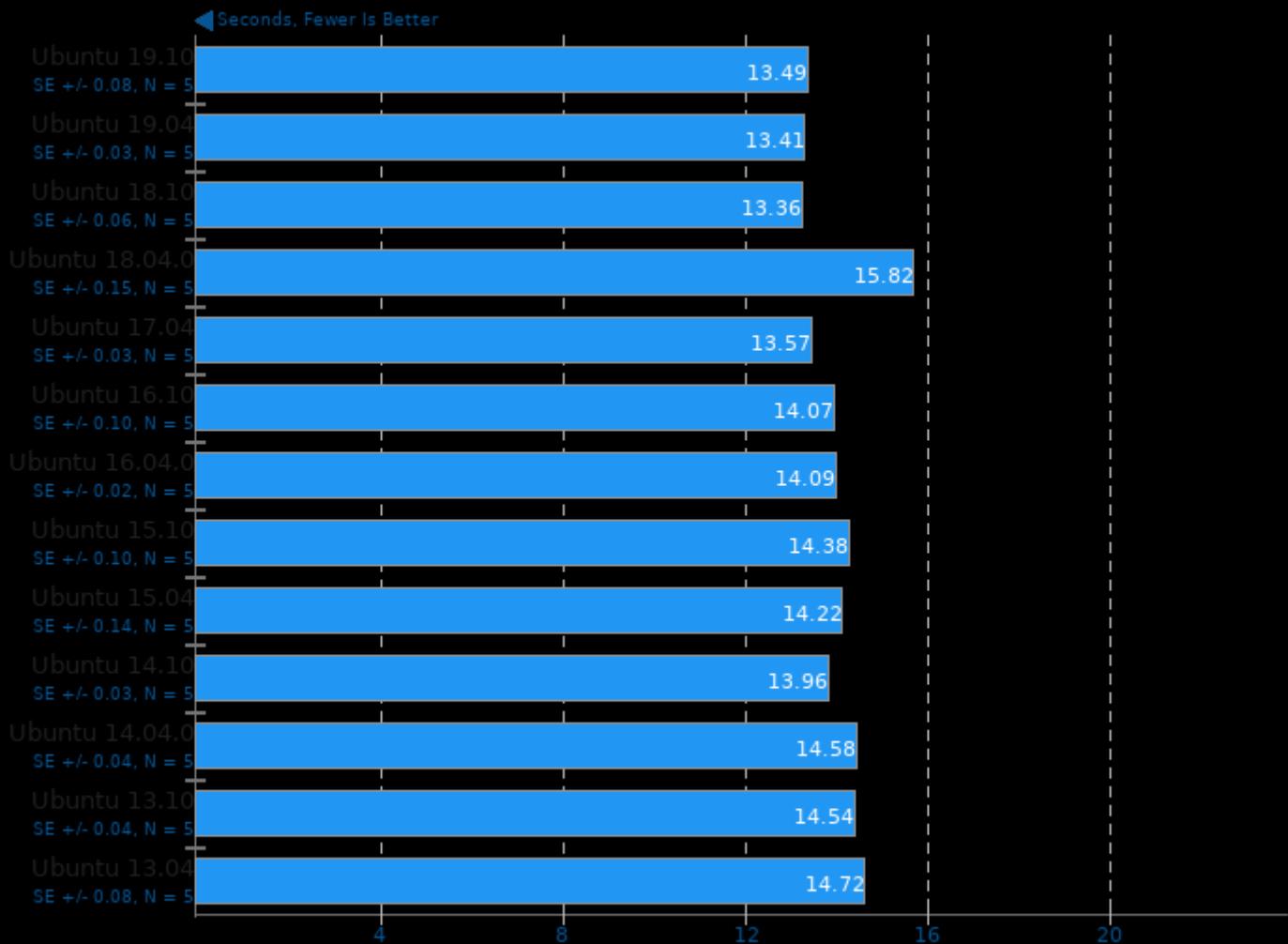
## DeepSpeech 0.6

Acceleration: CPU



## FLAC Audio Encoding 1.3.2

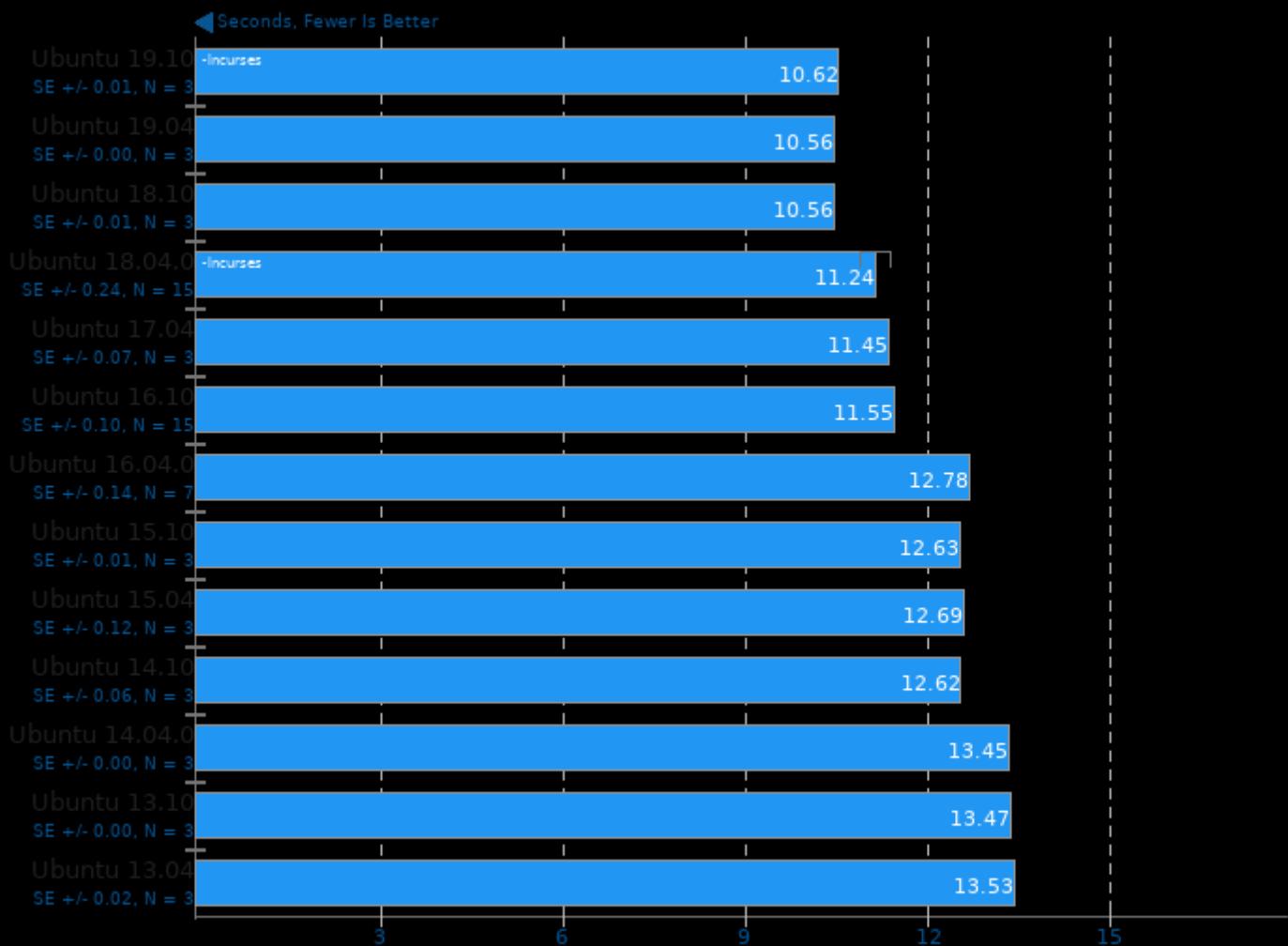
WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -fno-rtti

## LAME MP3 Encoding 3.100

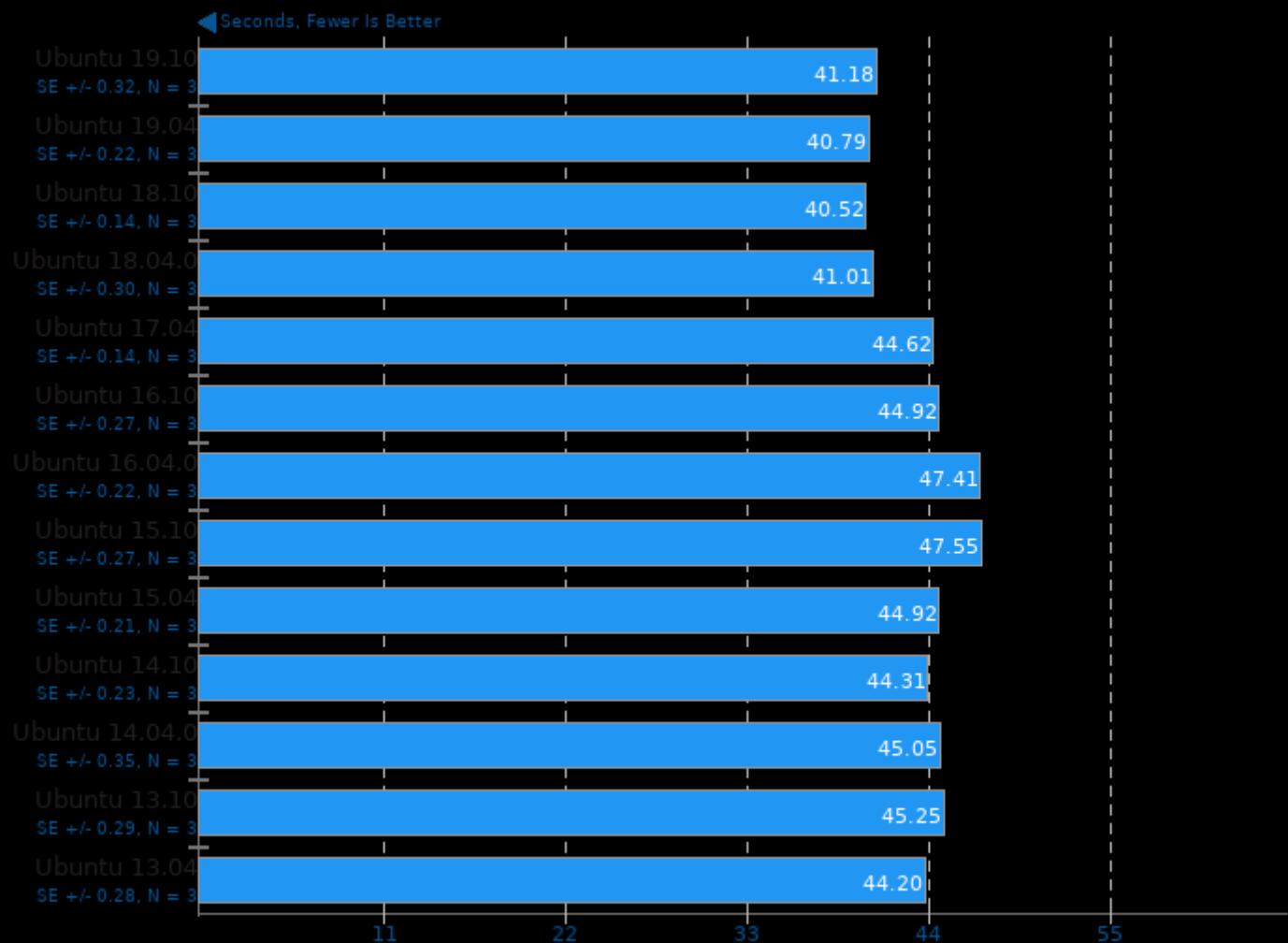
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

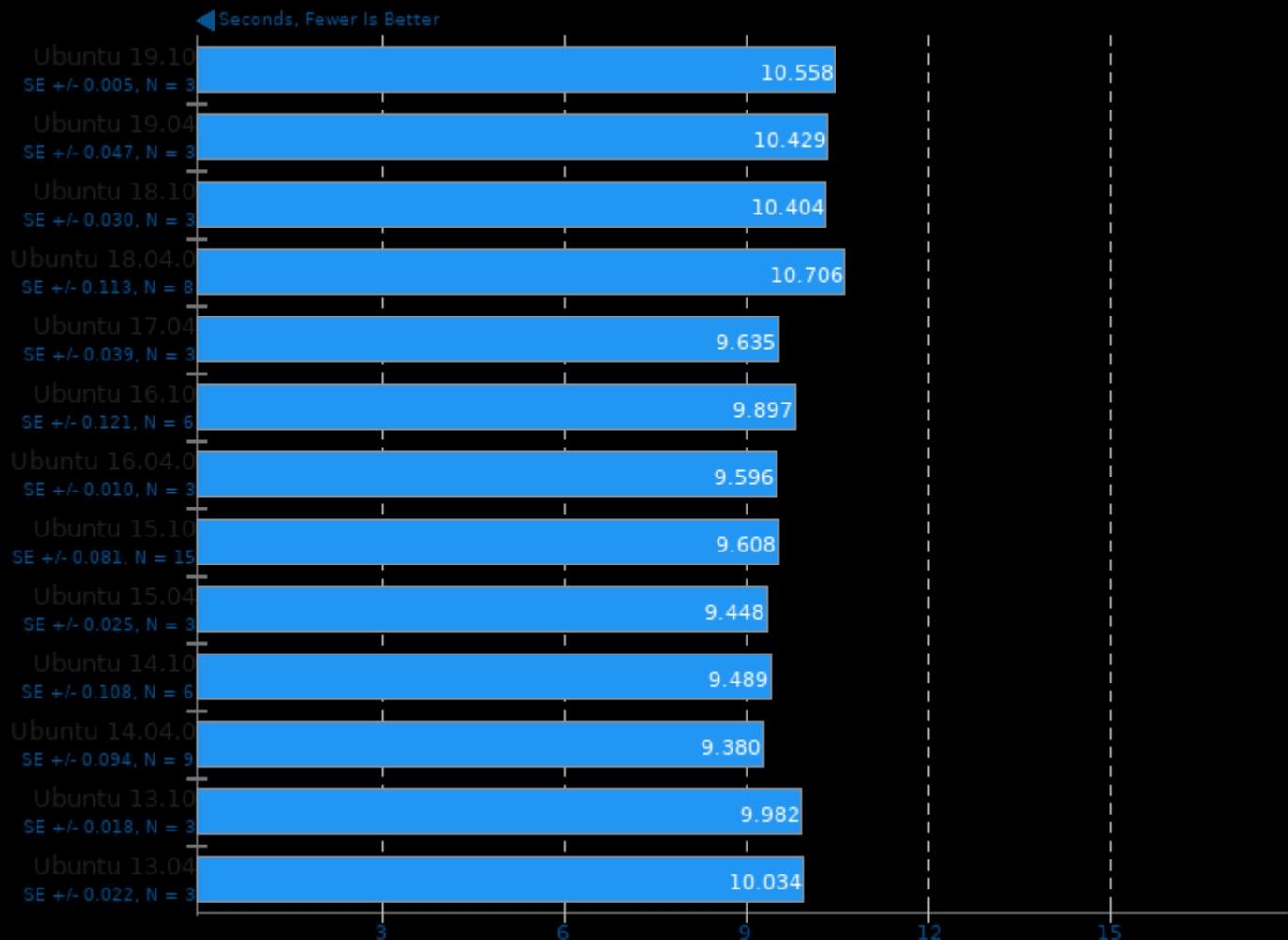
## N-Queens 1.0

Elapsed Time



1. (CC) gcc options: -static -fopenmp -O3 -march=native

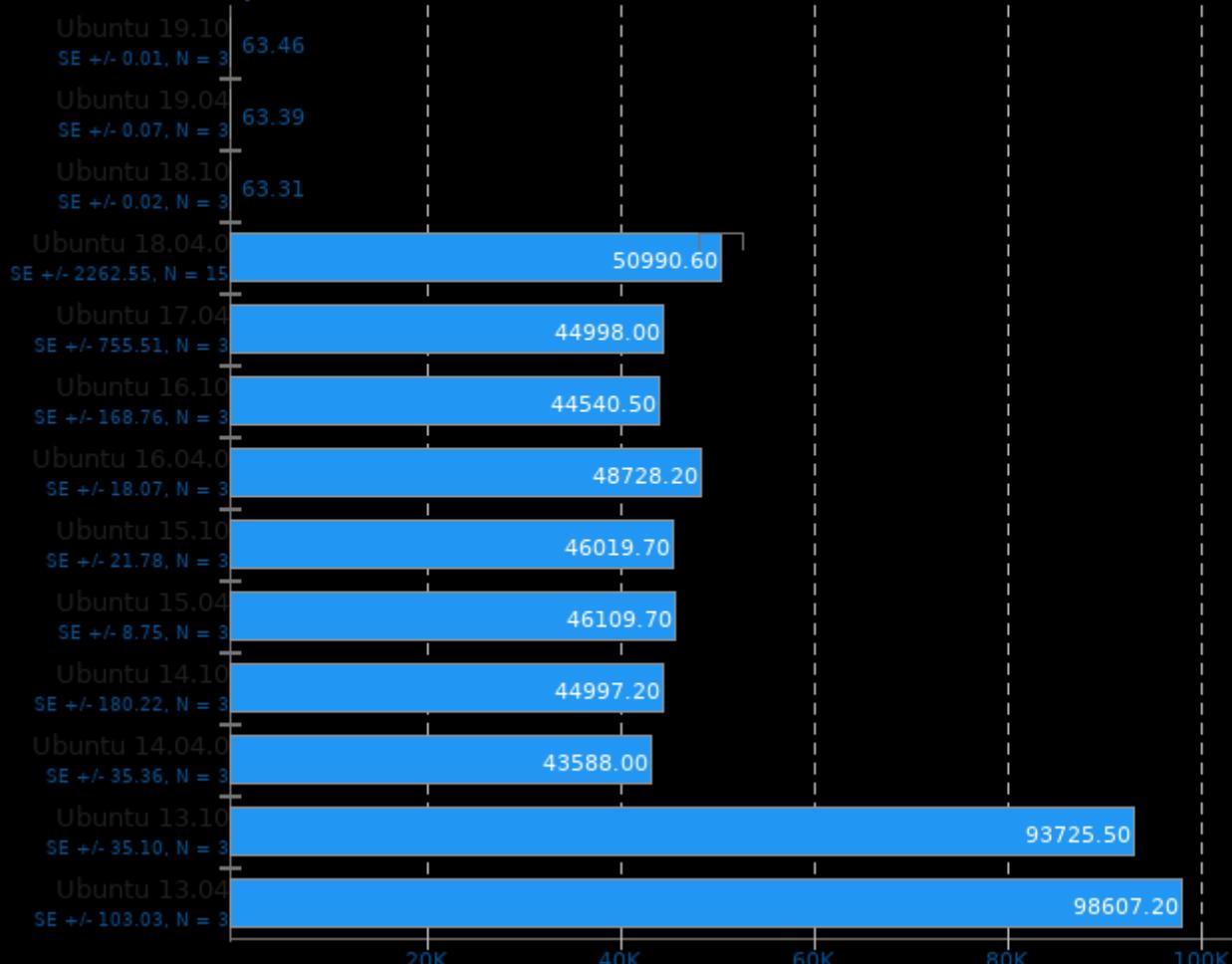
## System BZIP2 Decompression



## glibc bench 1.0

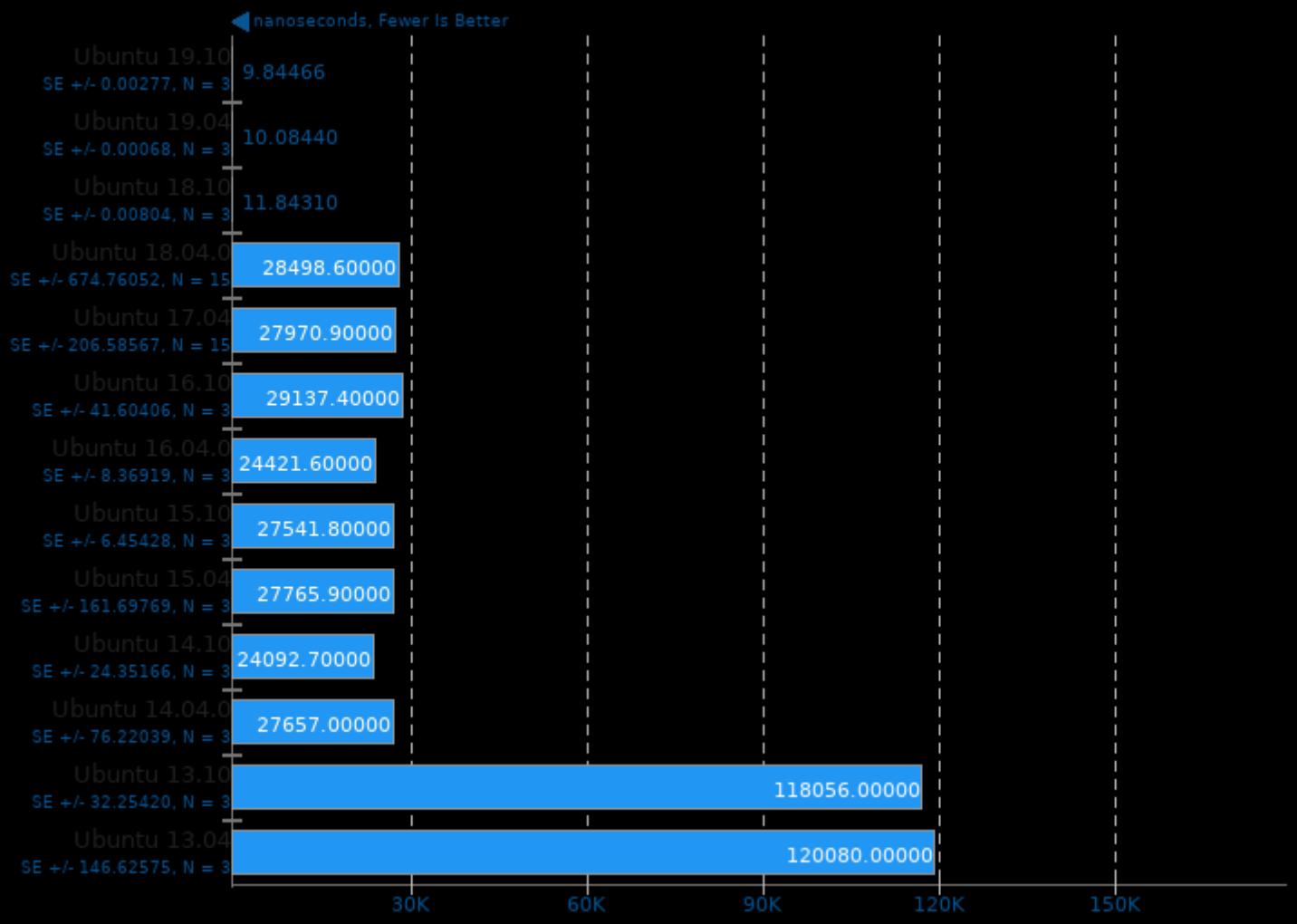
Benchmark: cos

◀ nanoseconds, Fewer Is Better



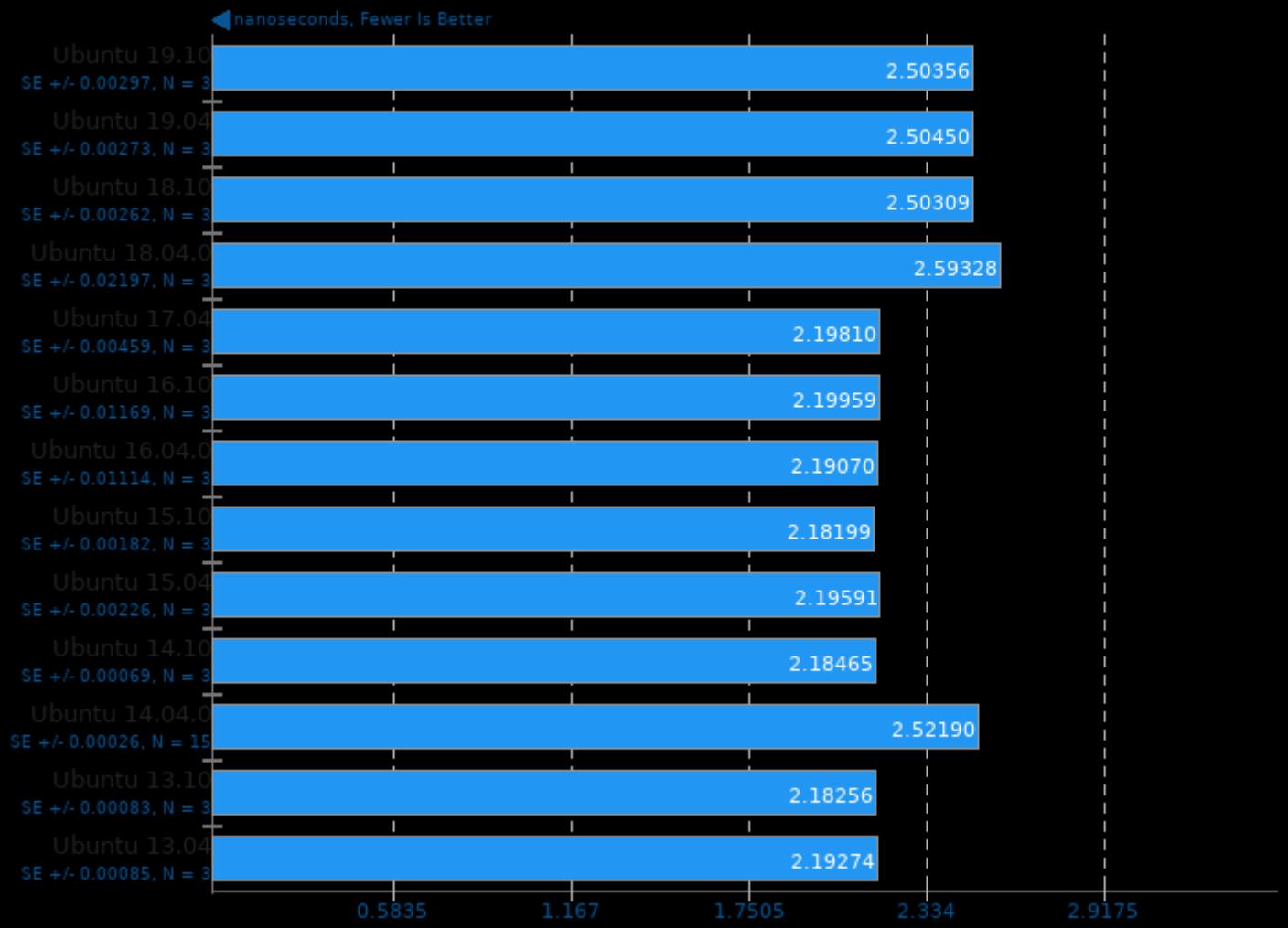
## glibc bench 1.0

Benchmark: exp



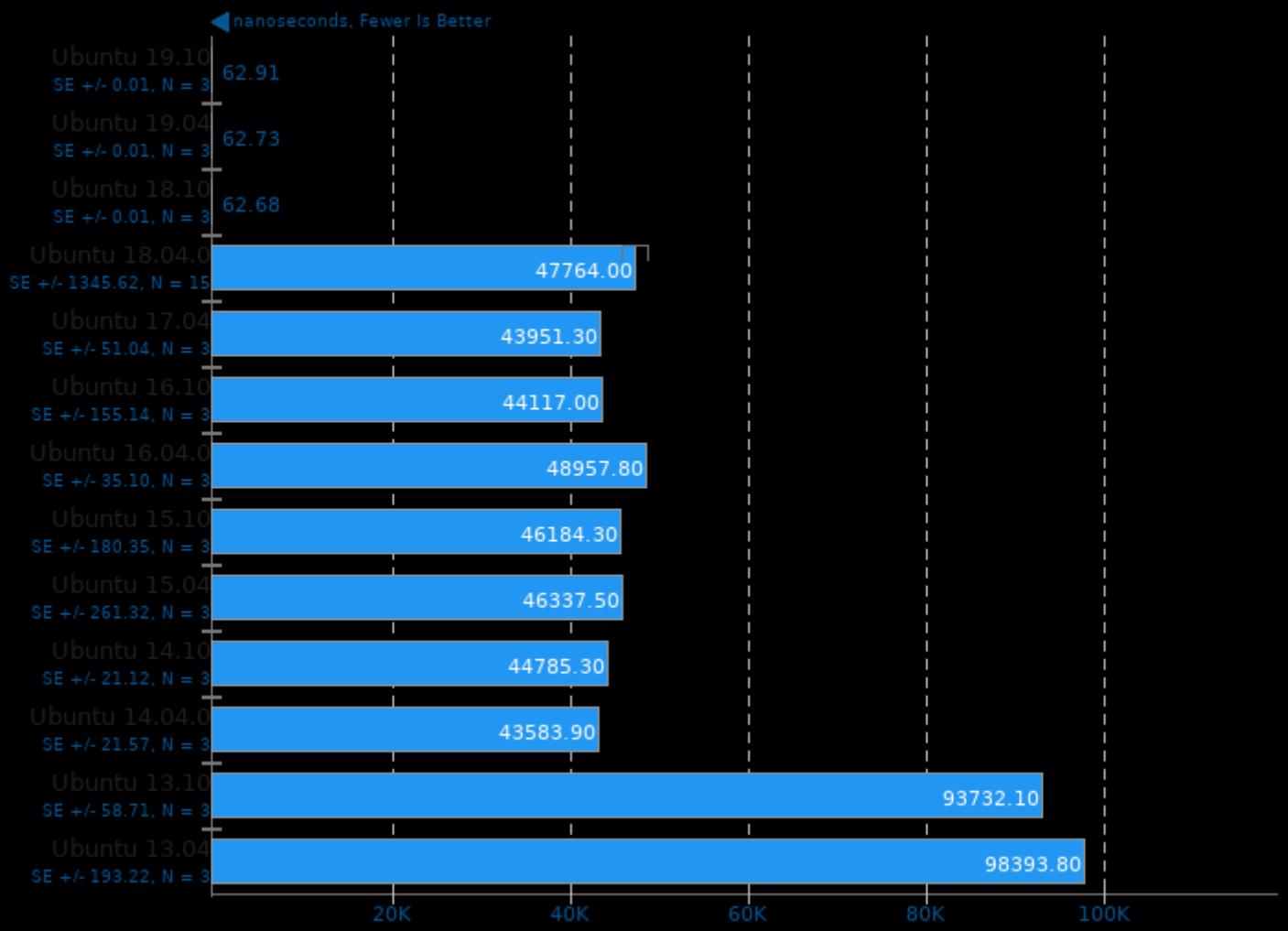
## glibc bench 1.0

Benchmark: ffs



## glibc bench 1.0

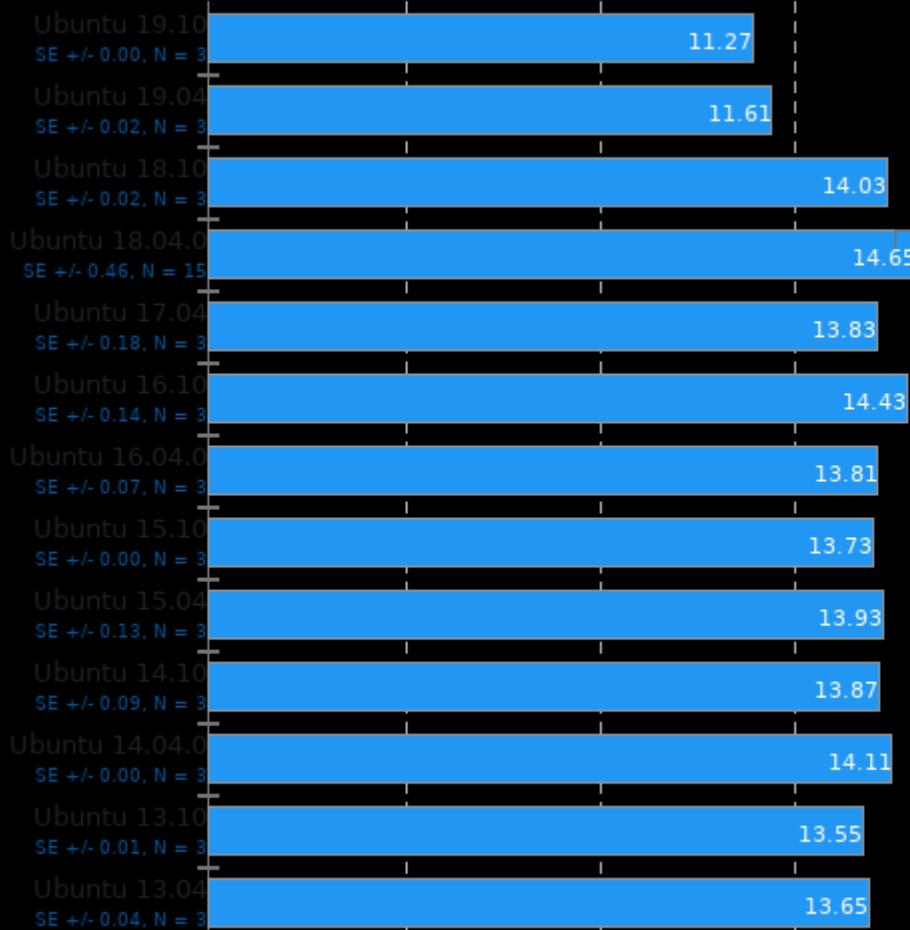
Benchmark: sin



## glibc bench 1.0

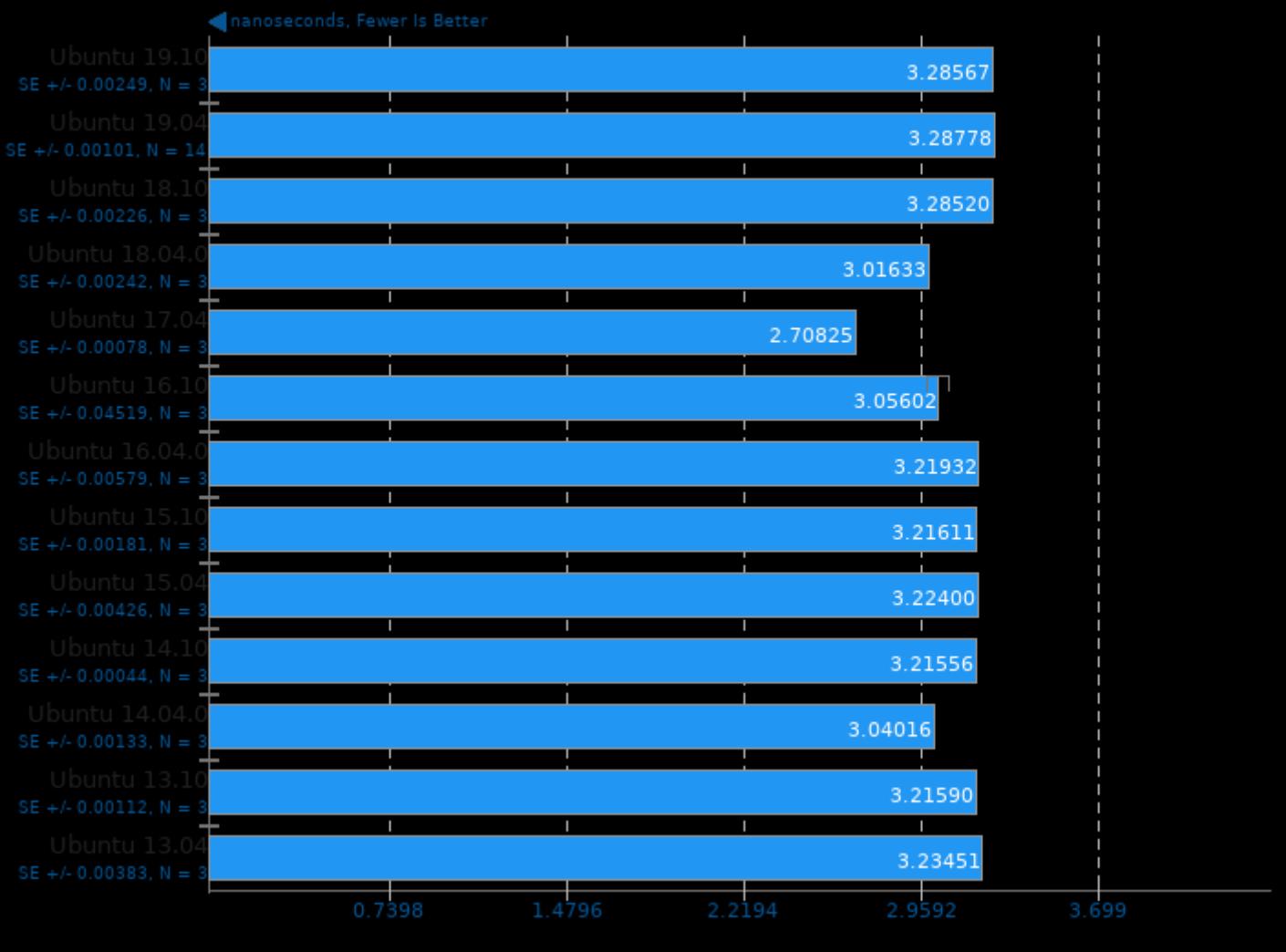
Benchmark: log2

◀ nanoseconds, Fewer Is Better



## glibc bench 1.0

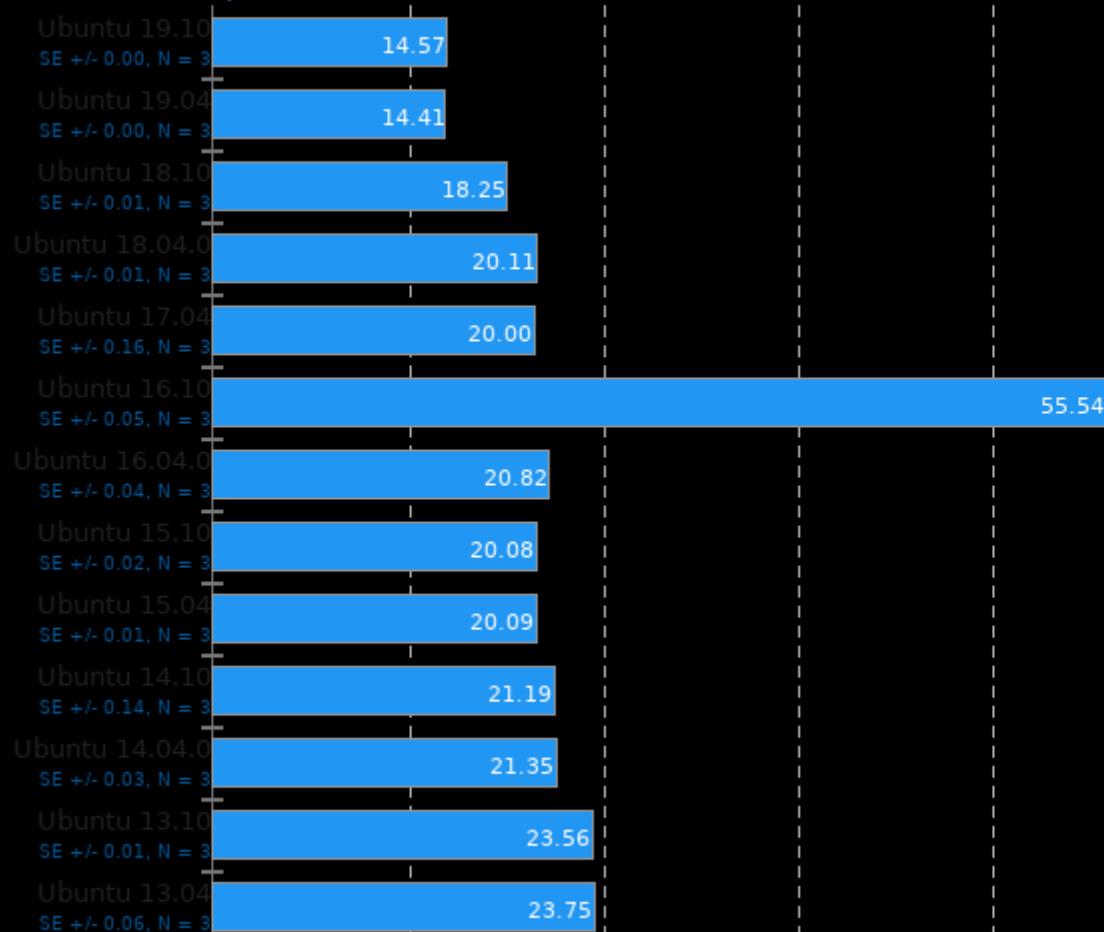
Benchmark: modf



## glibc bench 1.0

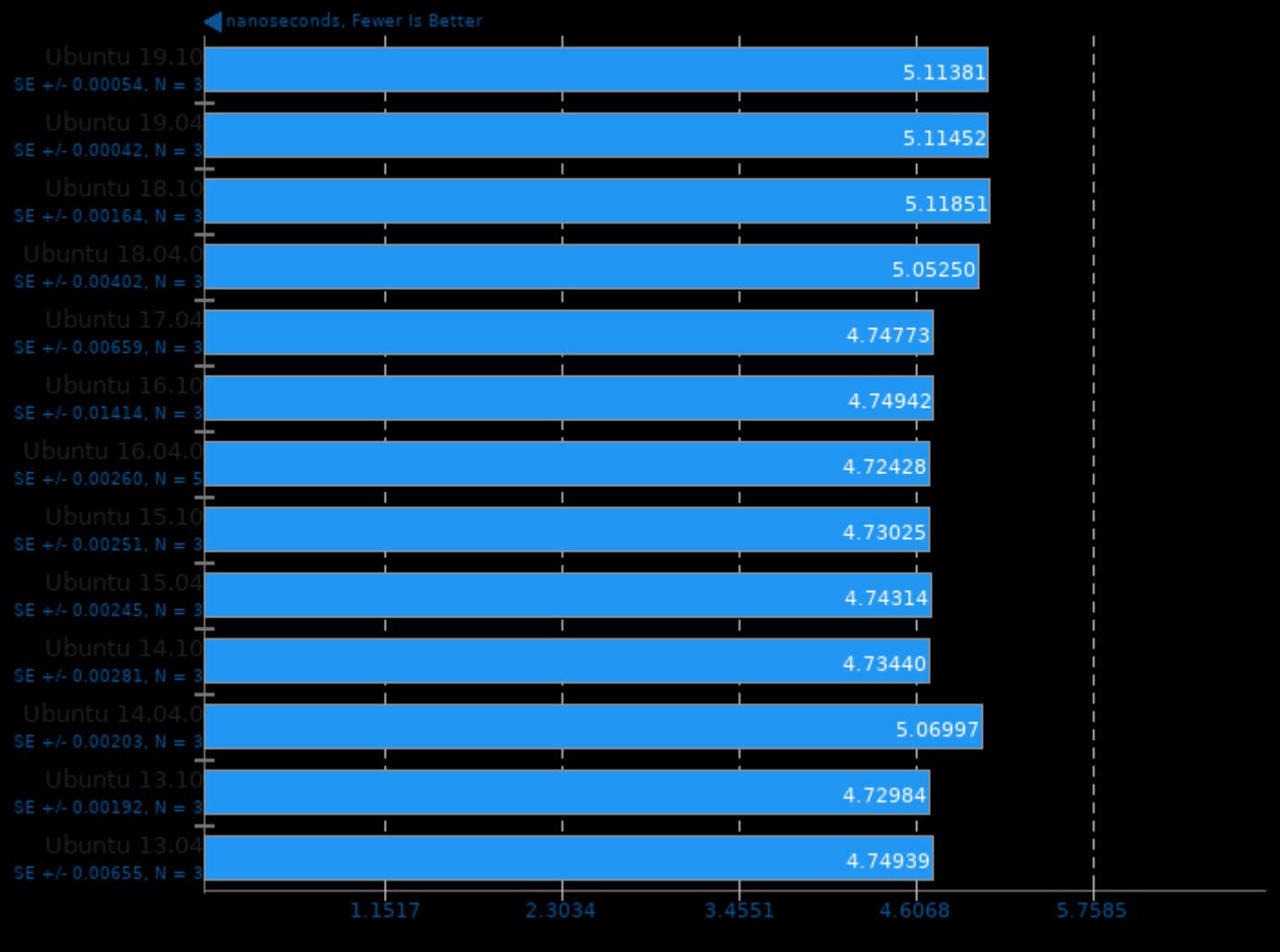
Benchmark: sinh

◀ nanoseconds, Fewer Is Better



## glibc bench 1.0

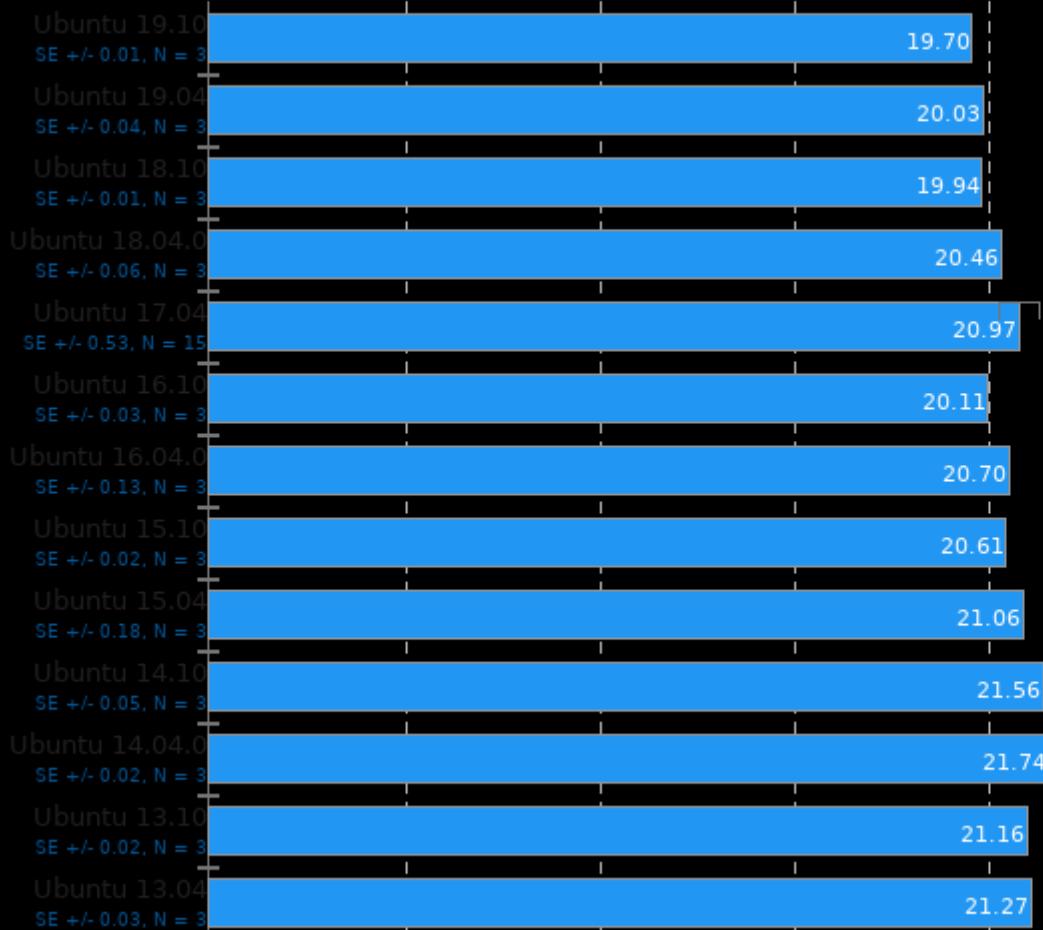
Benchmark: sqrt



## glibc bench 1.0

Benchmark: tanh

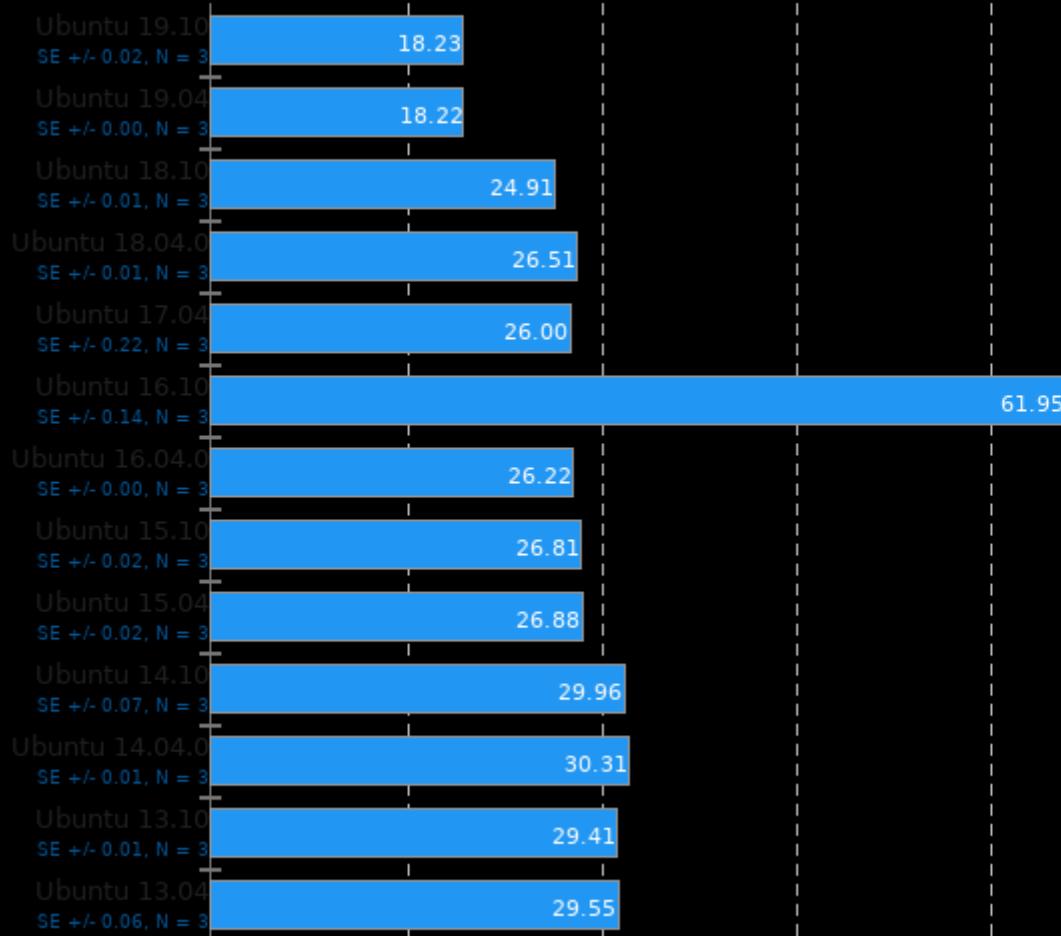
◀ nanoseconds, Fewer Is Better



## glibc bench 1.0

Benchmark: asinh

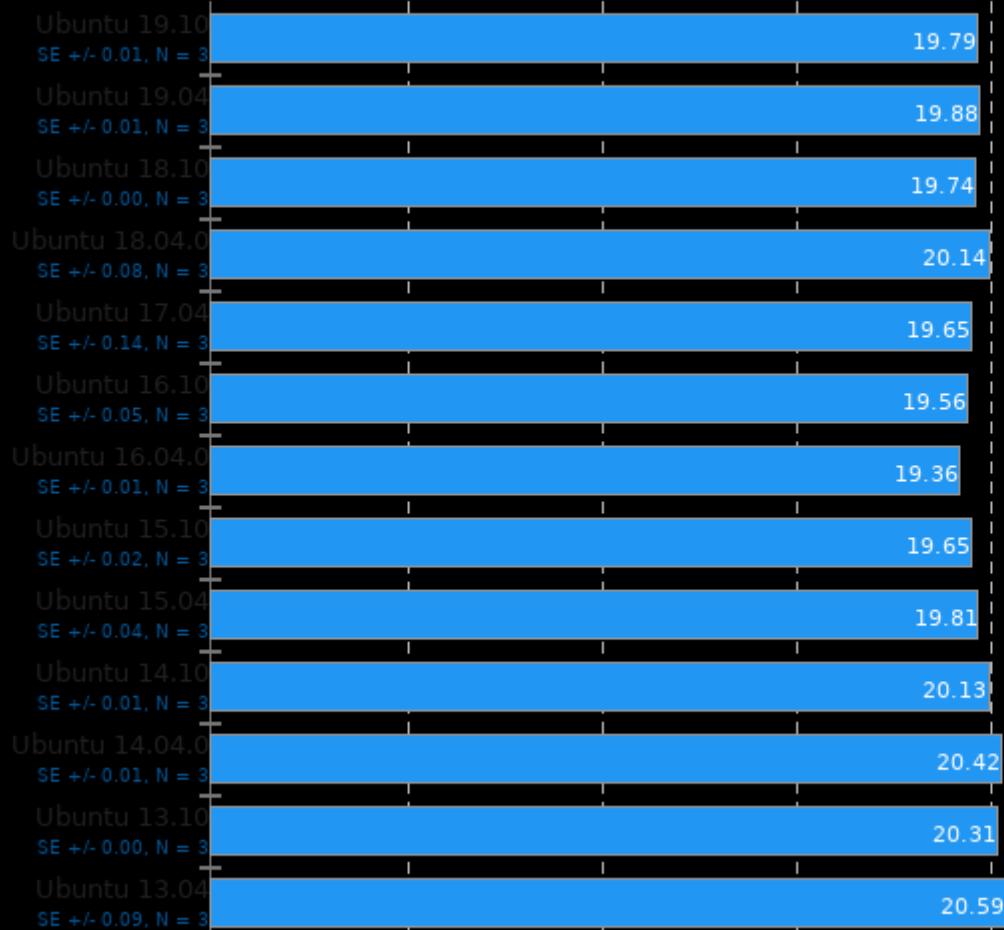
◀ nanoseconds, Fewer Is Better



## glibc bench 1.0

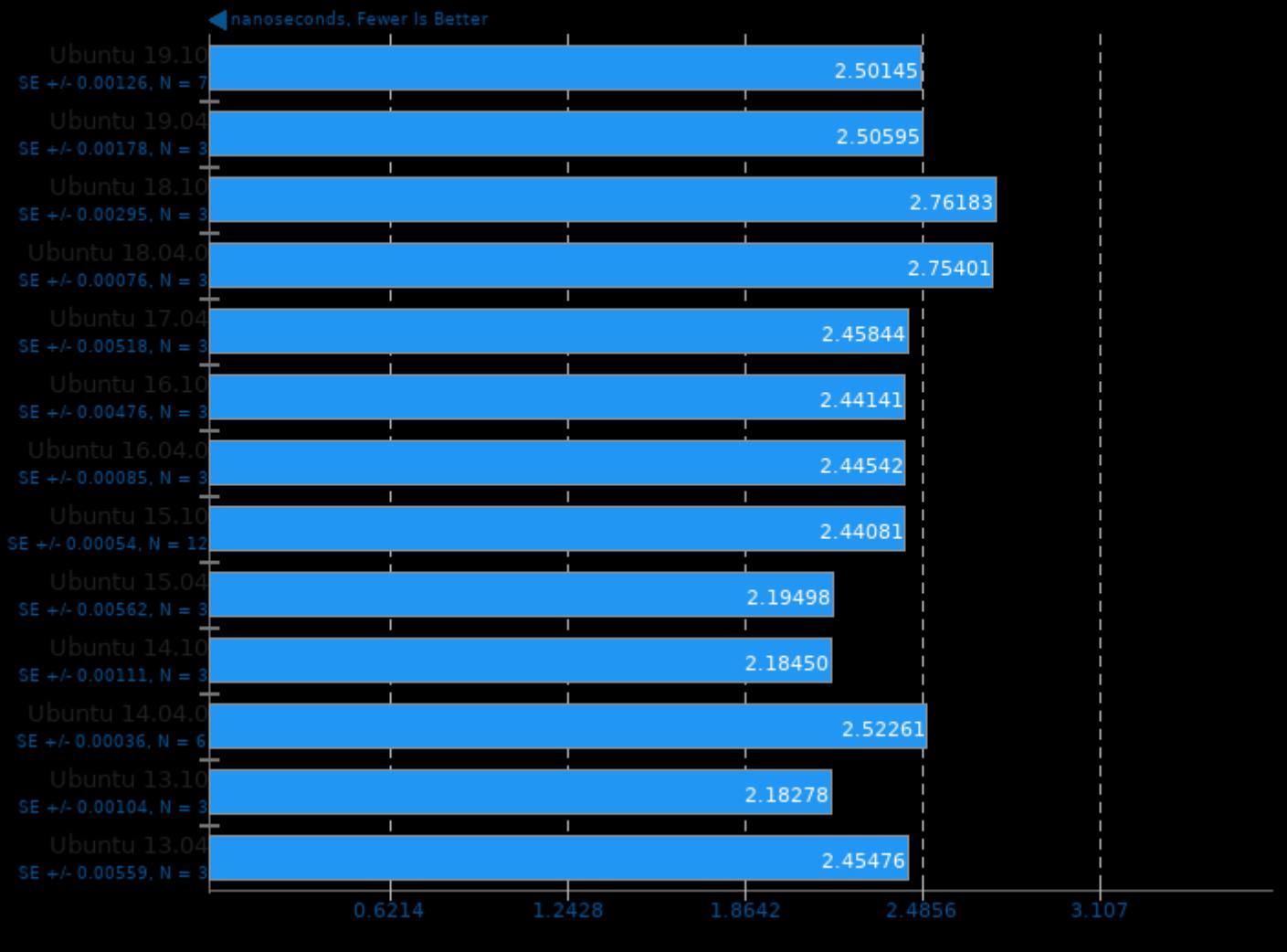
Benchmark: atan

◀ nanoseconds, Fewer Is Better



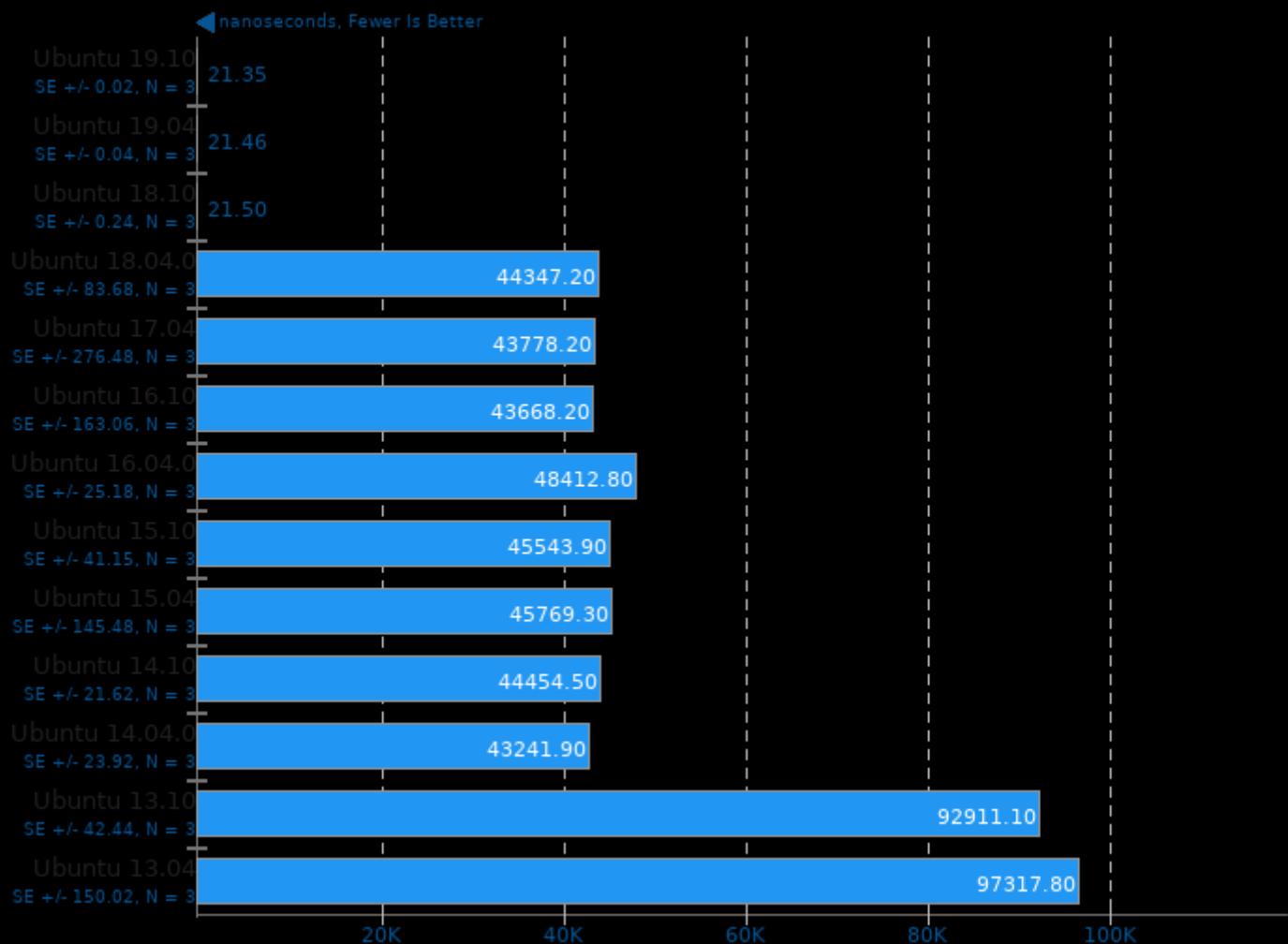
**glibc bench 1.0**

Benchmark: ffsll



**glibc bench 1.0**

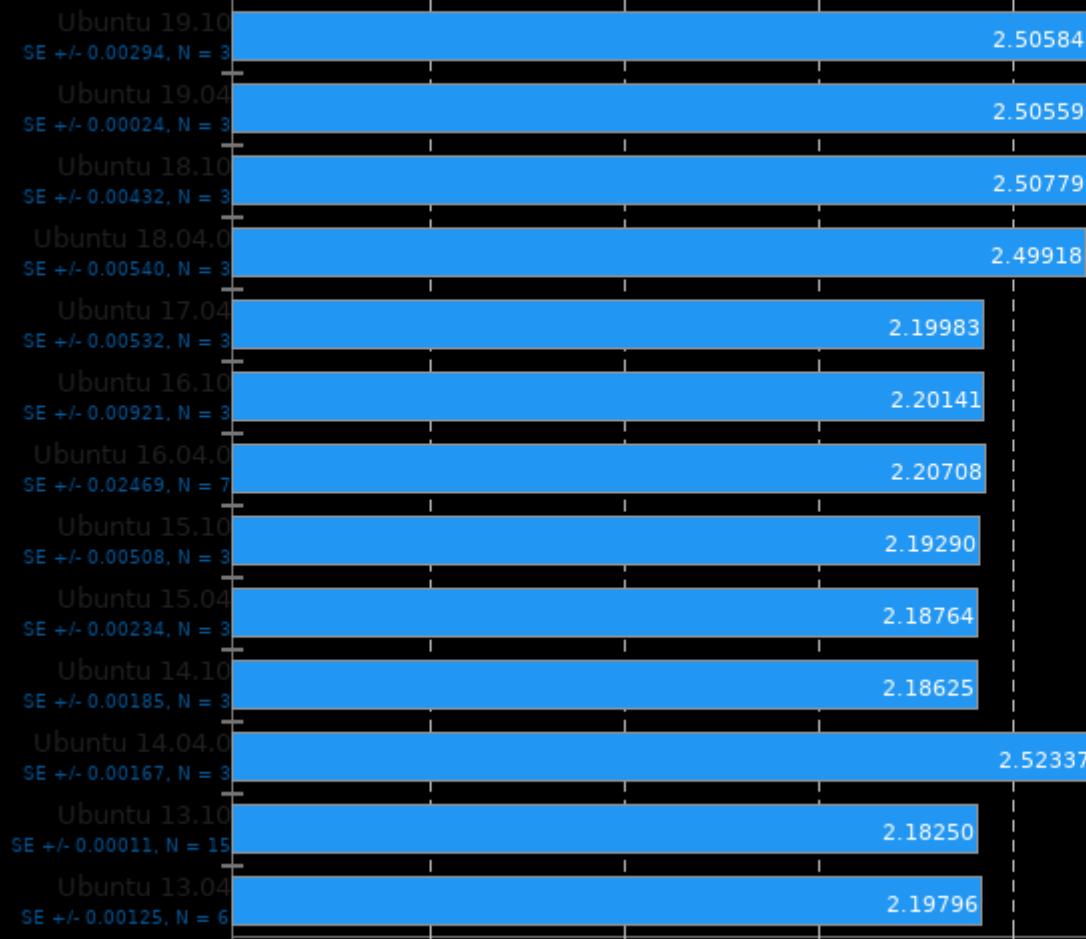
Benchmark: sincos



**glibc bench 1.0**

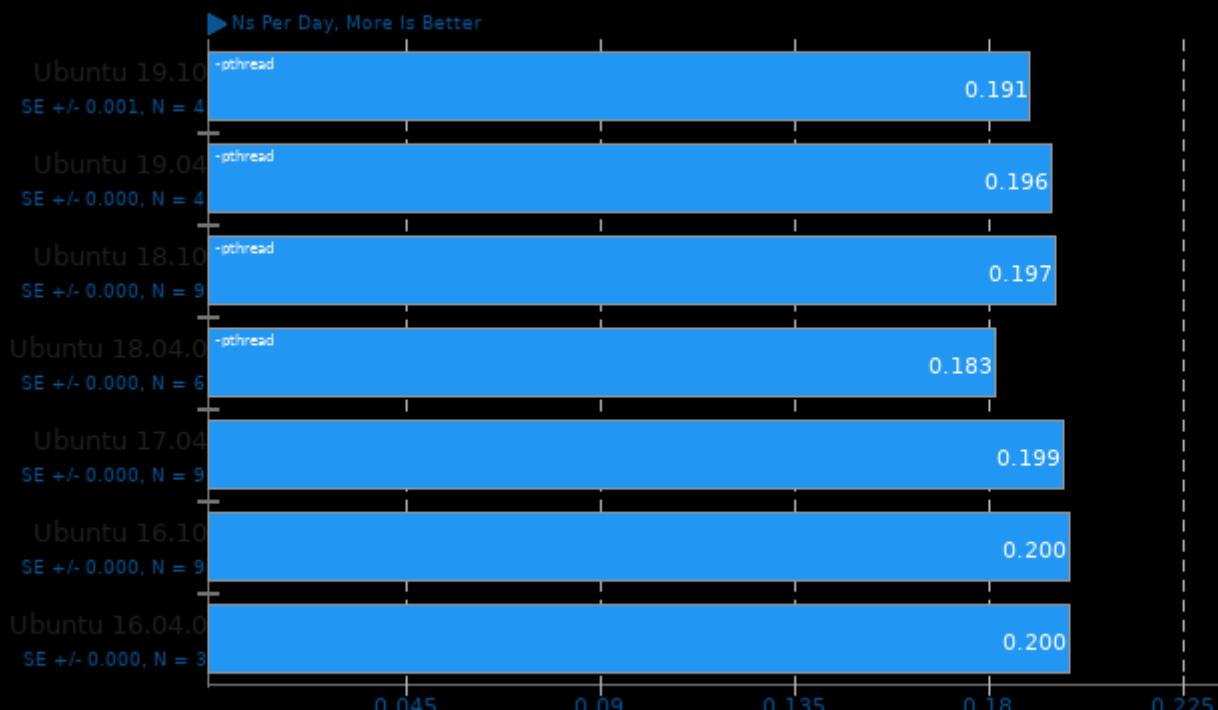
Benchmark: pthread\_once

◀ nanoseconds, Fewer Is Better



## GROMACS 2019.4

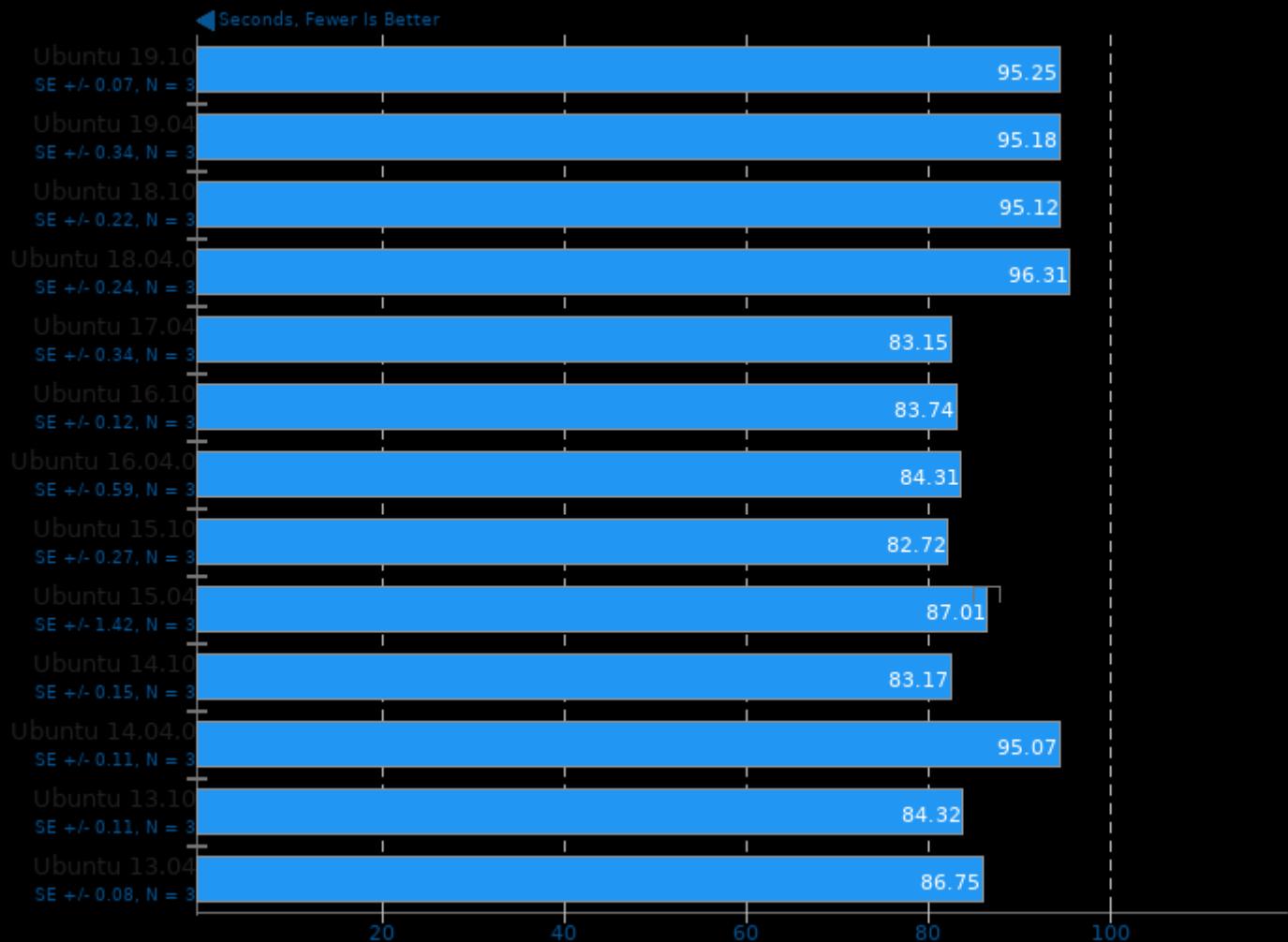
### Water Benchmark



1. (CXX) g++ options: -mavx -std=c++11 -O3 -funroll-all-loops -frt -lpthread -lm

## SQLite Speedtest 3.30

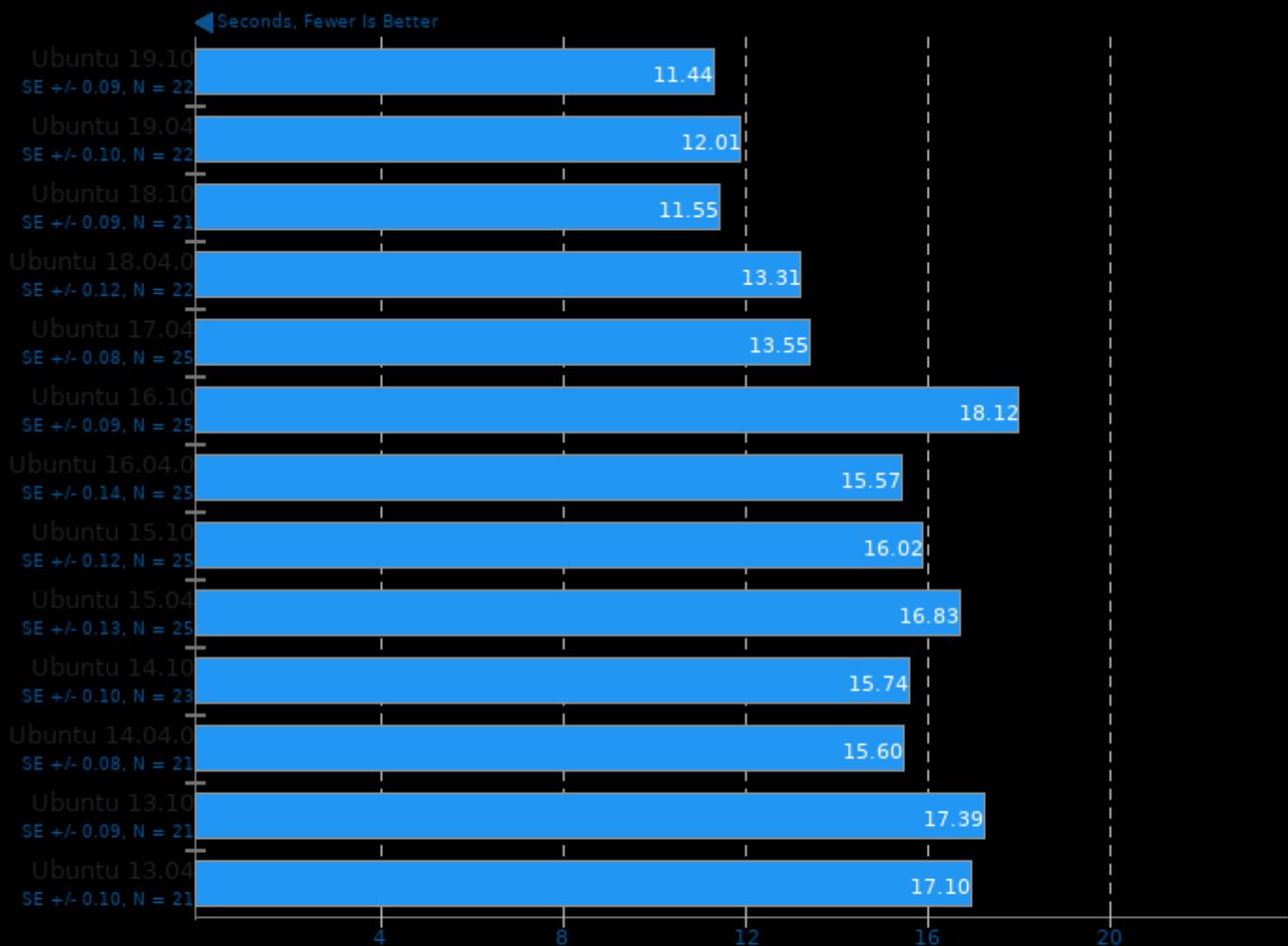
Timed Time - Size 1,000



1. (CC) gcc options: -O2 -ldl -lz -lpthread

## LibreOffice

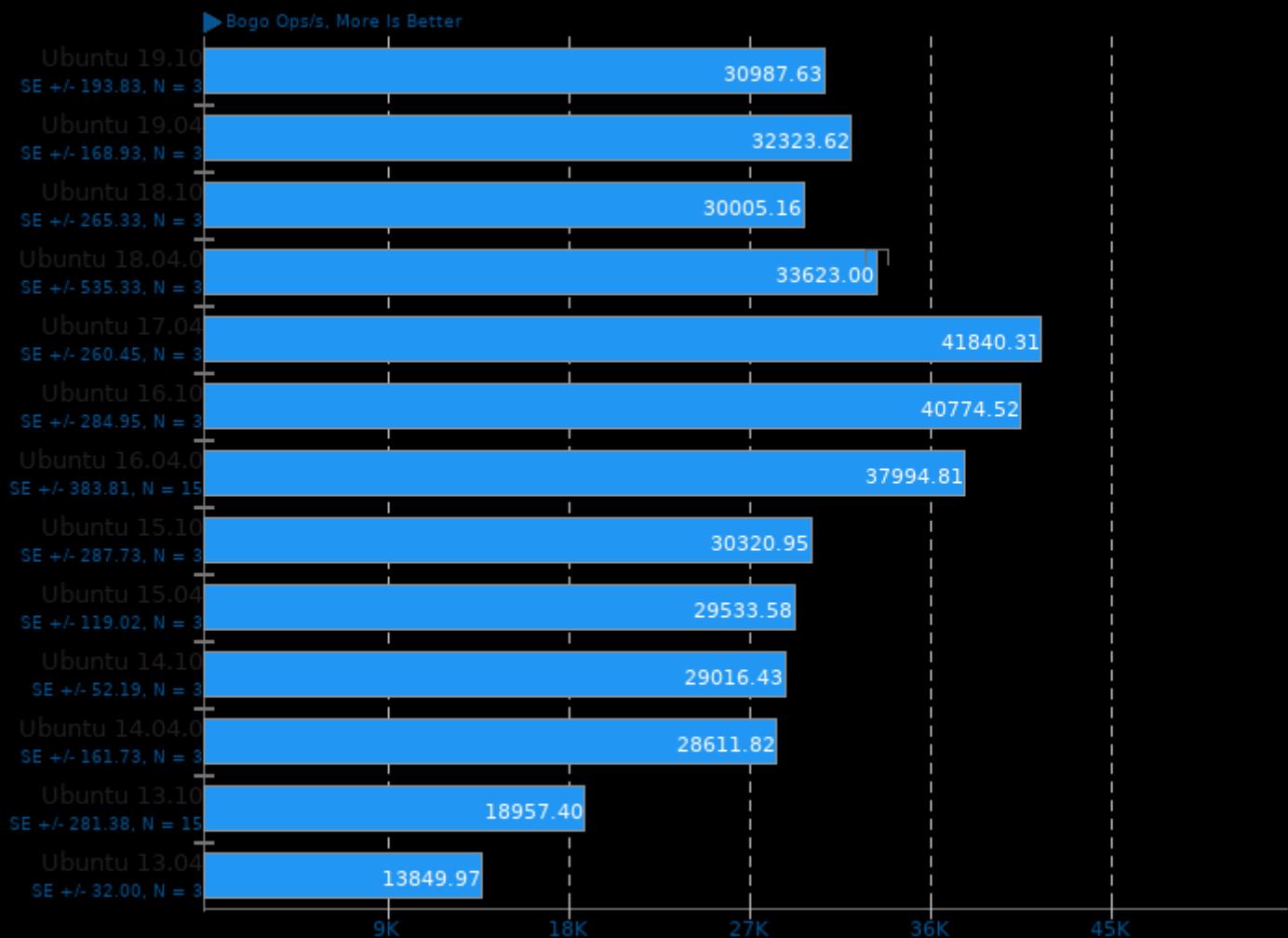
Test: 20 Documents To PDF



1. Ubuntu 19.10: LibreOffice 6.3.3.2 30(Build:2)
2. Ubuntu 19.04: LibreOffice 6.2.8.2 20(Build:2)
3. Ubuntu 18.10: LibreOffice 6.1.6.3 10(Build:3)
4. Ubuntu 18.04.0: LibreOffice 6.0.7.3 00m0(Build:3)
5. Ubuntu 17.04: LibreOffice 5.3.1.2 30m0(Build:2)
6. Ubuntu 16.10: LibreOffice 5.2.2.2 20m0(Build:2)
7. Ubuntu 16.04.0: LibreOffice 5.1.6.2 10m0(Build:2)
8. Ubuntu 15.10: LibreOffice 5.0.6.2 00m0(Build:2)
9. Ubuntu 15.04: LibreOffice 4.4.6.3 40m0(Build:3)
10. Ubuntu 14.10: LibreOffice 4.3.7.2 430m0(Build:2)
11. Ubuntu 14.04.0: LibreOffice 4.2.8.2 420m0(Build:2)
12. Ubuntu 13.10: LibreOffice 4.1.3.2 410m0(Build:2)
13. Ubuntu 13.04: LibreOffice 4.0.2.2

## Stress-NG 0.07.26

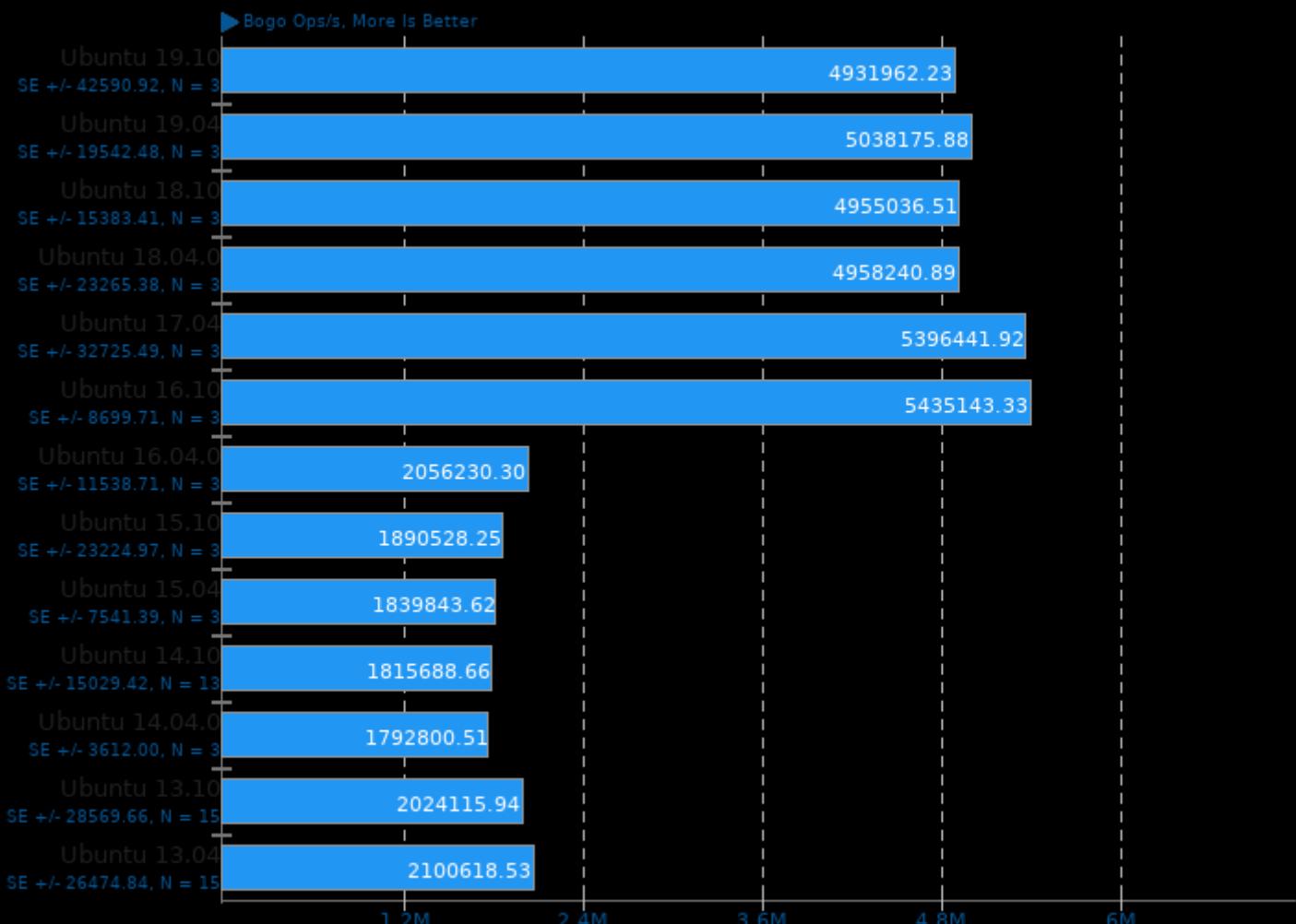
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

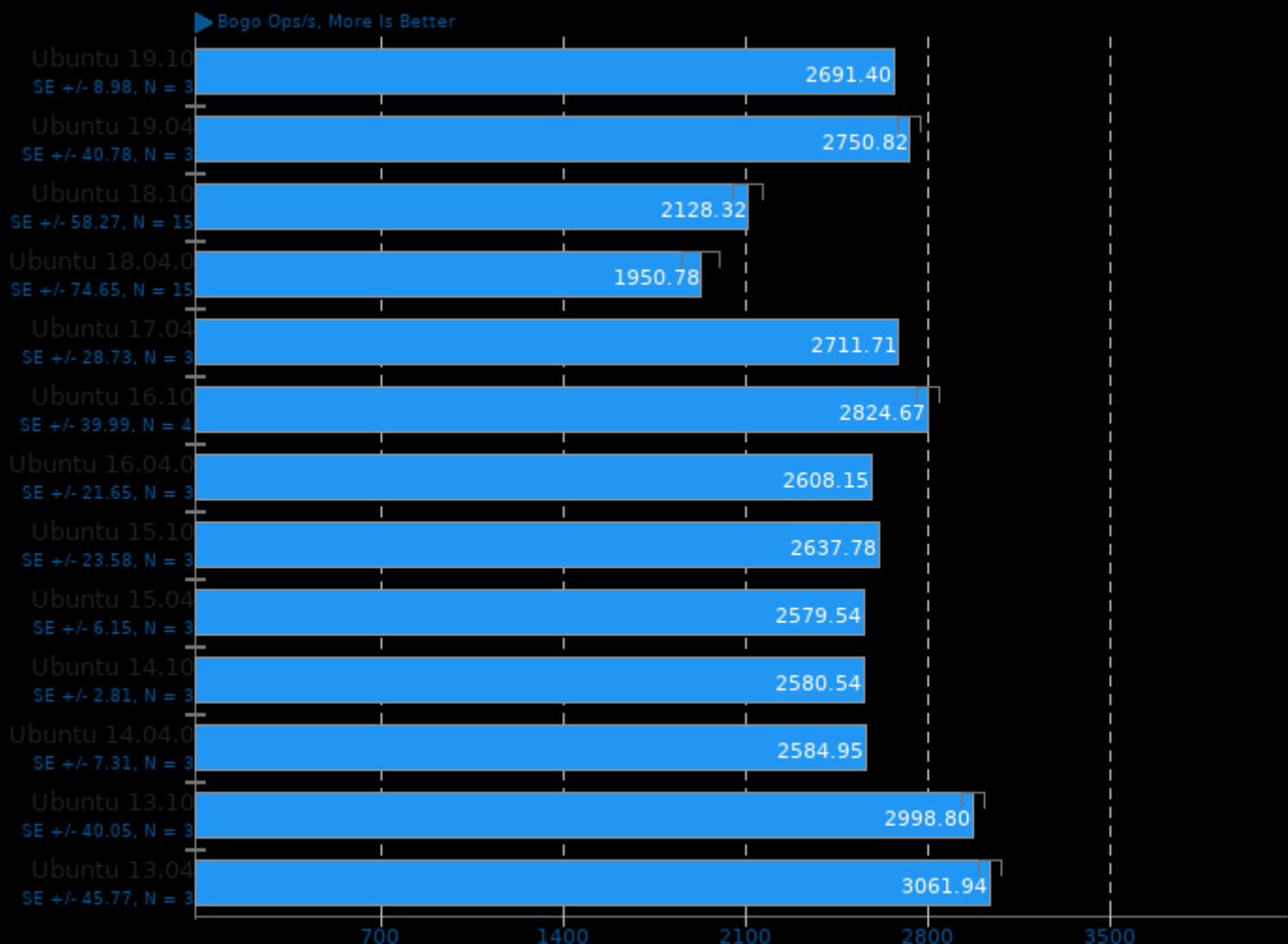
**Stress-NG 0.07.26**

Test: Semaphores



**Stress-NG 0.07.26**

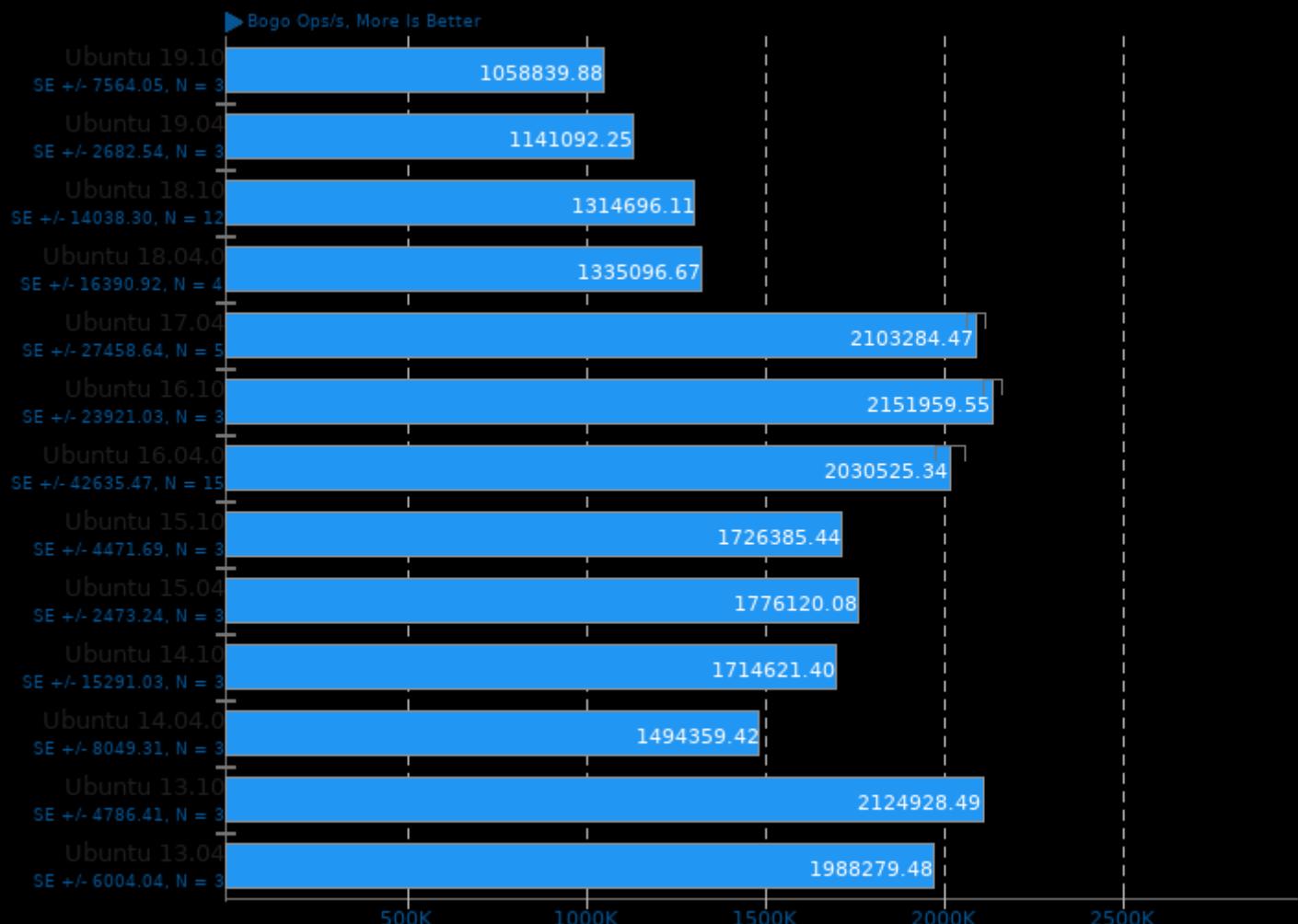
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

### Stress-NG 0.07.26

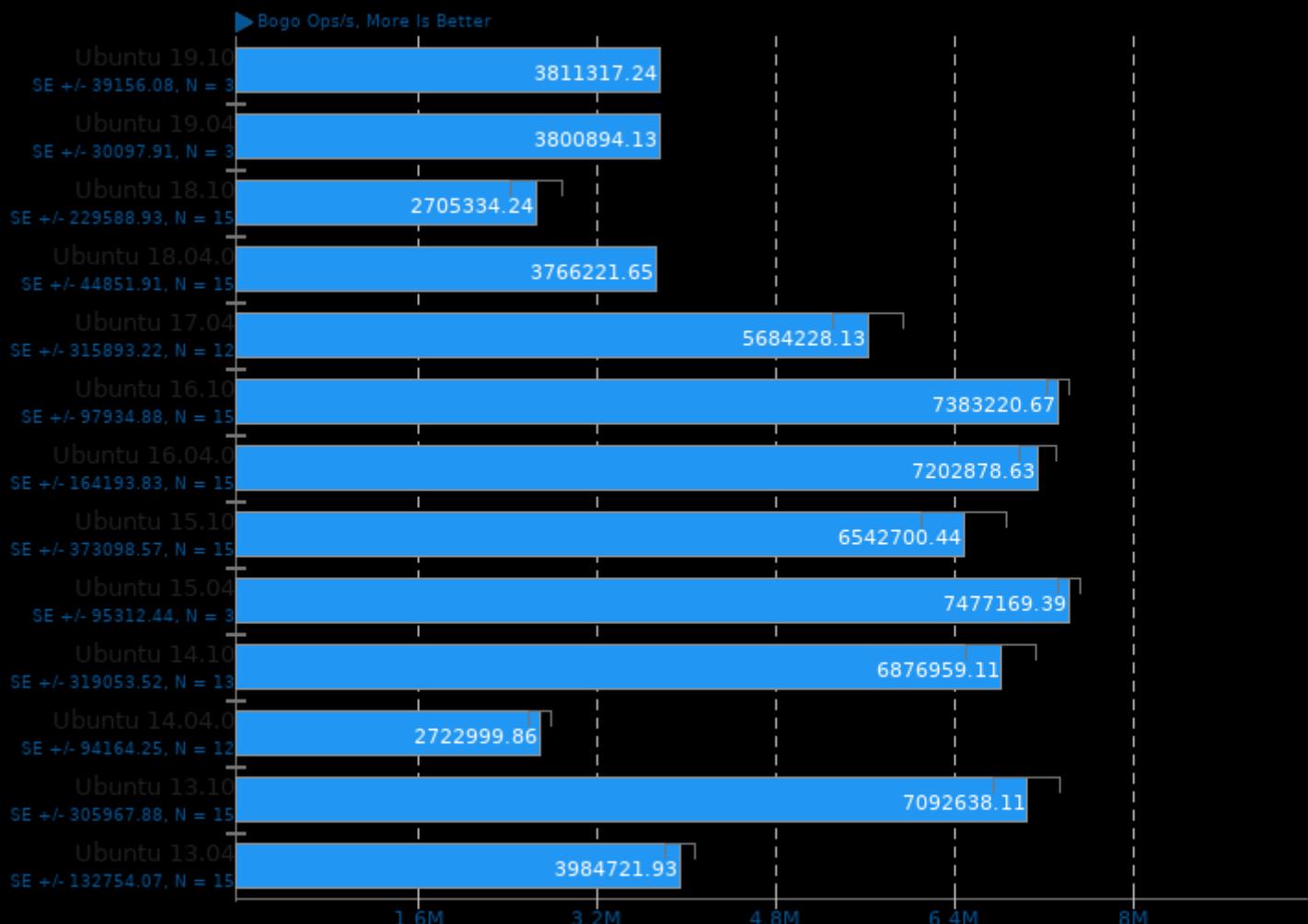
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

## Stress-NG 0.07.26

Test: System V Message Passing

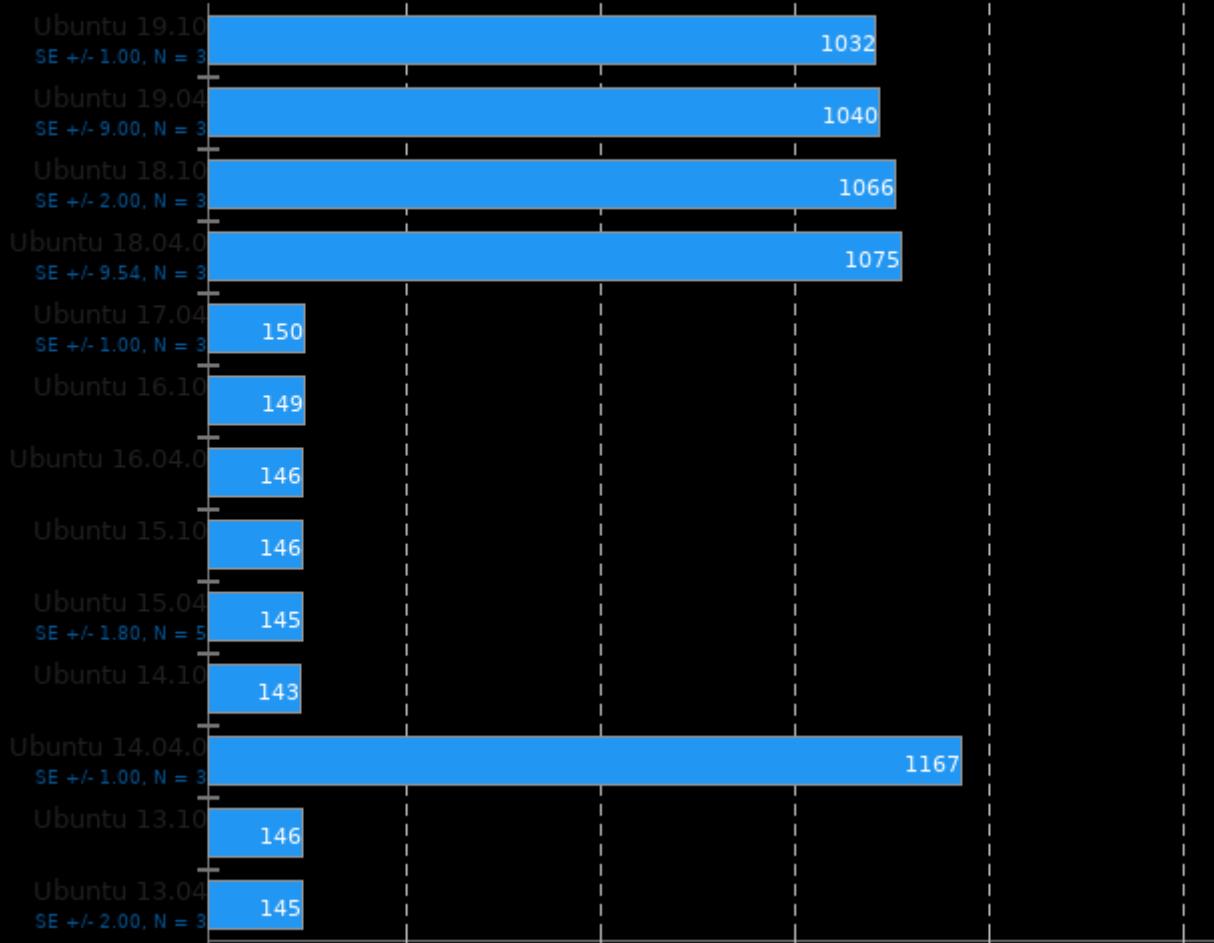


1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

**ctx\_clock**

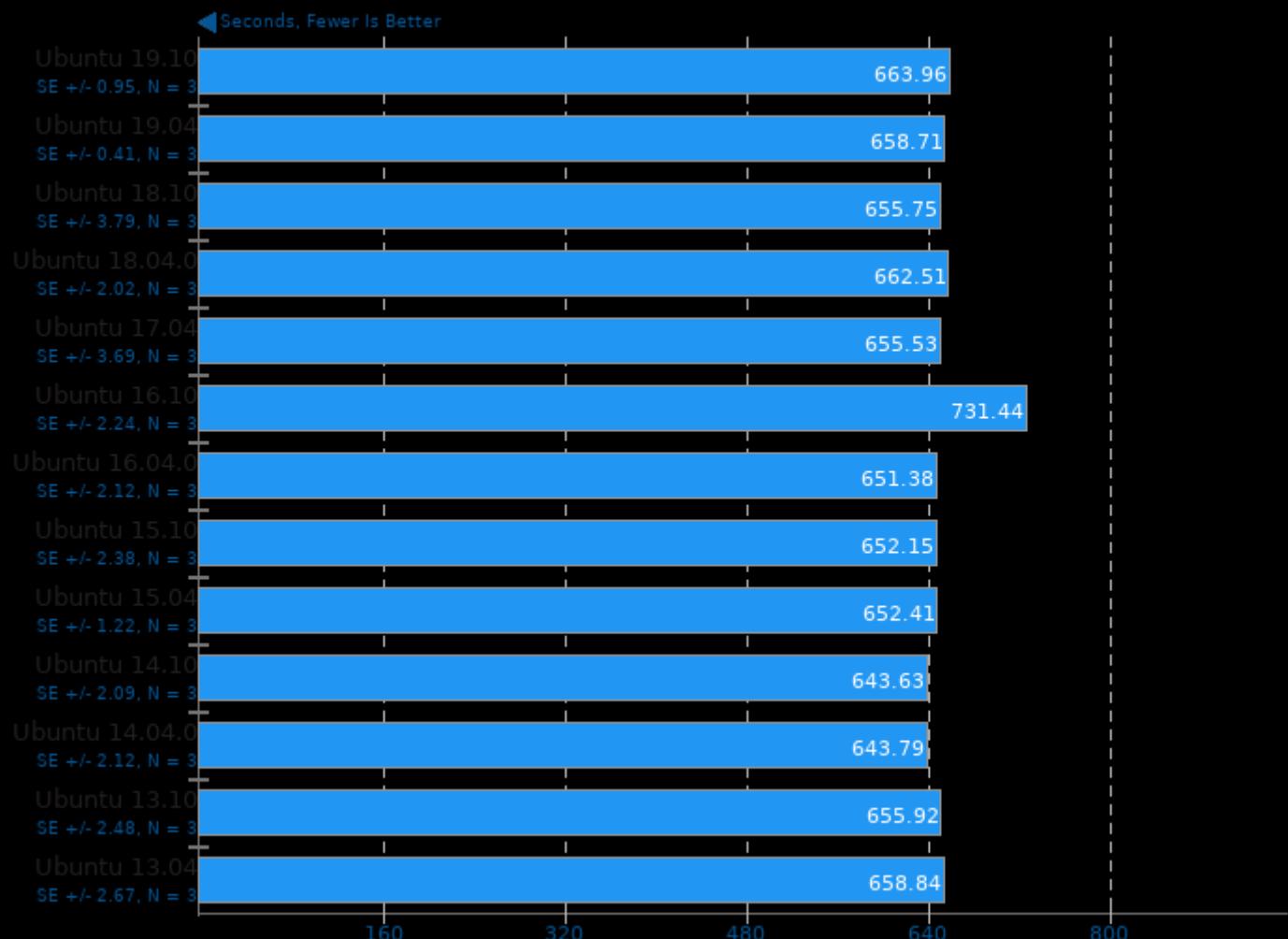
Context Switch Time

◀ Clocks, Fewer Is Better



## Blender 2.81

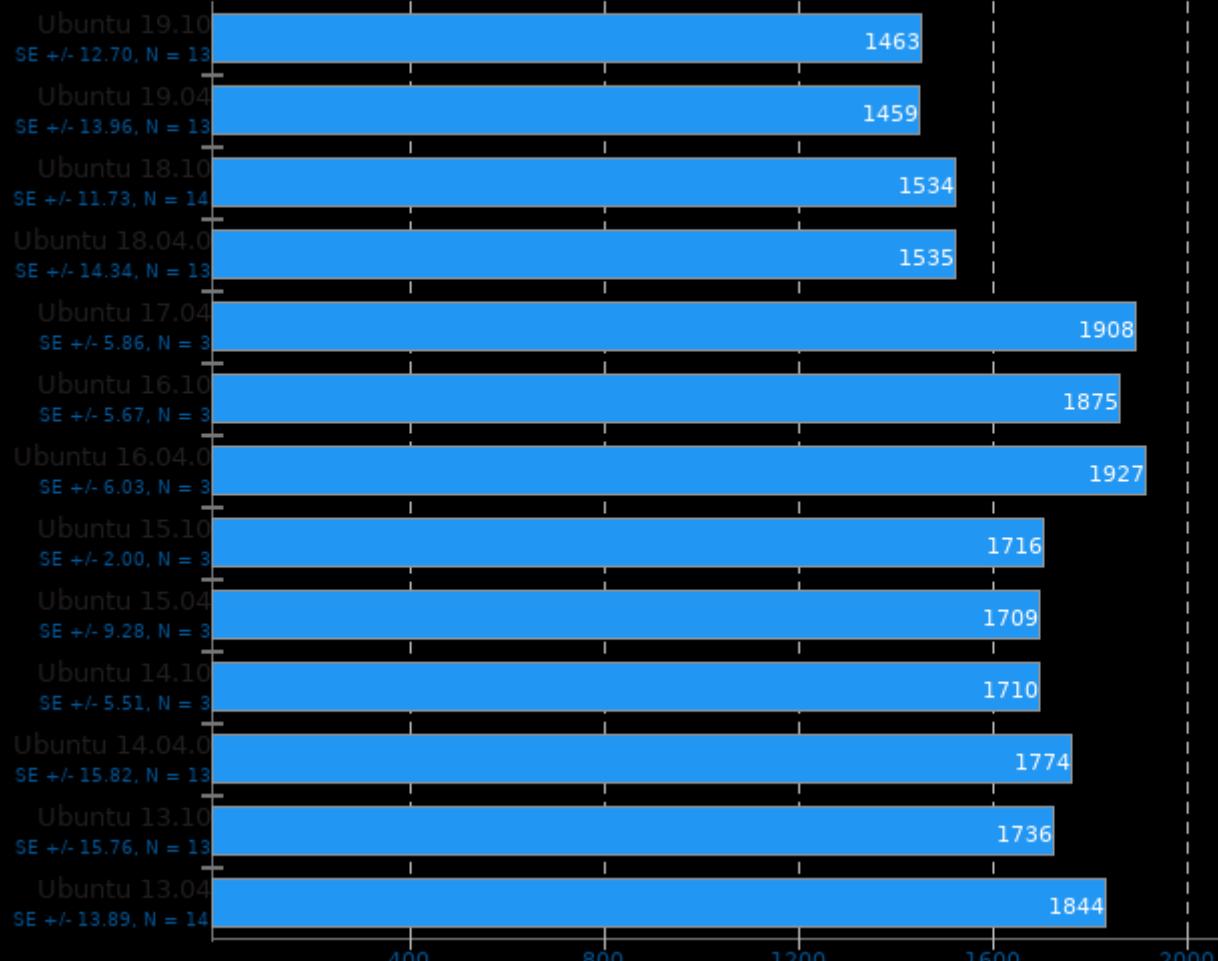
Blend File: BMW27 - Compute: CPU-Only



## PyBench 2018-02-16

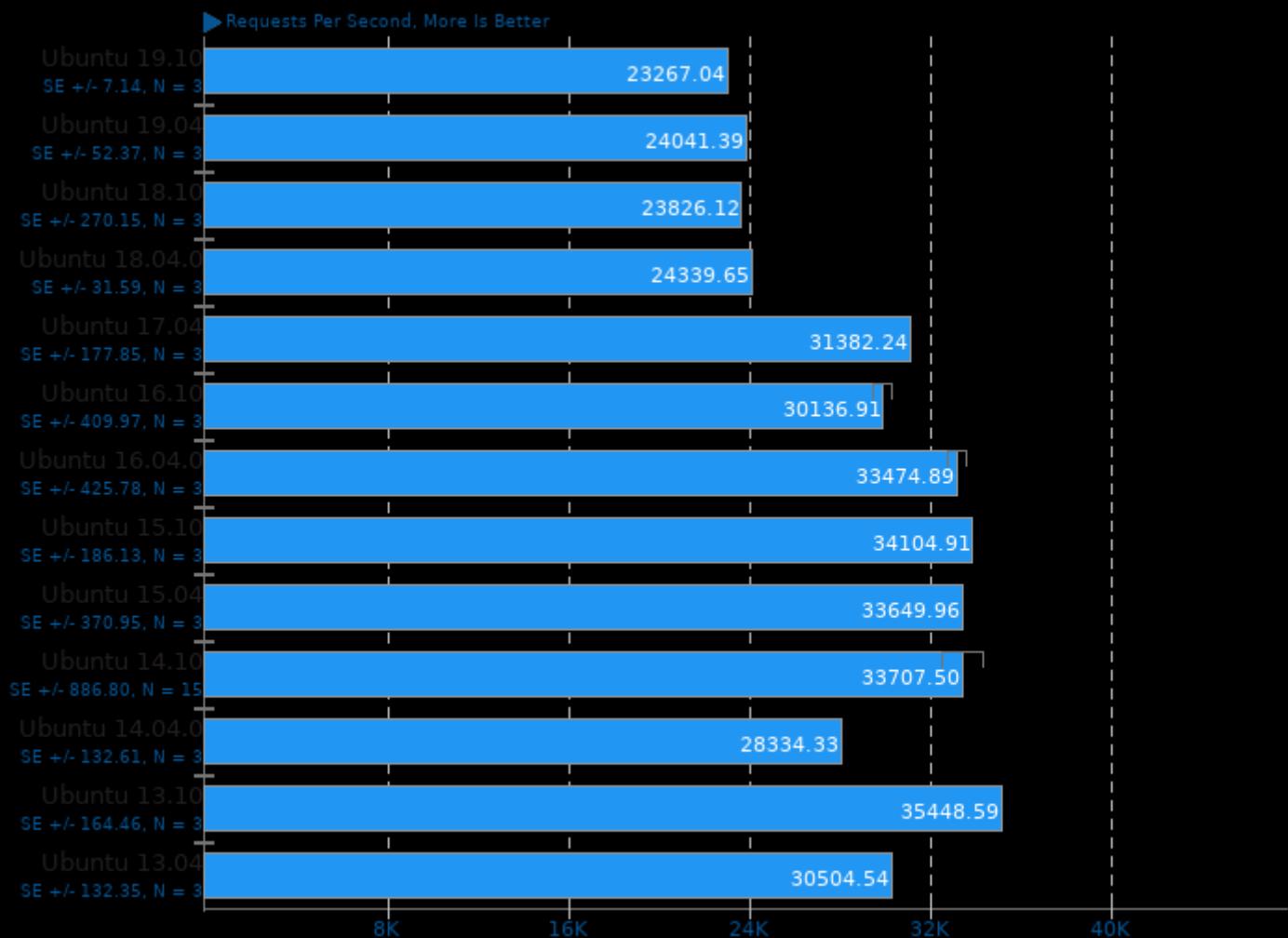
Total For Average Test Times

◀ Milliseconds, Fewer Is Better



## NGINX Benchmark 1.9.9

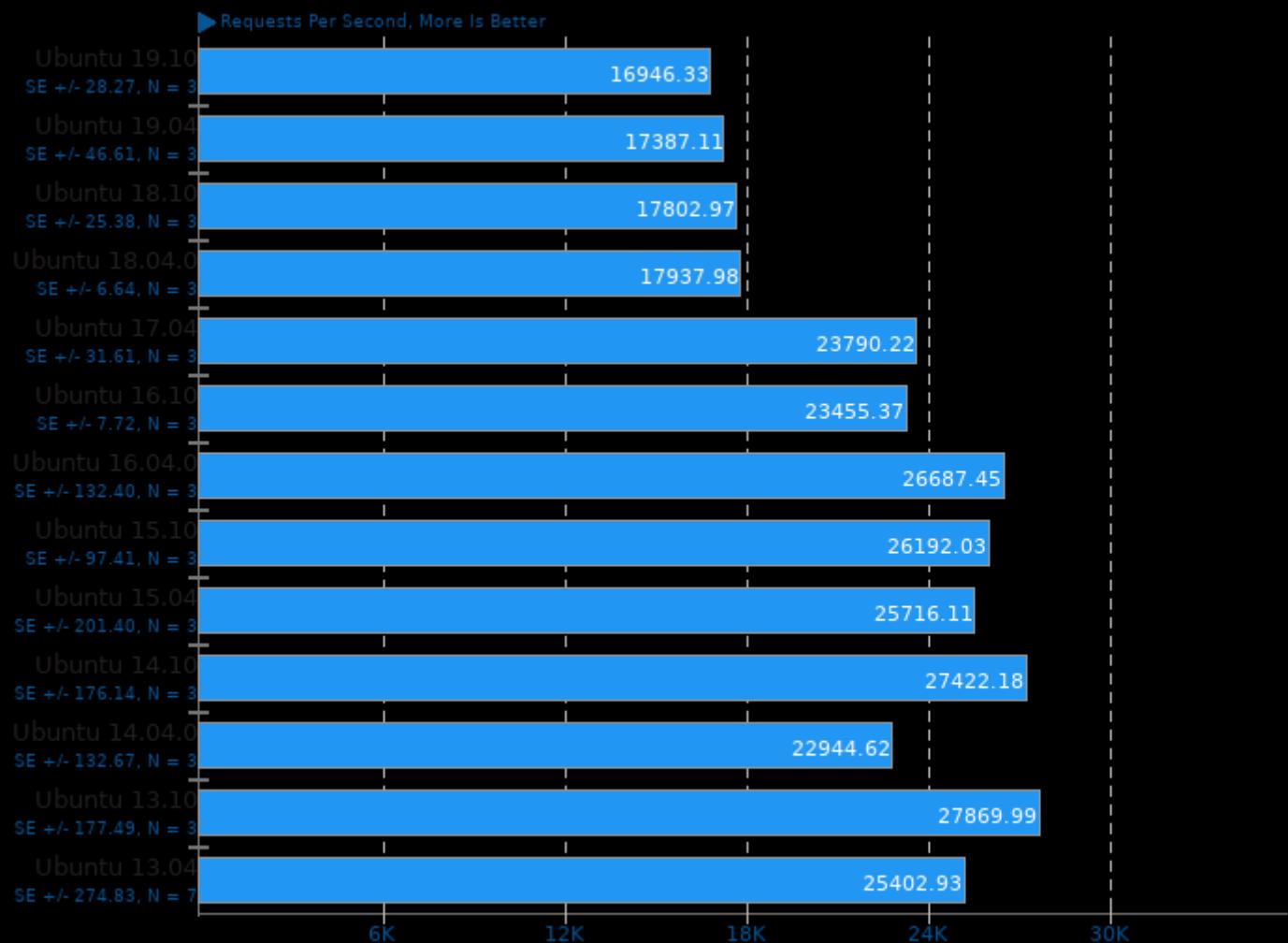
Static Web Page Serving



1. (CC) gcc options: -fthread -lcrypt -lcrypto -lz -O3 -march=native

## Apache Benchmark 2.4.29

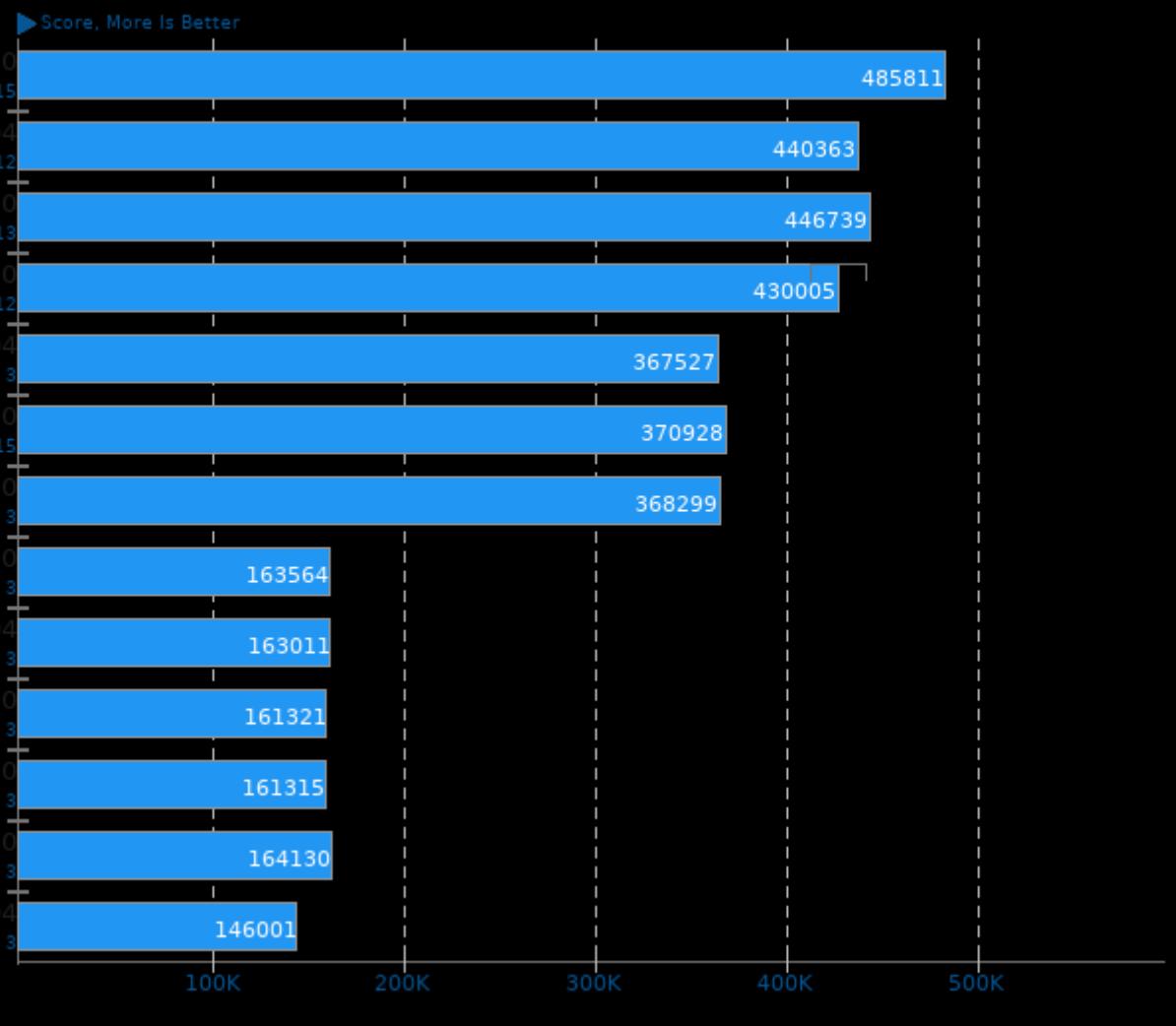
Static Web Page Serving



1. (CC) gcc options: -fPIC -O2 -pthread

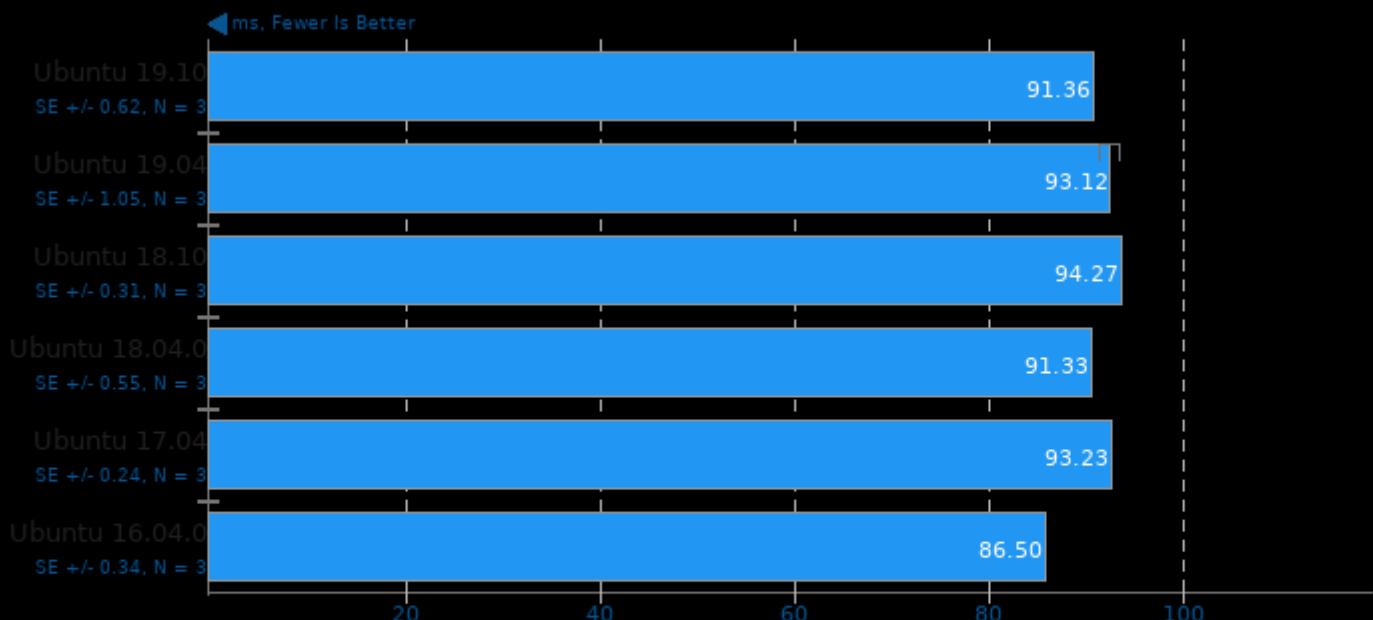
## PHPBench 0.8.1

PHP Benchmark Suite



## Selenium

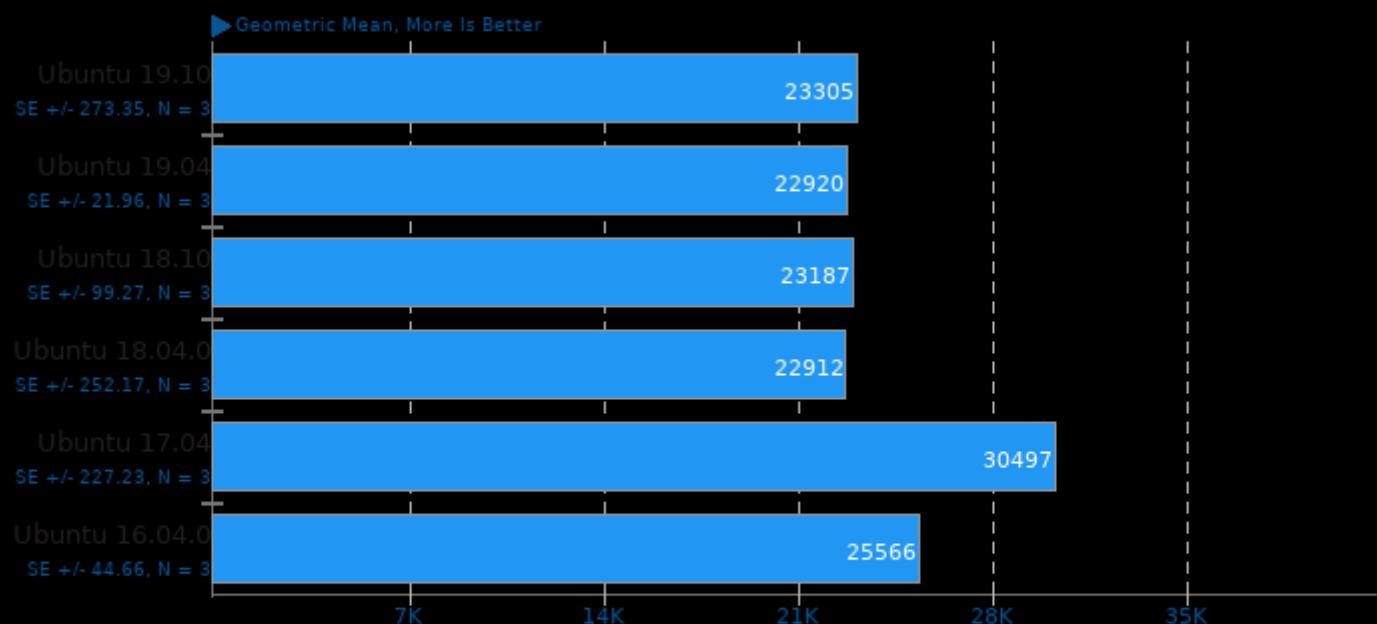
Benchmark: ARES-6 - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

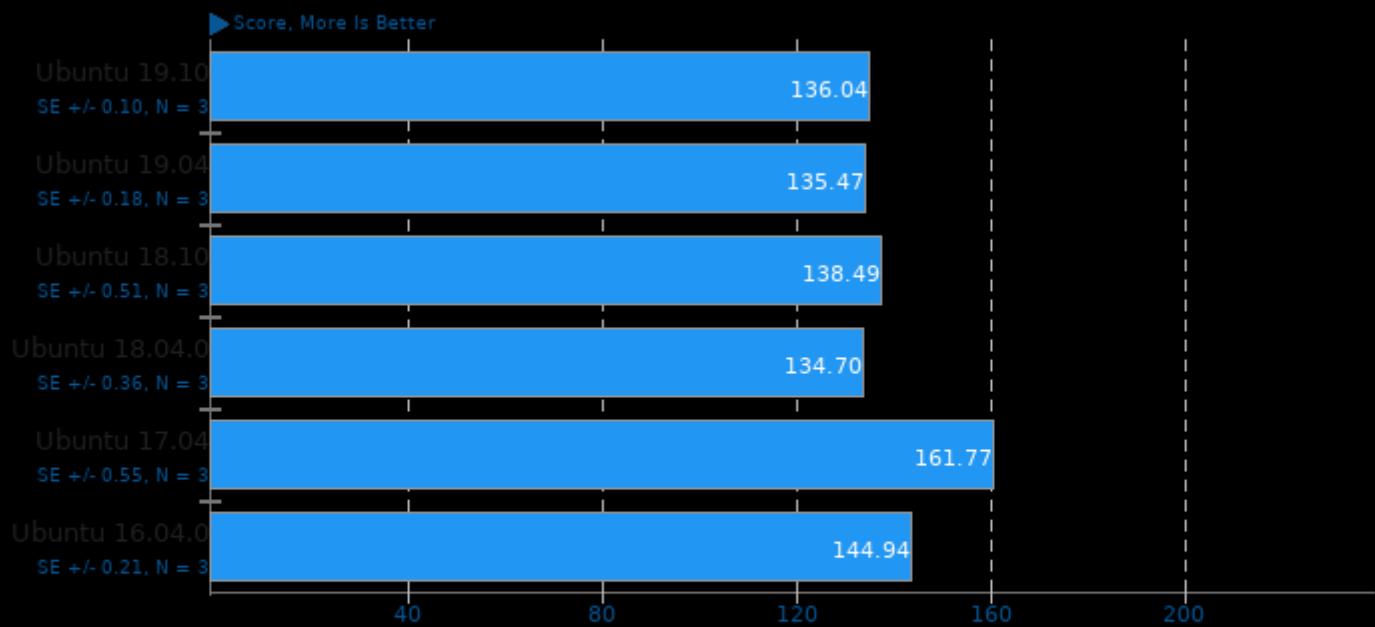
Benchmark: Octane - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

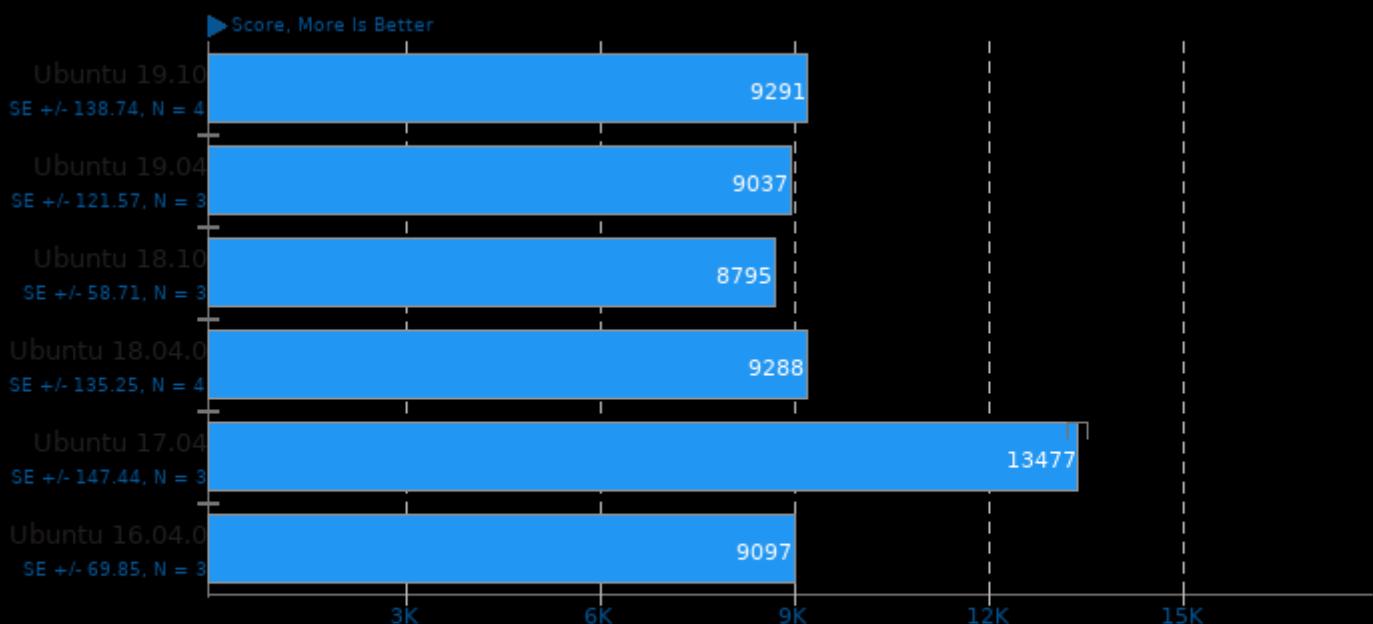
Benchmark: Jetstream - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

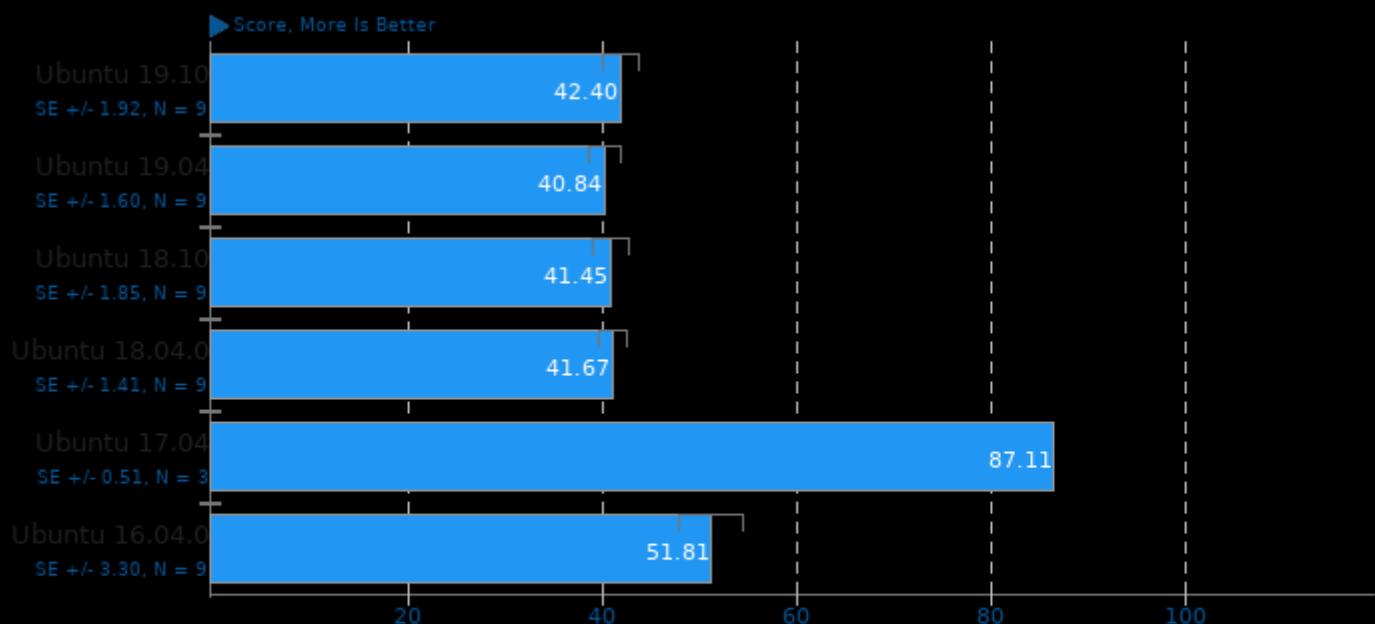
Benchmark: CanvasMark - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

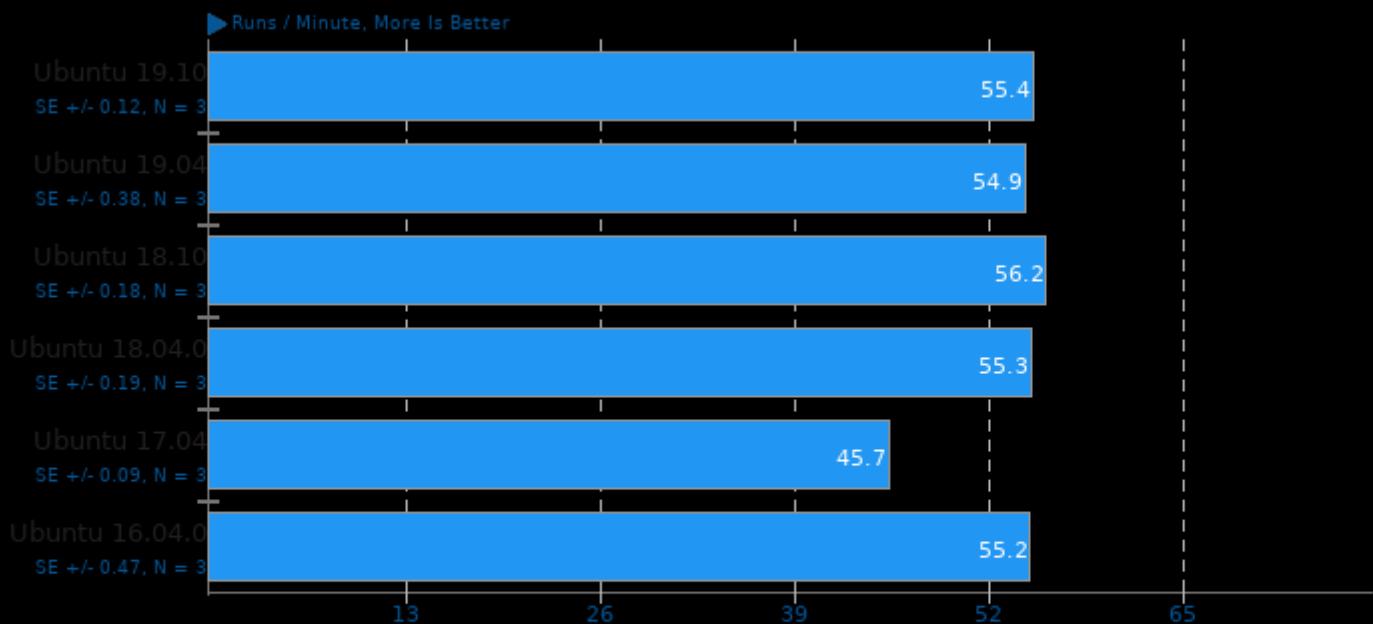
Benchmark: MotionMark - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

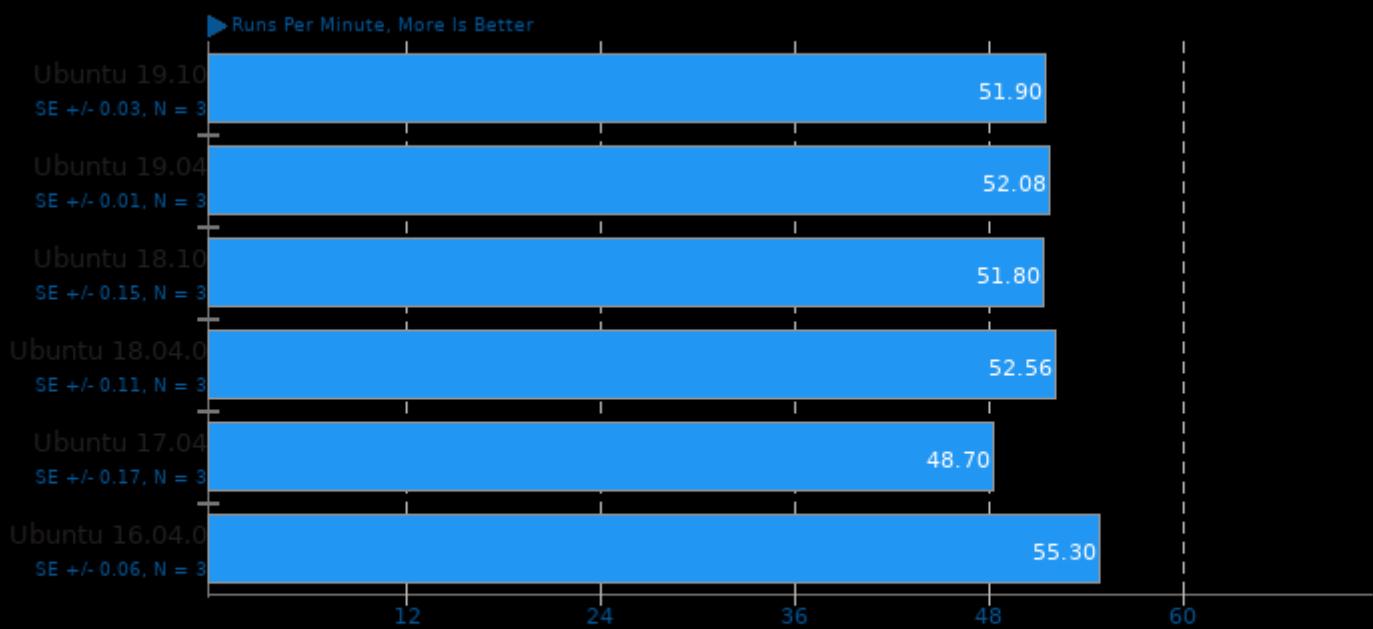
Benchmark: StyleBench - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

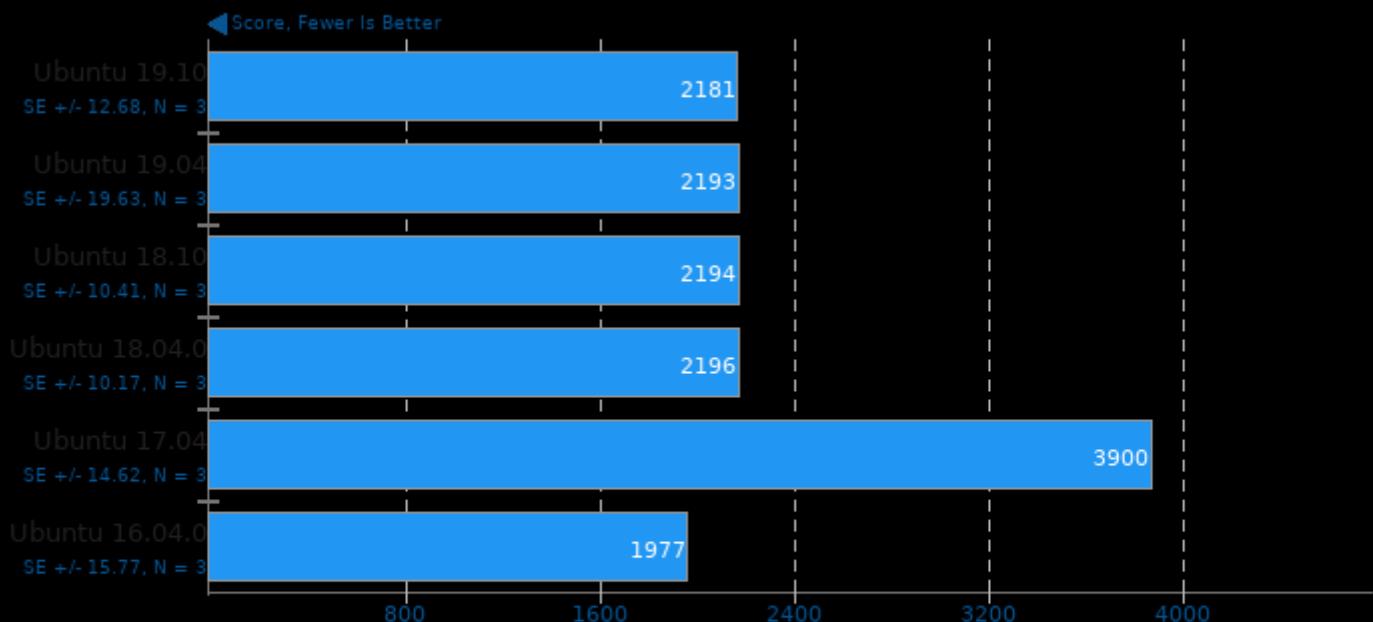
Benchmark: Speedometer - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Selenium

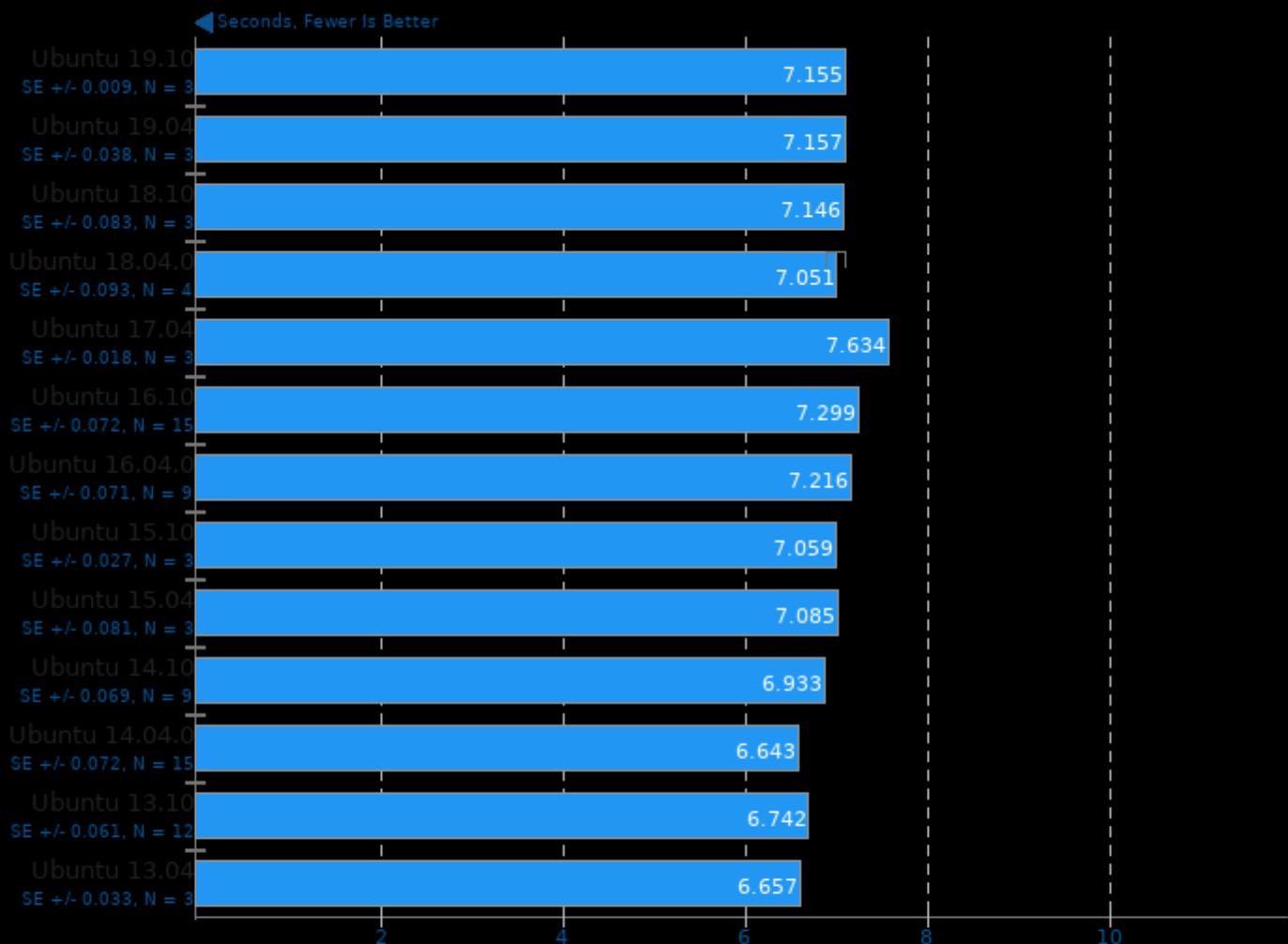
Benchmark: PSPDFKit WASM - Browser: Firefox



1. Ubuntu 19.10: firefox 71.0
2. Ubuntu 19.04: firefox 71.0
3. Ubuntu 18.10: firefox 68.0
4. Ubuntu 18.04.0: firefox 71.0
5. Ubuntu 17.04: firefox 57.0.4
6. Ubuntu 16.04.0: firefox 71.0

## Git

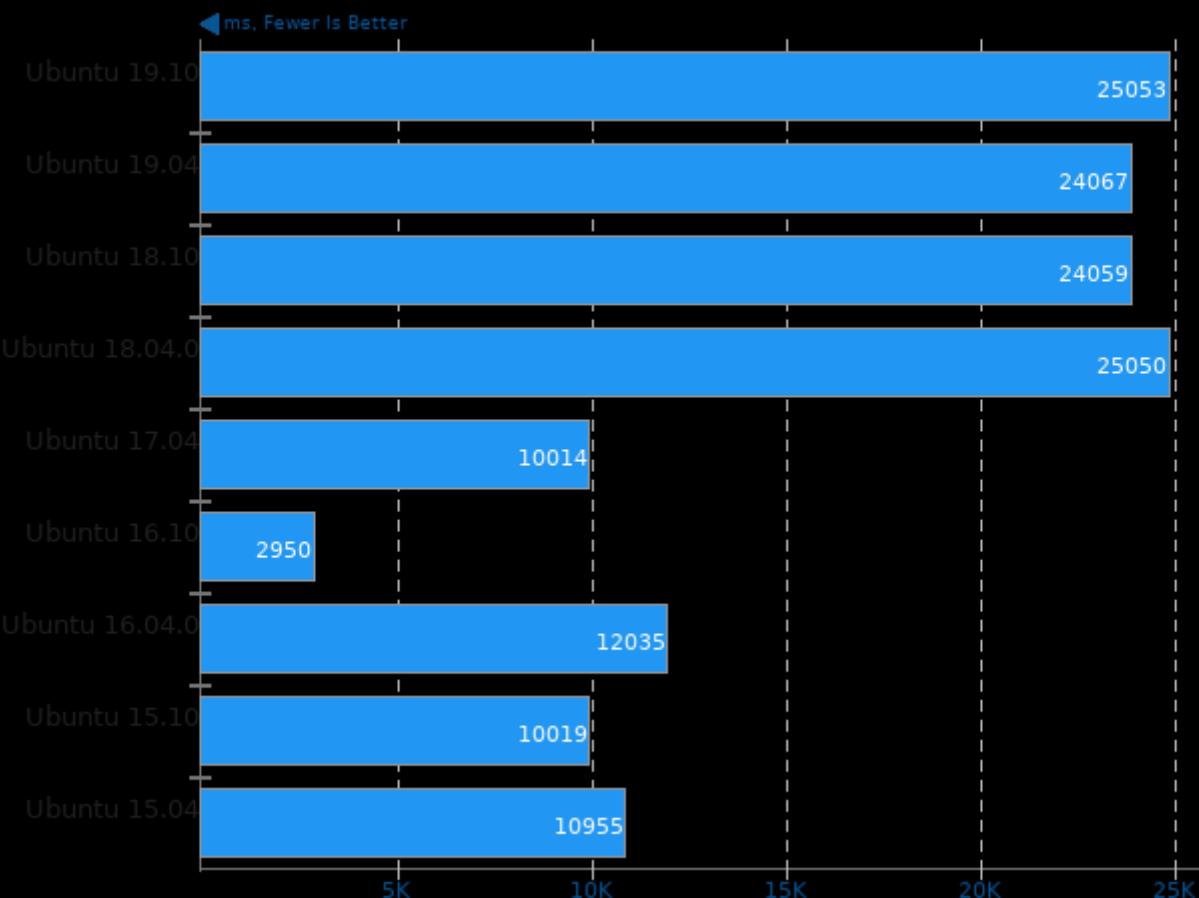
Time To Complete Common Git Commands



1. Ubuntu 19.10: git version 2.20.1
2. Ubuntu 19.04: git version 2.20.1
3. Ubuntu 18.10: git version 2.19.1
4. Ubuntu 18.04.0: git version 2.17.1
5. Ubuntu 17.04: git version 2.11.0
6. Ubuntu 16.10: git version 2.9.3
7. Ubuntu 16.04.0: git version 2.7.4
8. Ubuntu 15.10: git version 2.5.0
9. Ubuntu 15.04: git version 2.1.4
10. Ubuntu 14.10: git version 2.1.0
11. Ubuntu 14.04.0: git version 1.9.1
12. Ubuntu 13.10: git version 1.8.3.2
13. Ubuntu 13.04: git version 1.8.1.2

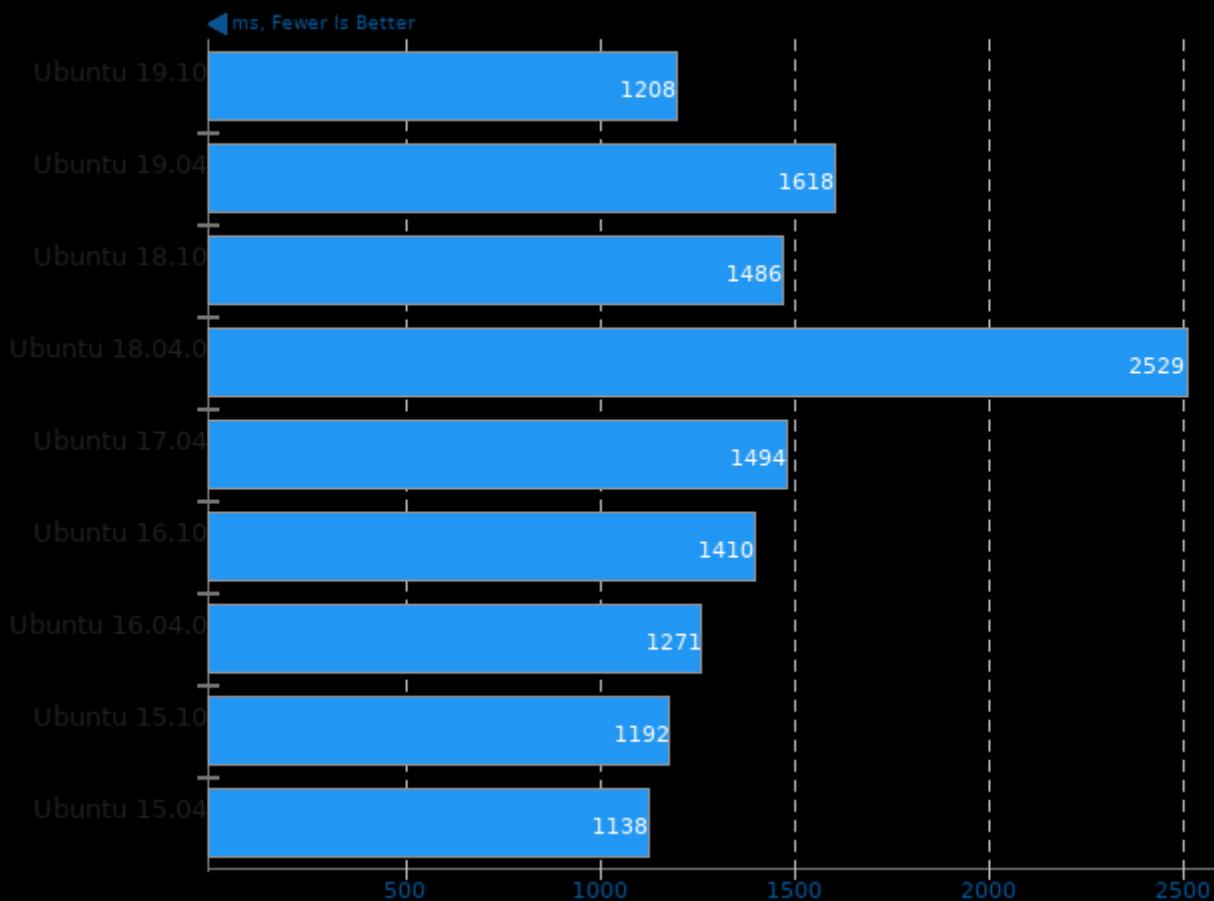
## Systemd Total Boot Time

Test: Total



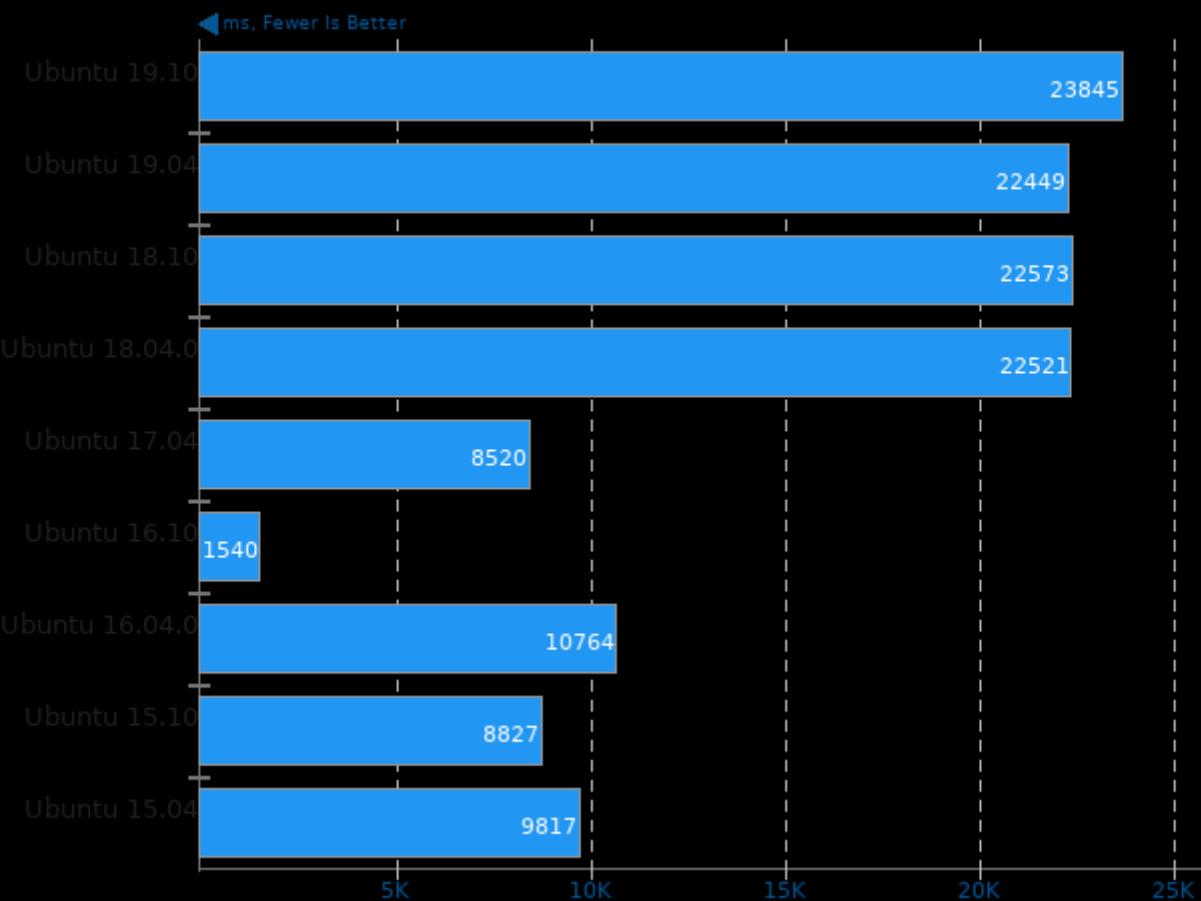
## Systemd Total Boot Time

Test: Kernel

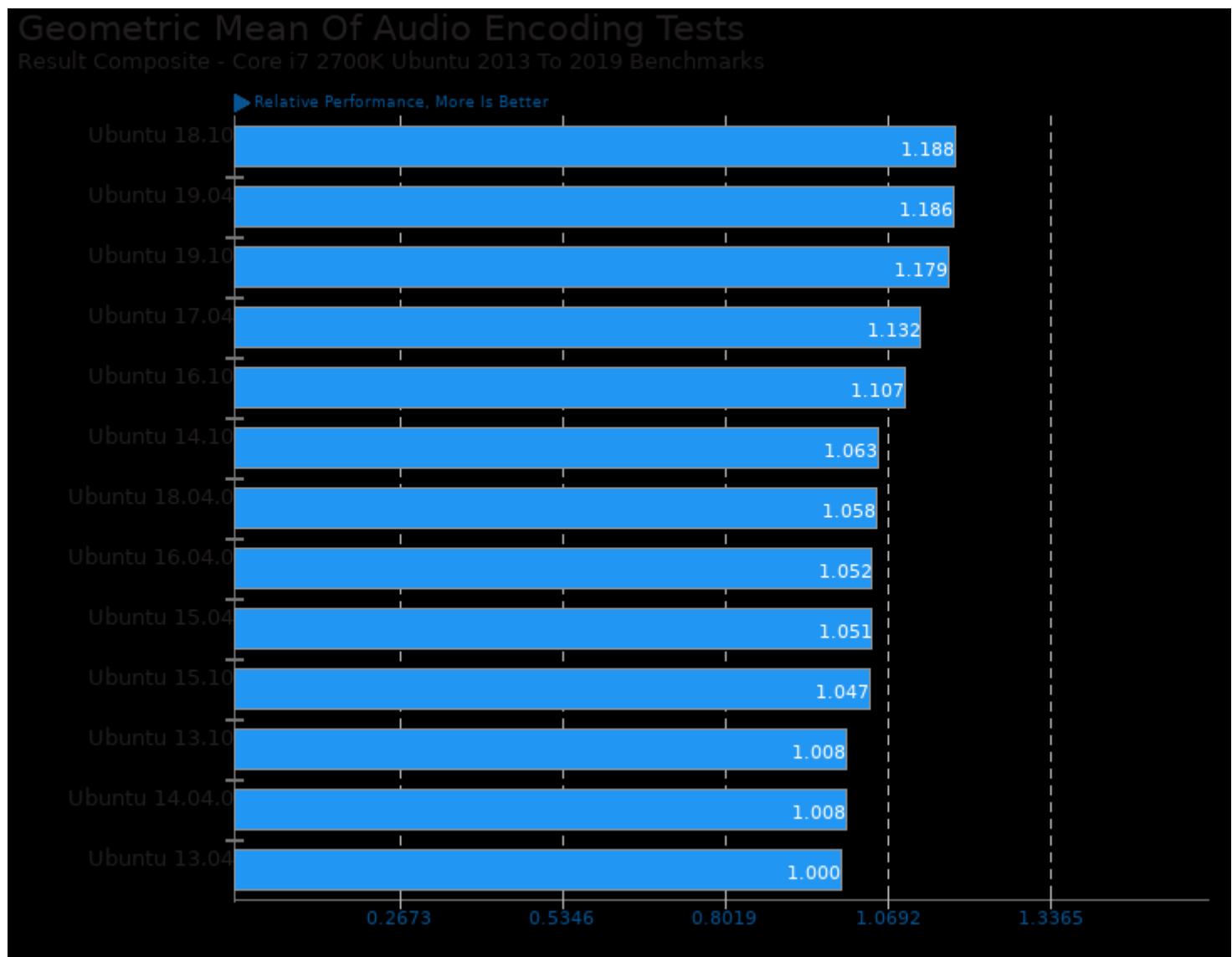


## Systemd Total Boot Time

Test: Userspace



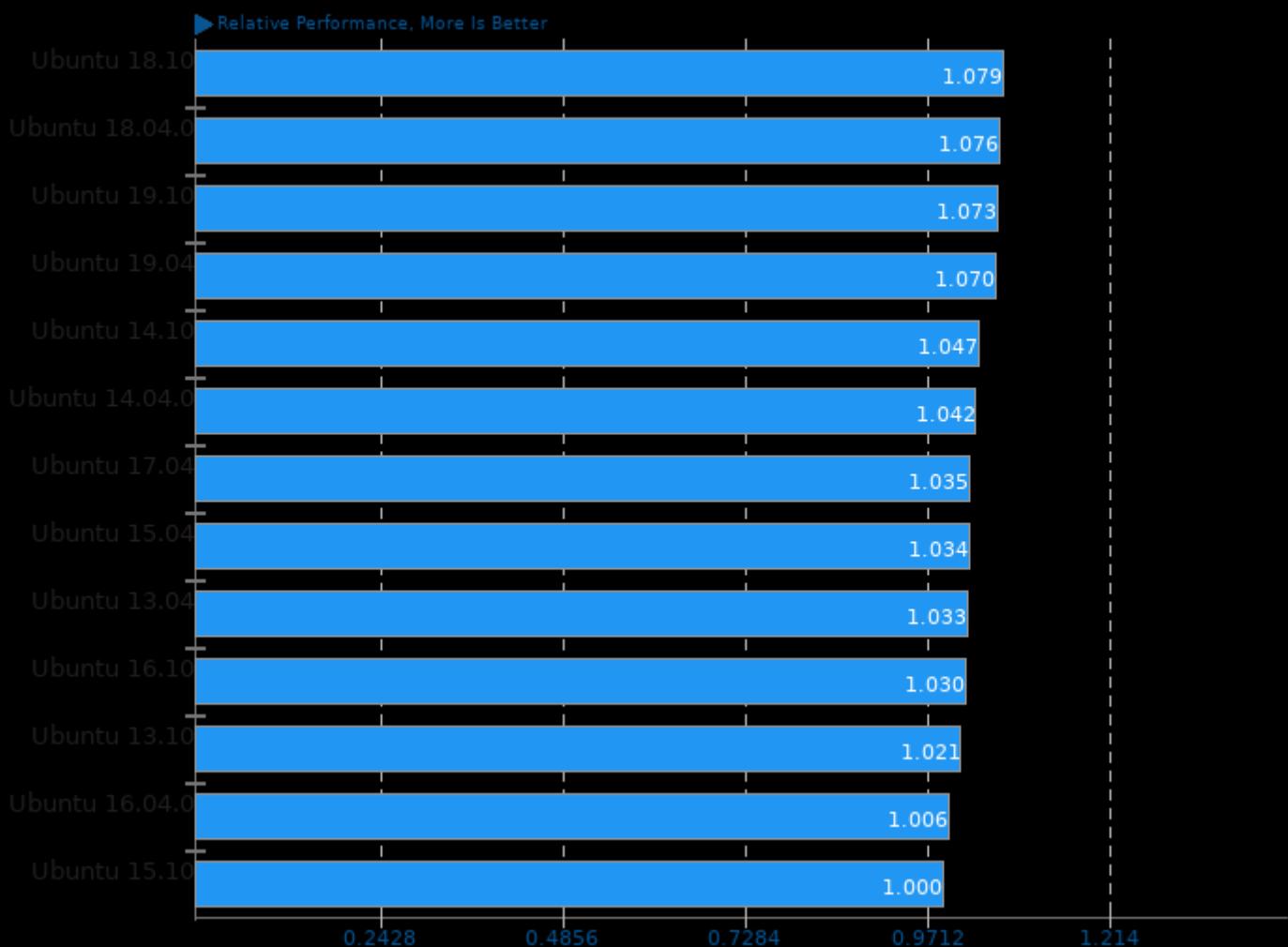
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac

## Geometric Mean Of Chess Test Suite

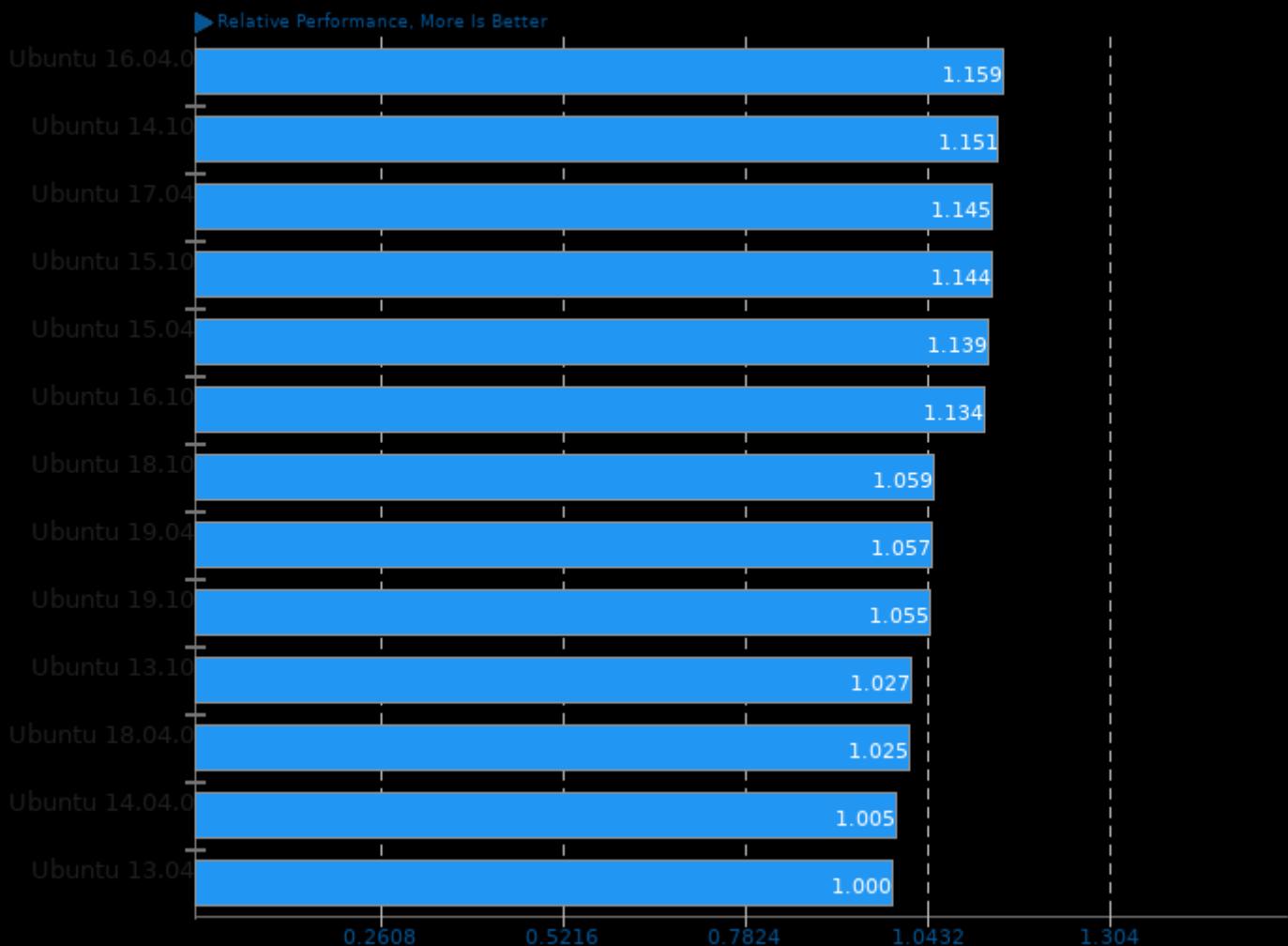
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/stockfish, pts/asmfish and pts/n-queens

**Geometric Mean Of C/C++ Compiler Tests**

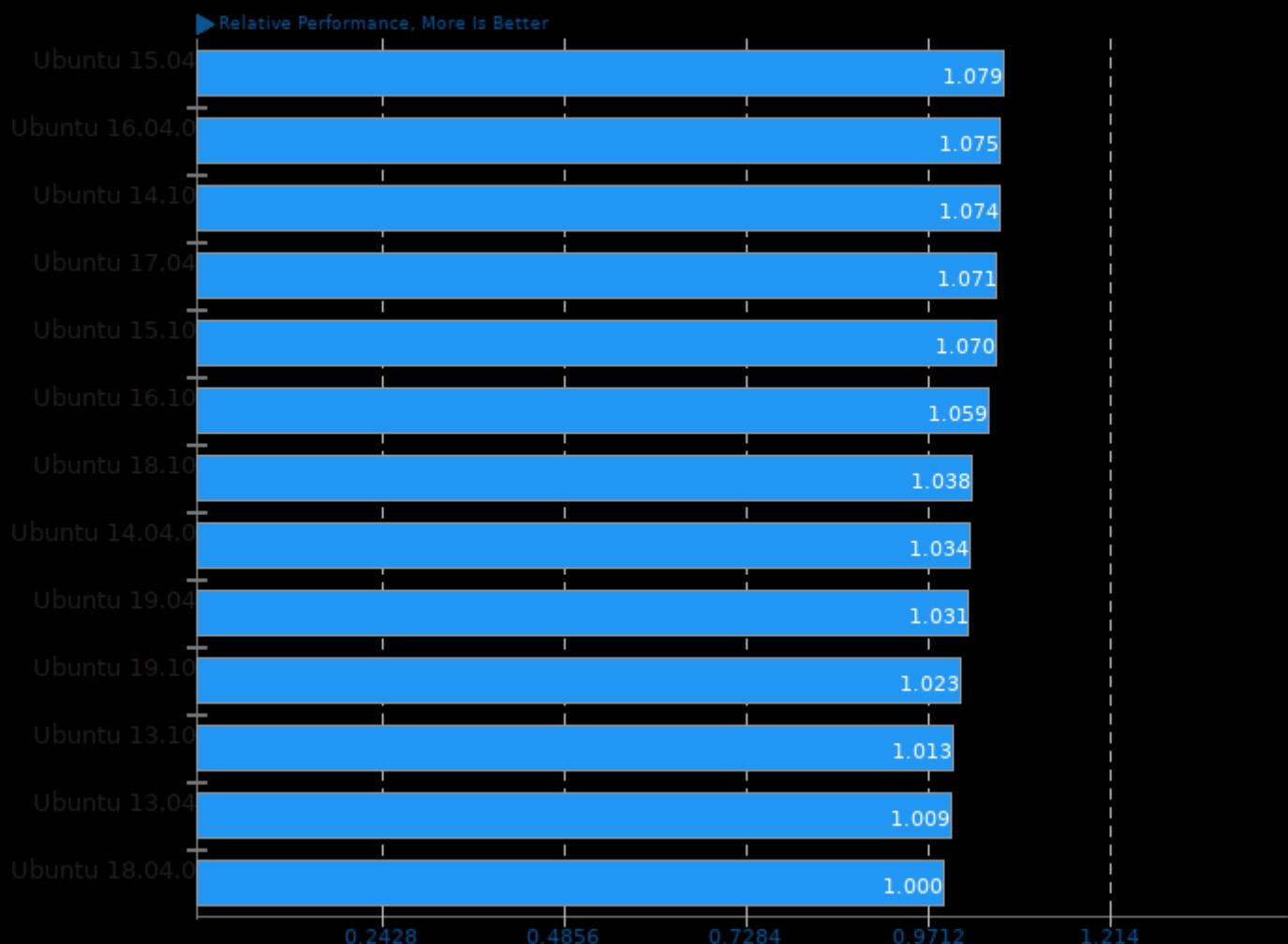
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/vpxenc, pts/graphics-magick, pts/himeno, pts/stockfish, pts/build-php, pts/build-llvm, pts/c-ray, pts/compress-7zip, pts/encode-mp3, pts/encode-flac, pts/apache, pts/sqlite-speedtest, pts/mrbayes, pts/x264, pts/compress-xz, pts/nginx and pts/gromacs

## Geometric Mean Of Compression Tests

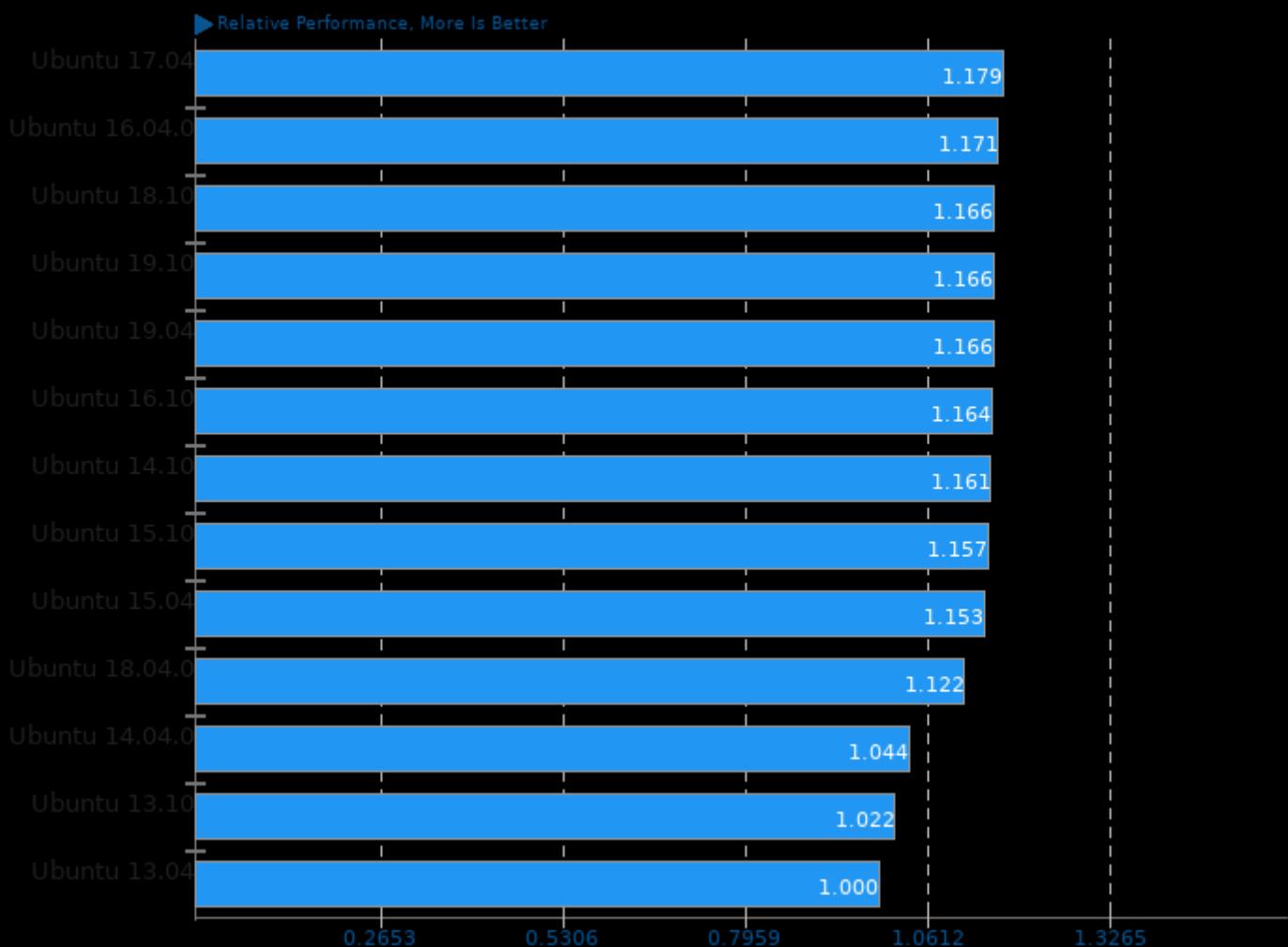
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/compress-7zip, pts/compress-gzip and pts/compress-xz

**Geometric Mean Of Creator Workloads Tests**

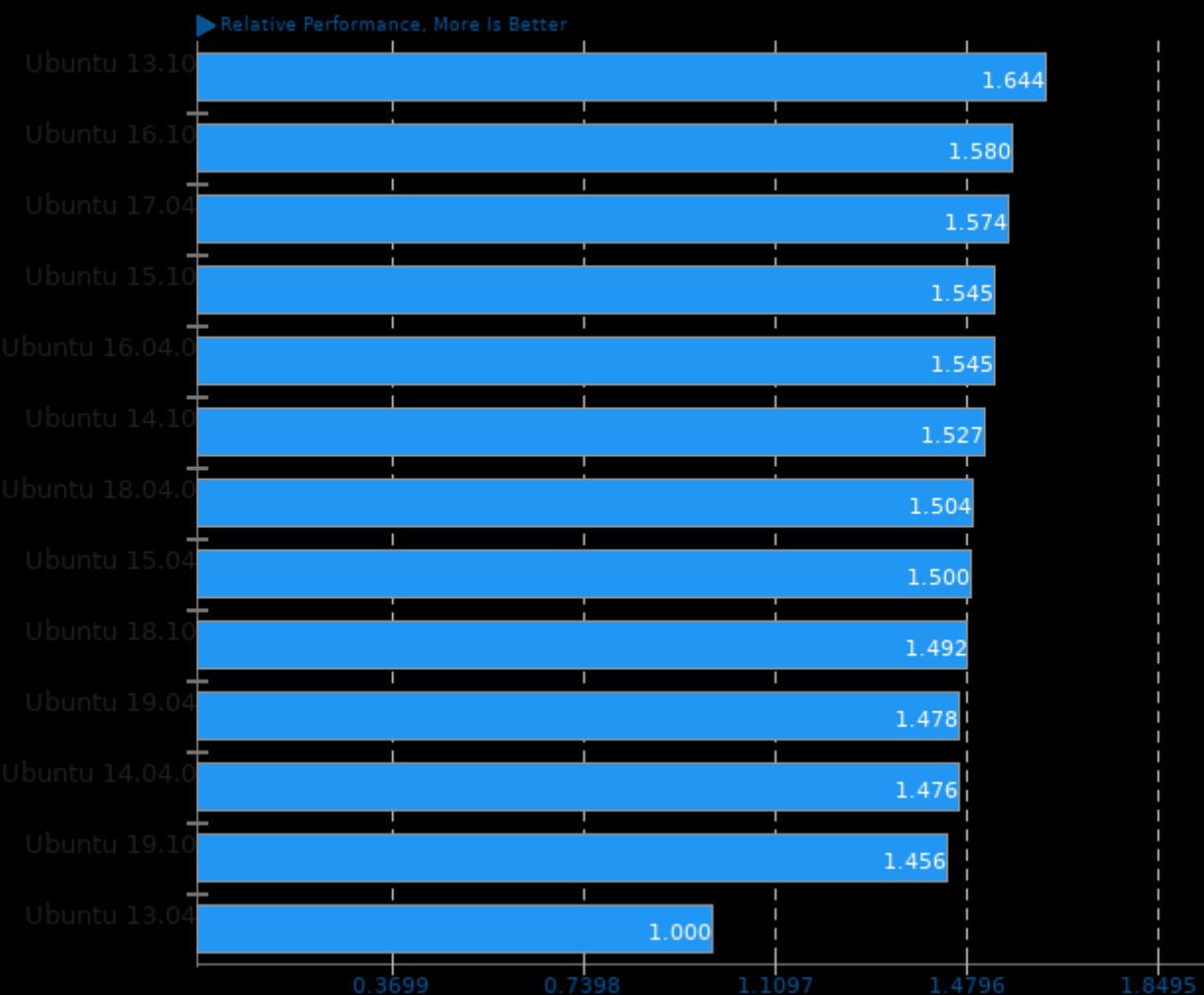
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/c-ray, pts/blender, pts/smallpt, pts/ttsiod-renderer, pts/x264, pts/vpxenc, pts/encode-mp3, pts/encode-flac, pts/graphics-magick, pts/embree, pts/oidn and pts/deepspeech

**Geometric Mean Of Database Test Suite**

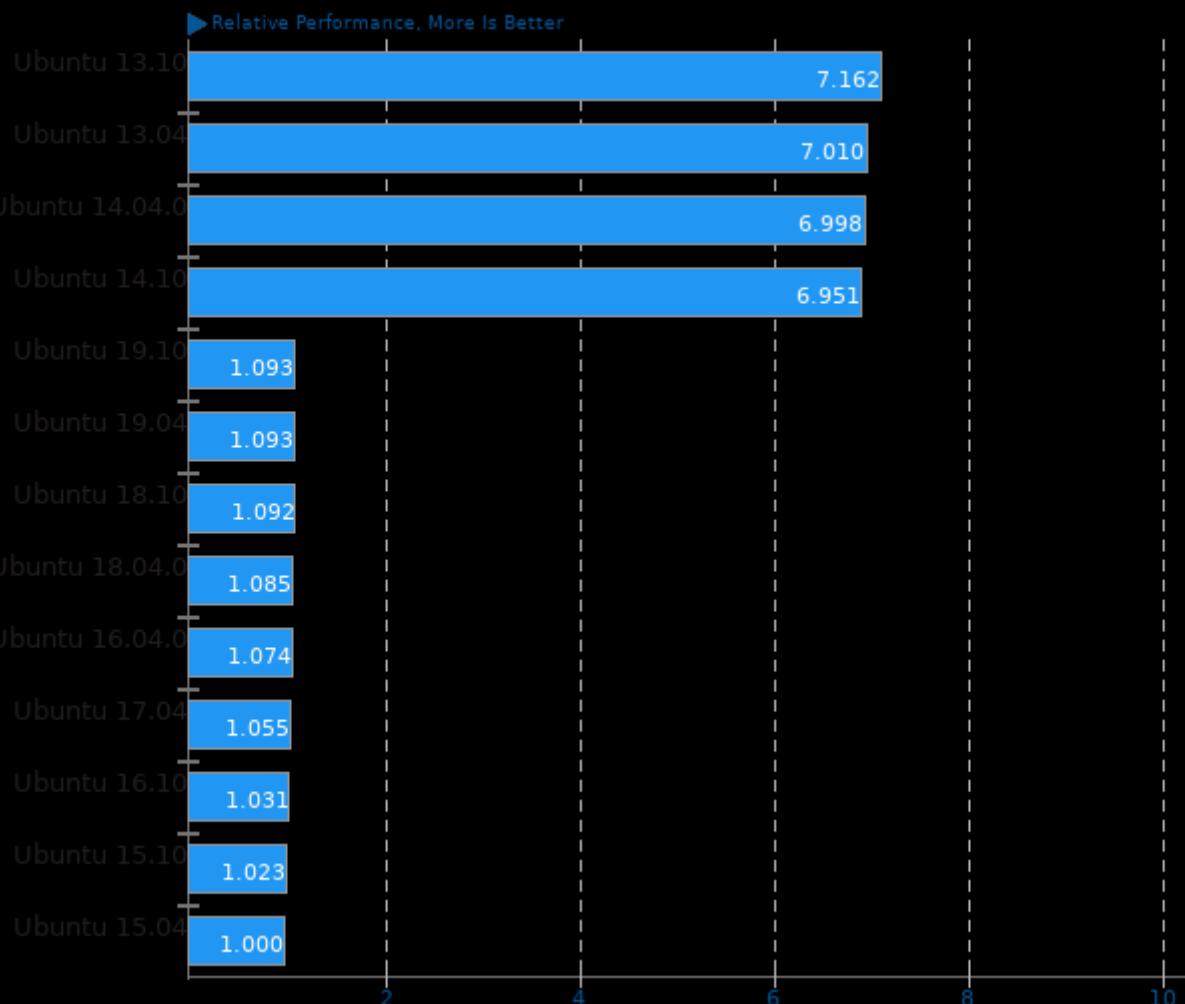
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/sqlite and pts/sqlite-speedtest

## Geometric Mean Of Desktop Graphics Tests

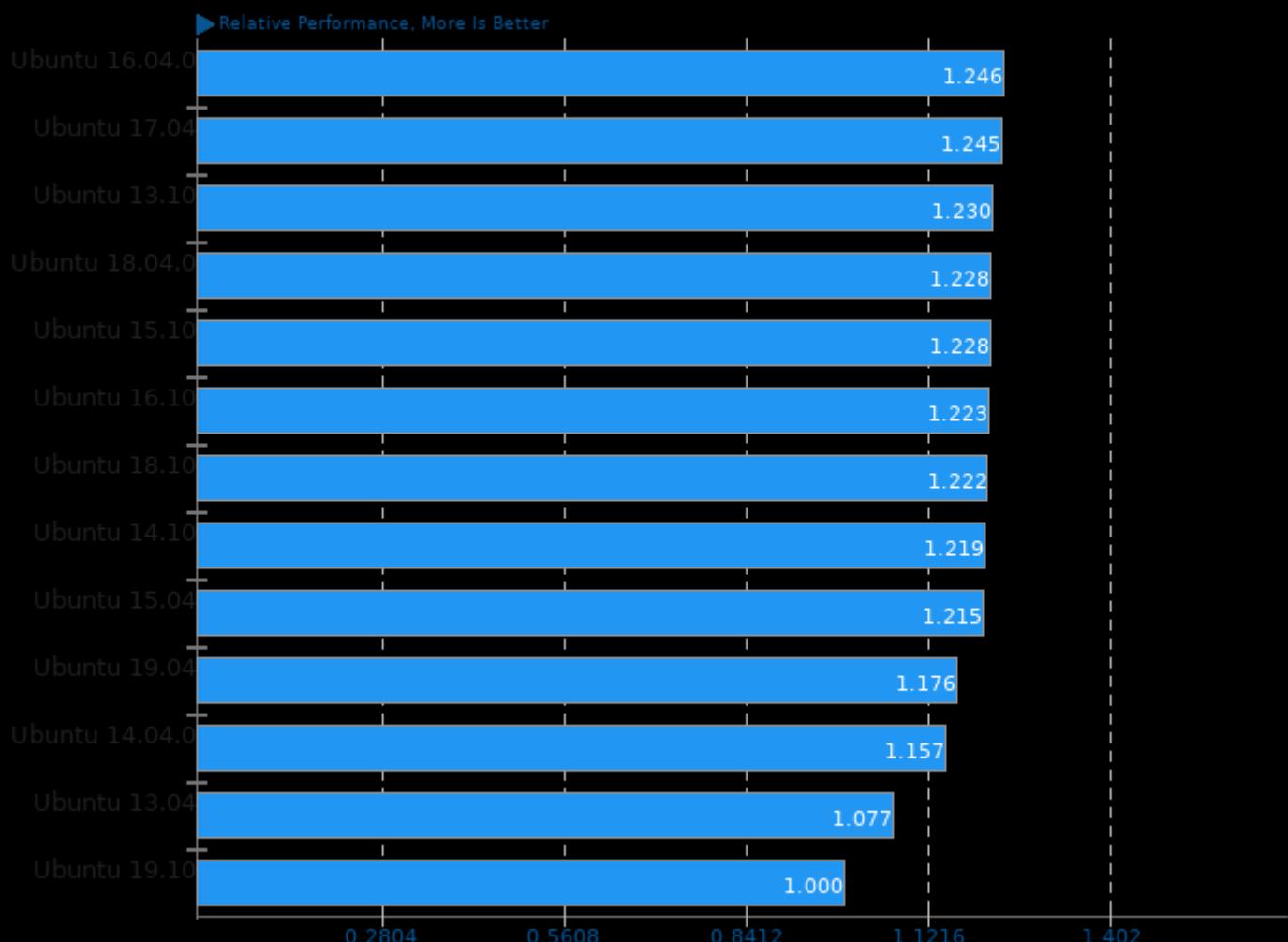
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/xonotic, pts/tesseract and pts/paraview

## Geometric Mean Of Disk Test Suite

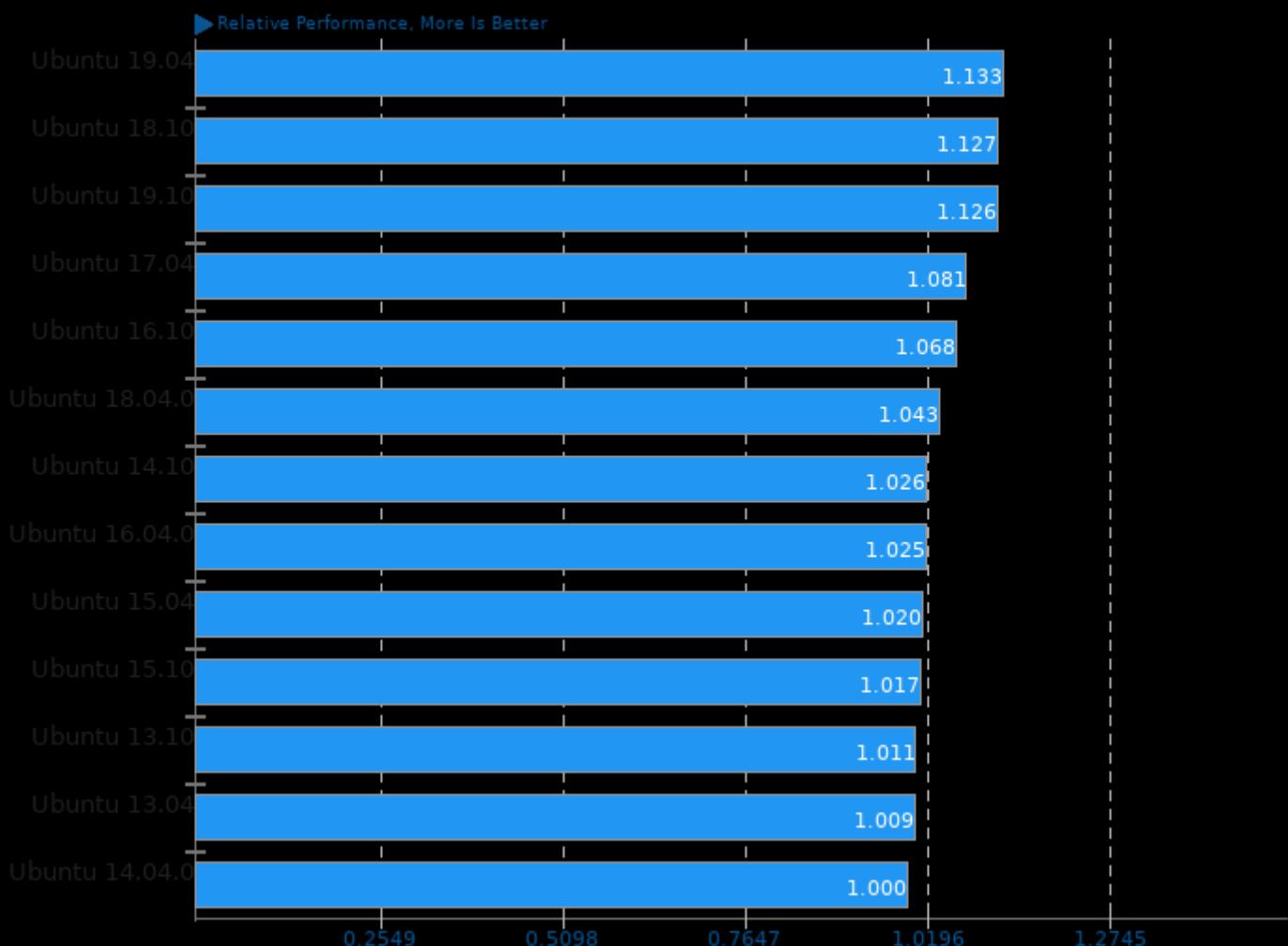
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/sqlite, pts/fs-mark, pts/compilebench and pts/fio

## Geometric Mean Of Encoding Tests

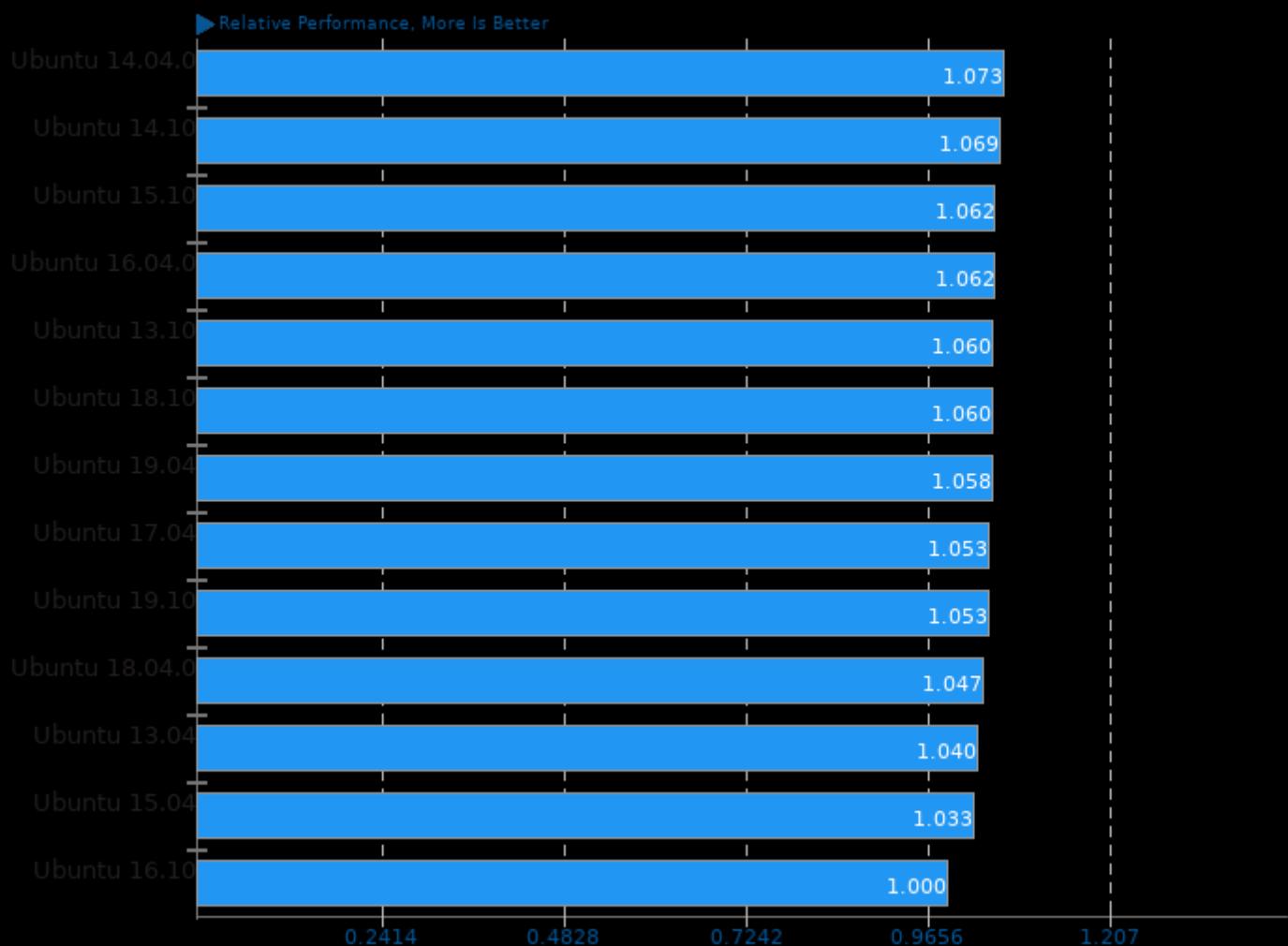
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/x264 and pts/vpxenc

## Geometric Mean Of Game Development Tests

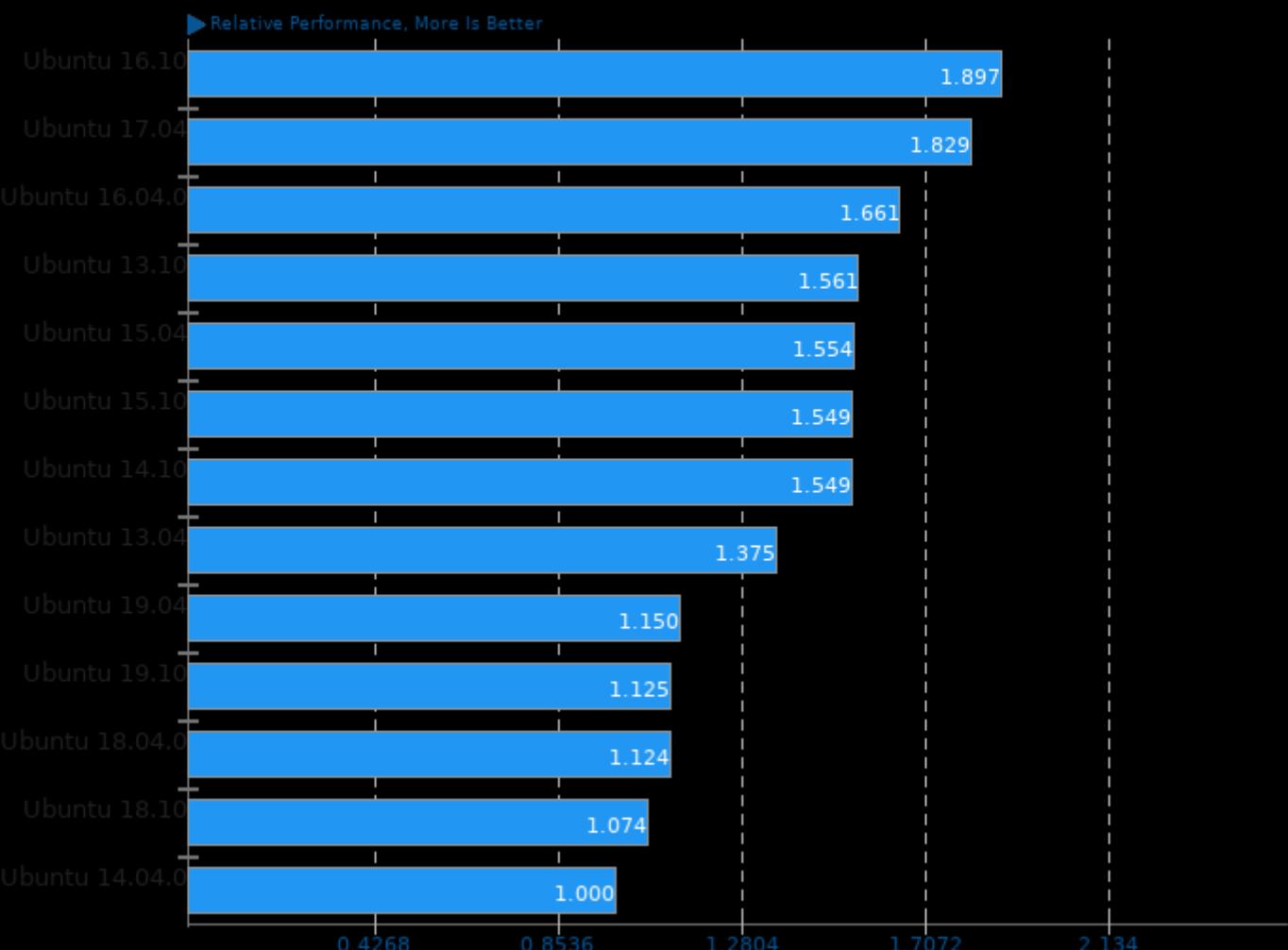
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/blender and pts/oidn

**Geometric Mean Of Common Kernel Benchmarks Tests**

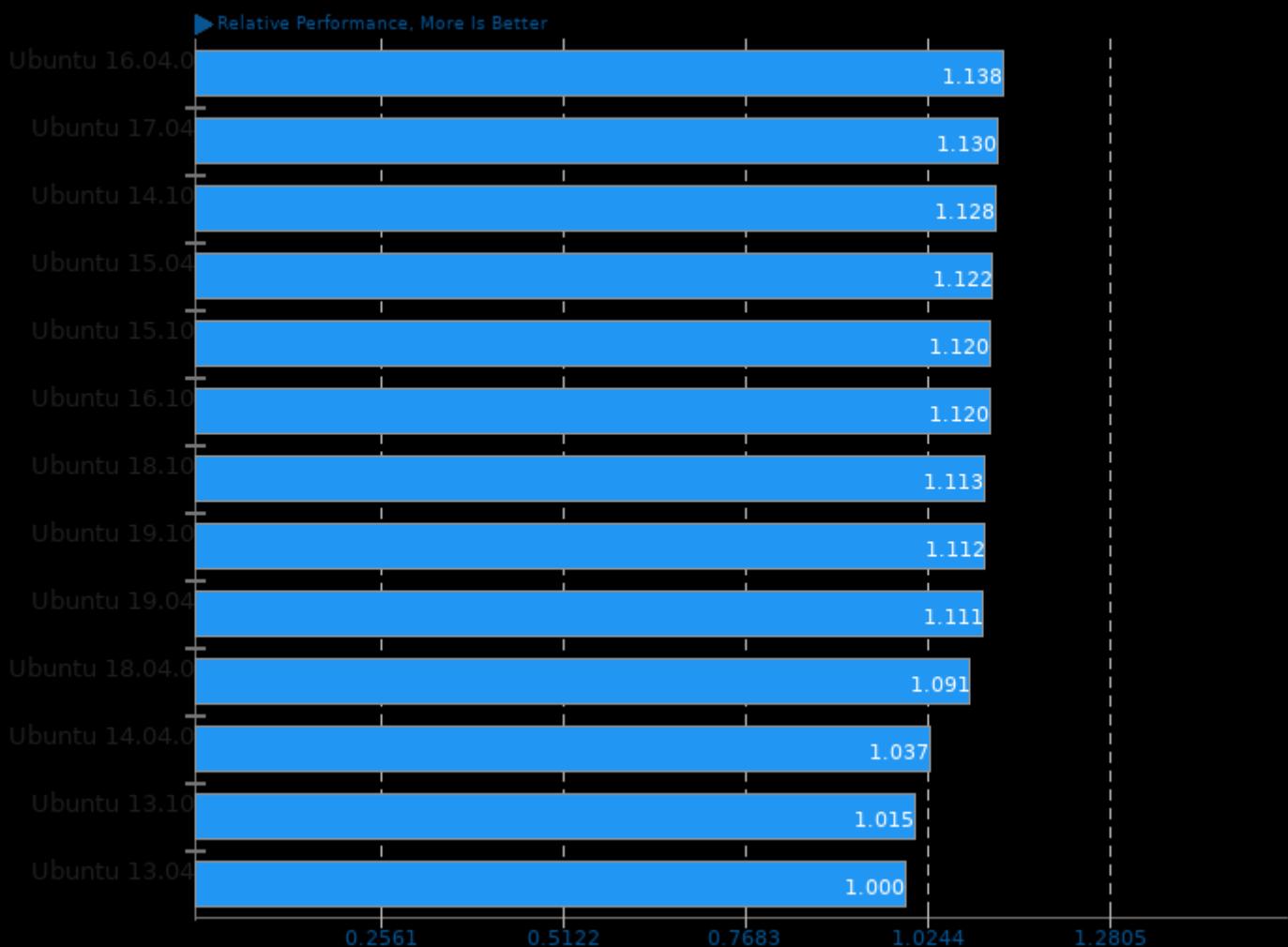
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/apache, pts/sqlite-speedtest, pts/ctx-clock, pts/stress-ng and pts/ethr

## Geometric Mean Of Multi-Core Tests

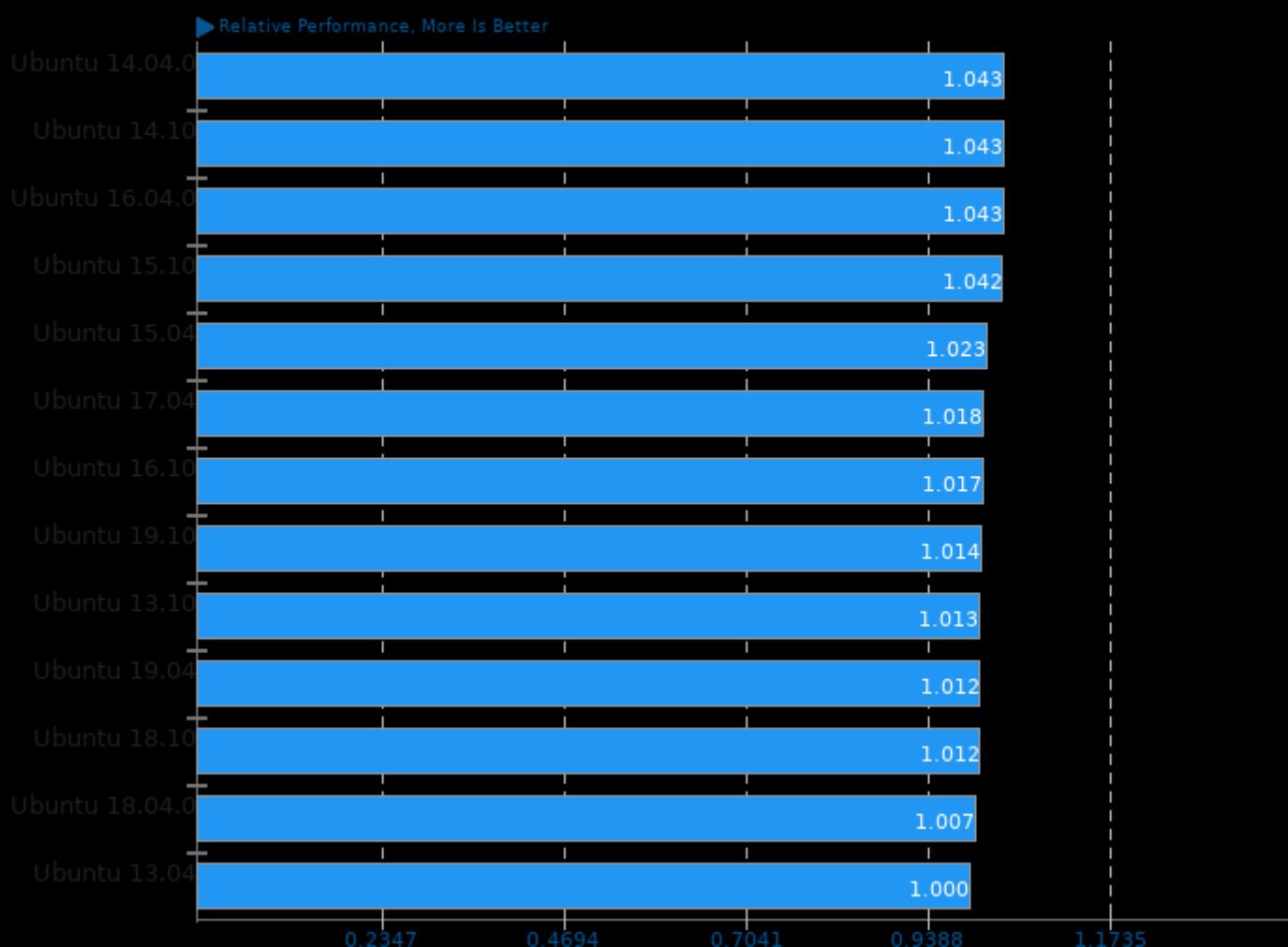
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



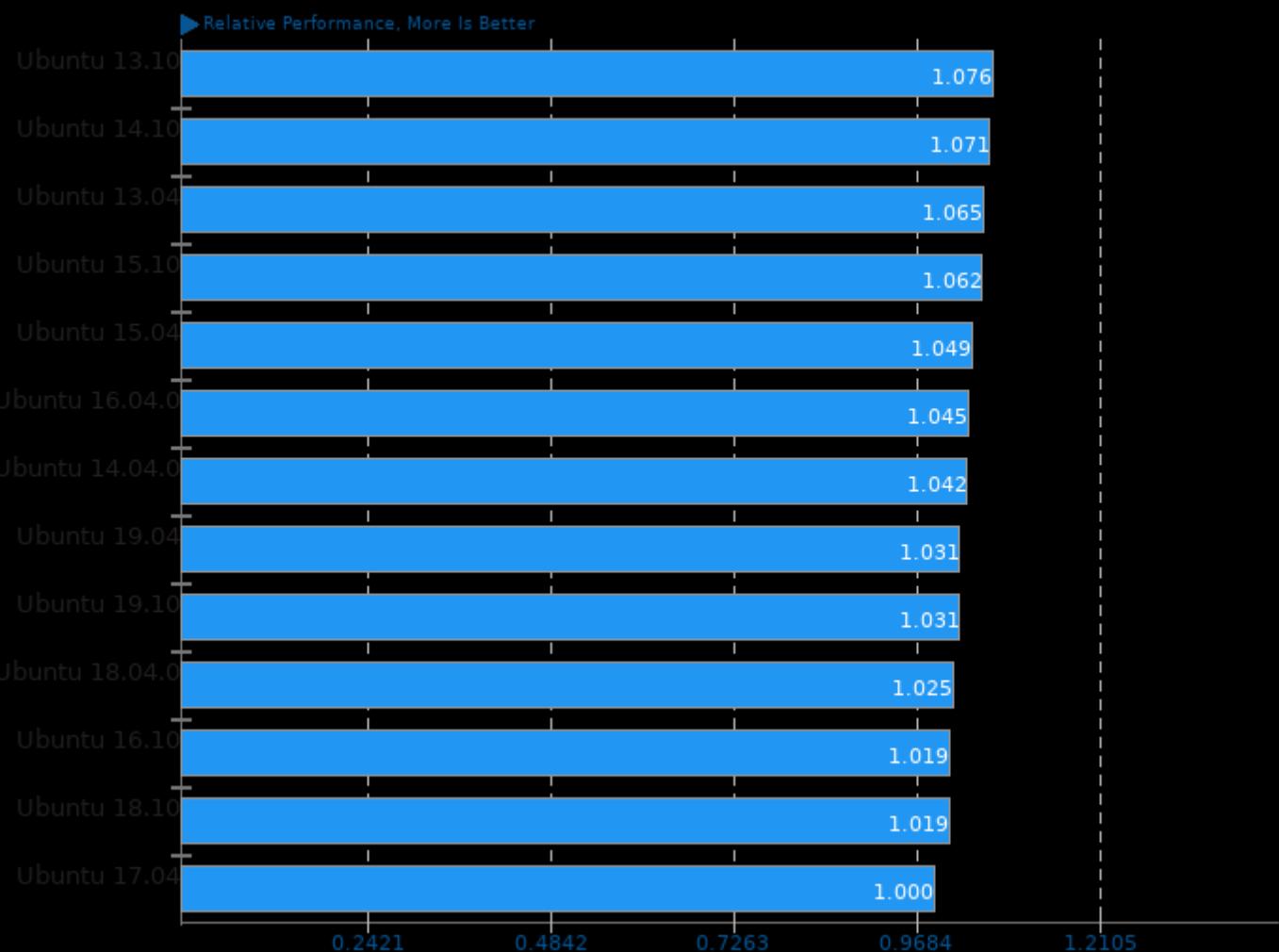
Geometric mean based upon tests: pts/blender, pts/c-ray, pts/stockfish, pts/n-queens, pts/x264, pts/vpxenc, pts/smallpt, pts/asmfish, pts/graphics-magick, pts/gromacs, pts/compress-7zip, pts/build-php, pts/build-linux-kernel, pts/build-llvm, pts/build2, pts/ttsiod-renderer, pts/embree and pts/oidn

**Geometric Mean Of Intel oneAPI Tests**

Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



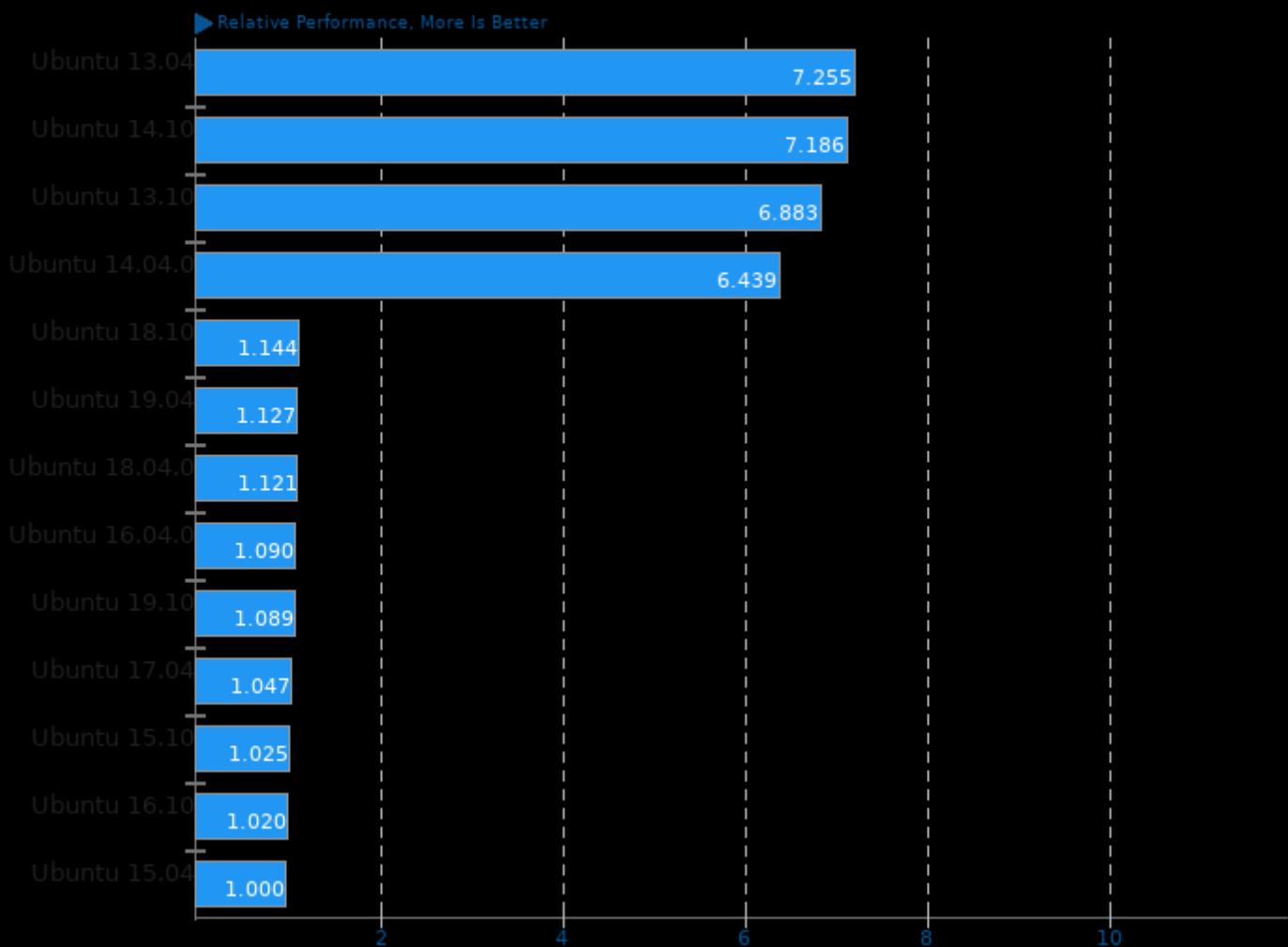
Geometric mean based upon tests: pts/embree and pts/oidn

**Geometric Mean Of Programmer / Developer System Benchmarks Tests**  
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks

Geometric mean based upon tests: pts/sqlite-speedtest, pts/git, pts/pybench, pts/build-php, pts/build-linux-kernel, pts/build-llvm and pts/build2

**Geometric Mean Of Python Tests**

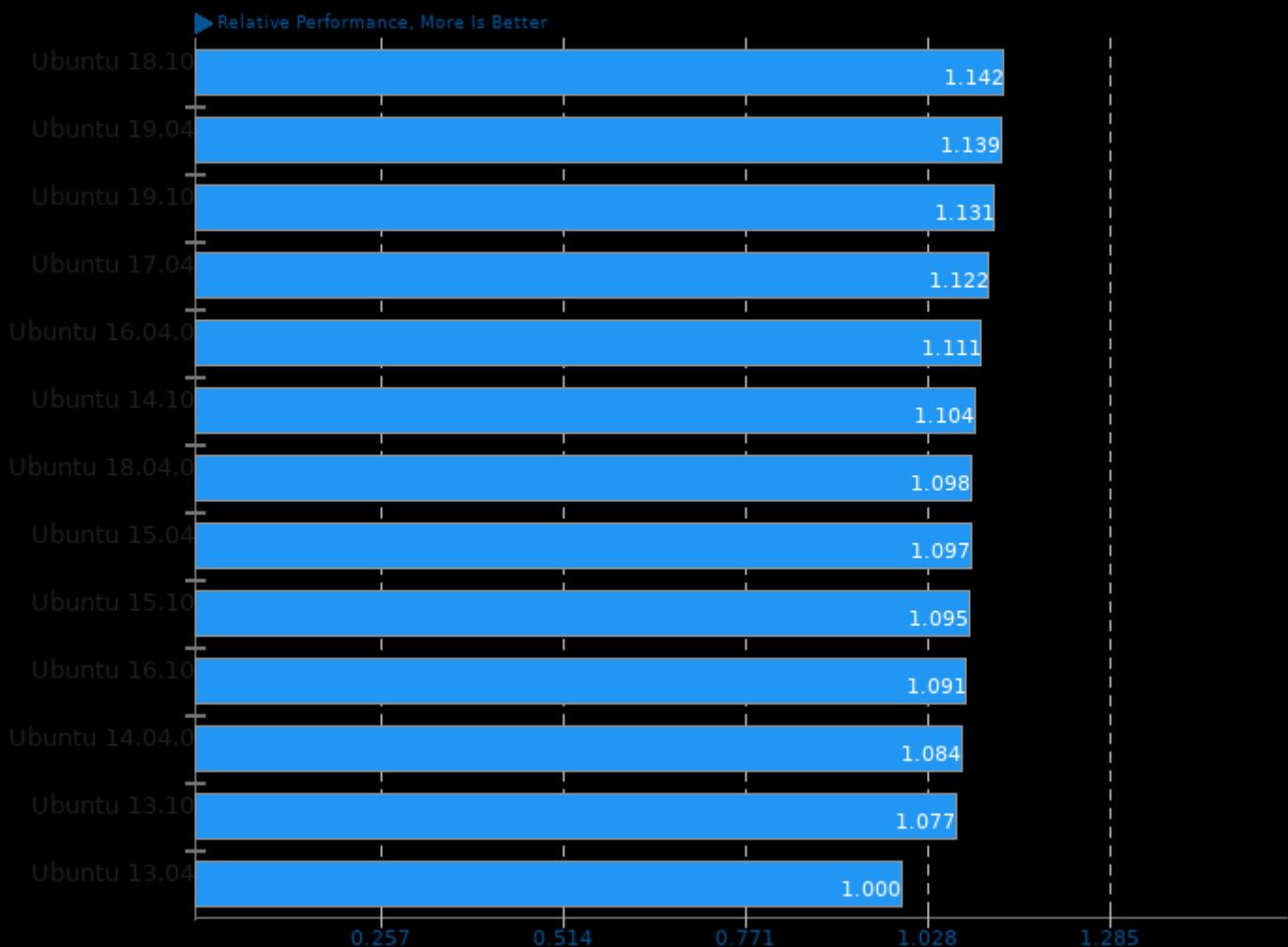
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/compilebench, pts/paraview, pts/build-llvm, pts/pybench and pts/systemd-boot-total

**Geometric Mean Of Renderers Tests**

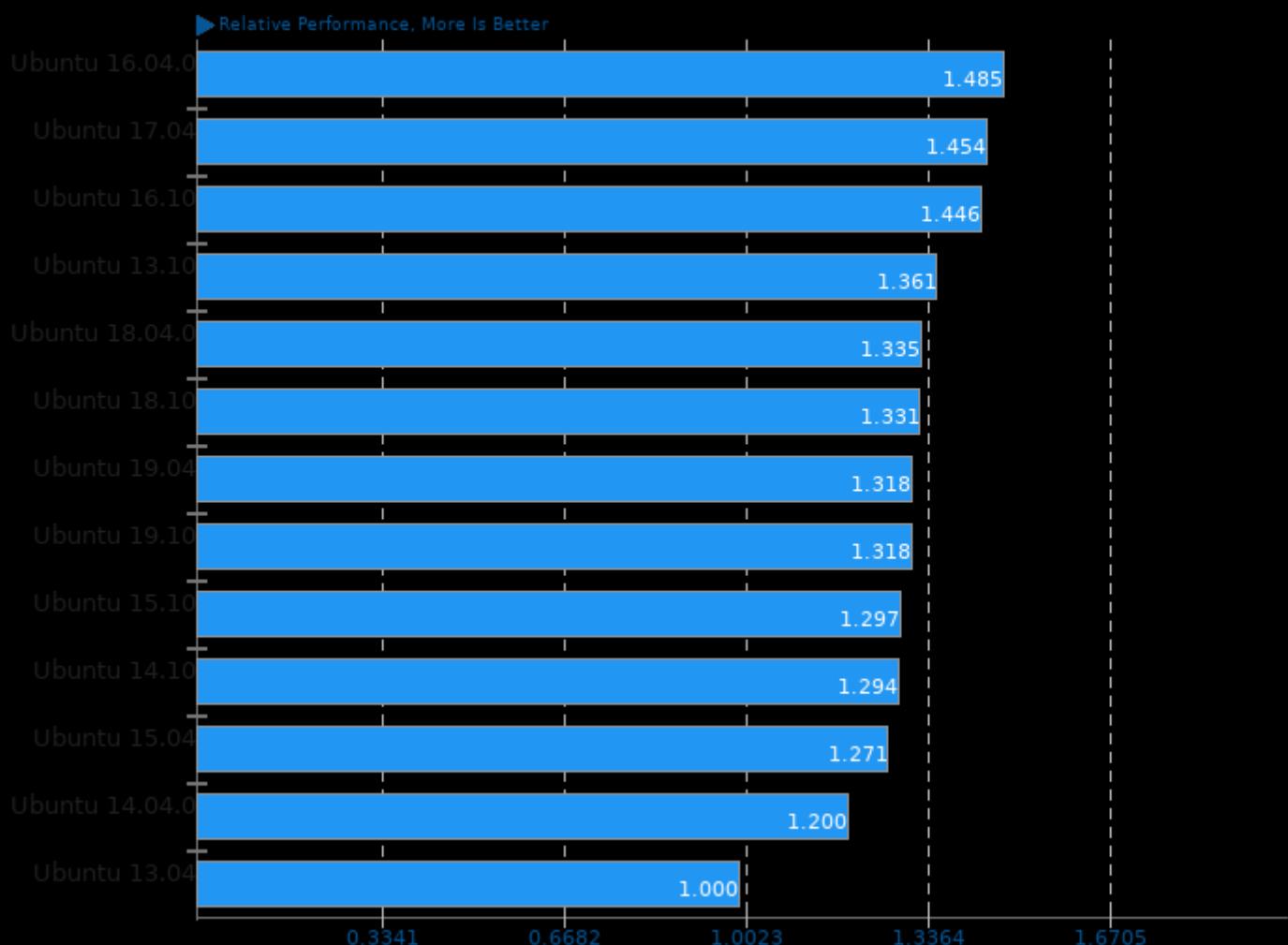
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/c-ray, pts/blender, pts/smallpt and pts/ttsiod-renderer

**Geometric Mean Of Server Tests**

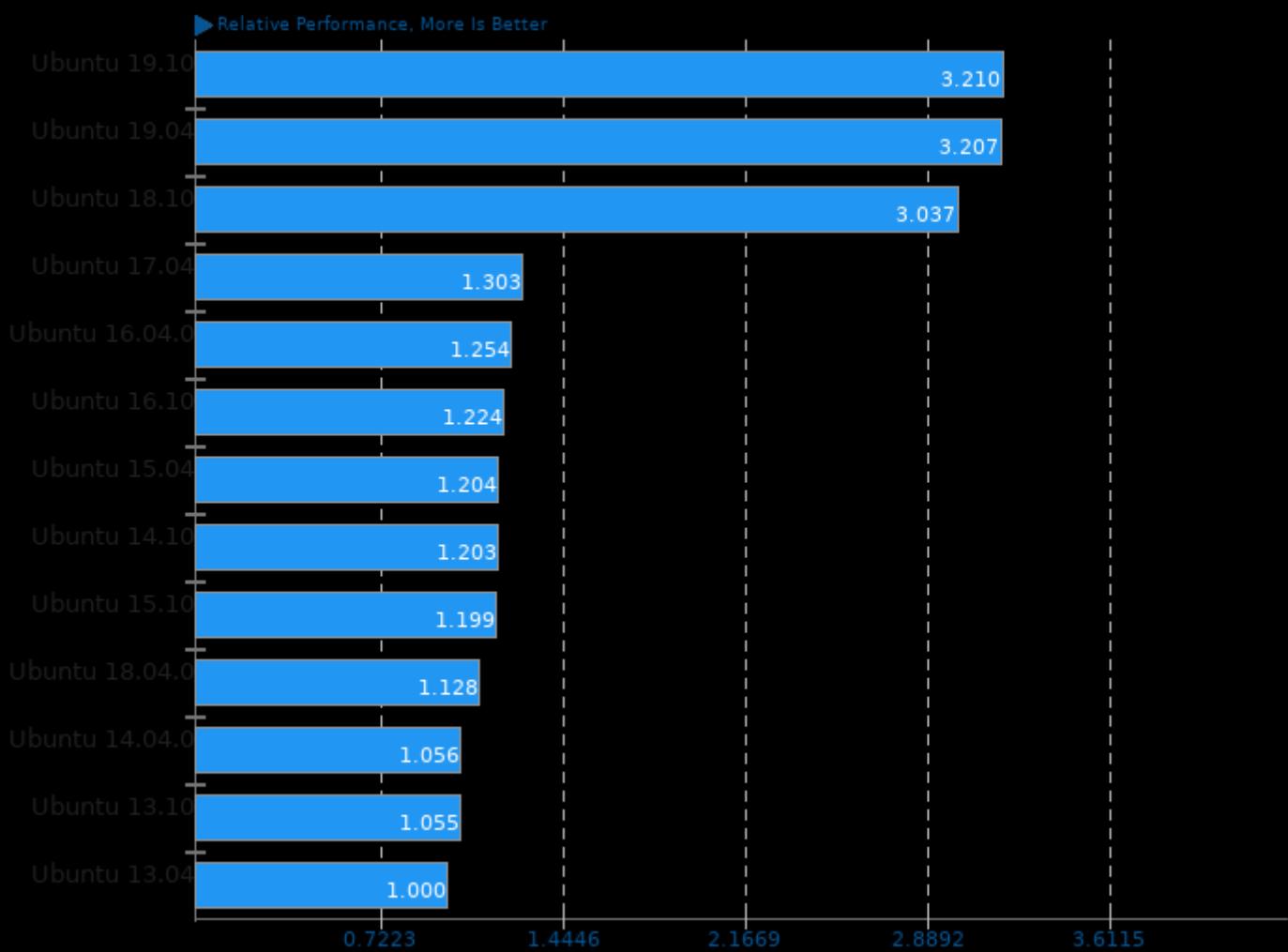
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/apache, pts/nginx, pts/phpbench, pts/sqlite and pts/sqlite-speedtest

**Geometric Mean Of Server CPU Tests**

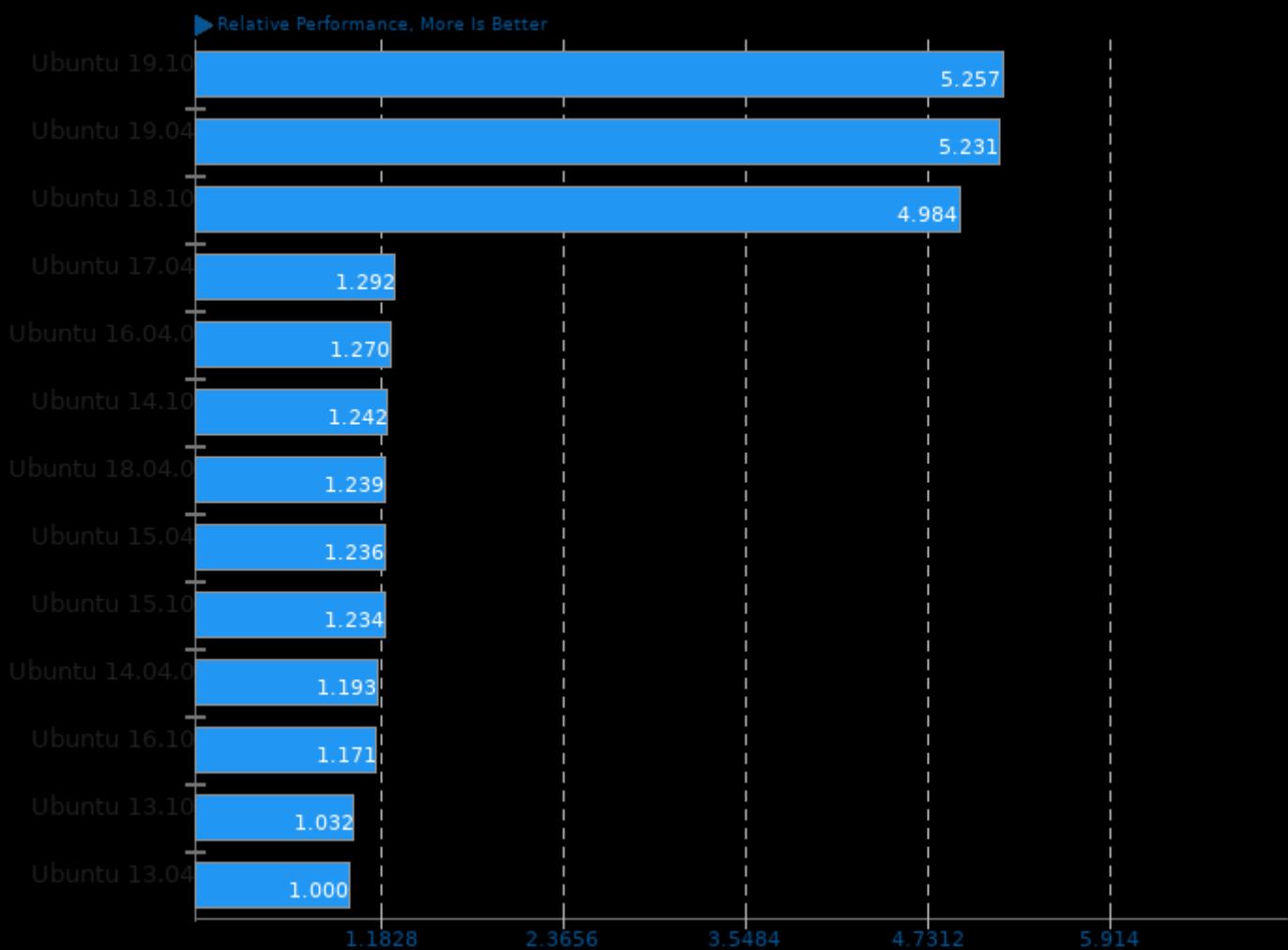
Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



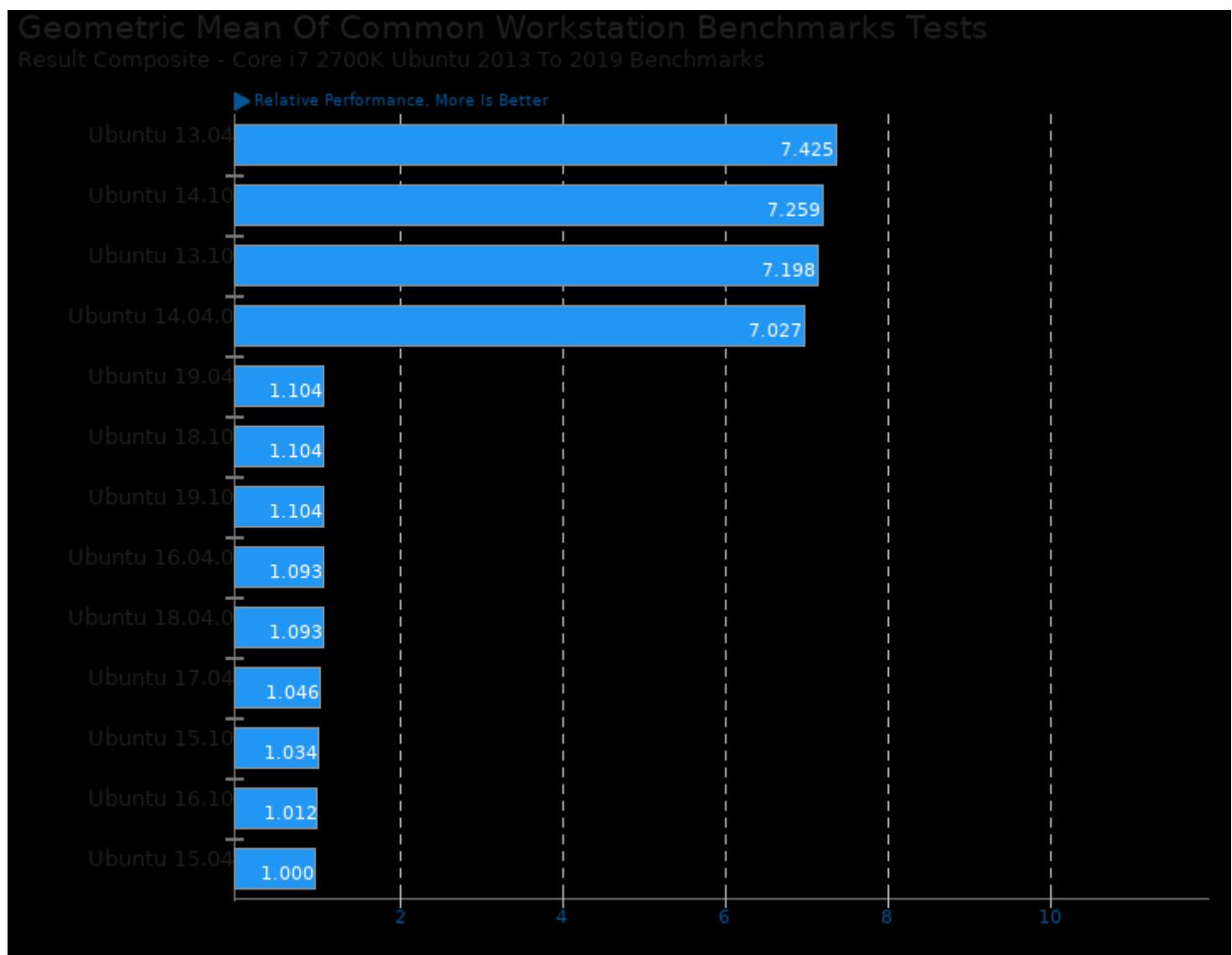
Geometric mean based upon tests: pts/dacapobench, pts/renaissance, pts/x264, pts/himeno, pts/compress-7zip, pts/stockfish, pts/asmfish, pts/build-linux-kernel, pts/build-php, pts/build-llvm, pts/c-ray, pts/glibc-bench, pts/stress-ng, pts/ctx-clock, pts/blender, pts/pybench and pts/phpbench

**Geometric Mean Of Single-Threaded Tests**

Result Composite - Core i7 2700K Ubuntu 2013 To 2019 Benchmarks



Geometric mean based upon tests: pts/compress-gzip, pts/deepspeech, pts/encode-flac, pts/encode-mp3, pts/glibc-bench, pts/pybench, pts/phpbench, pts/nginx and pts/git



Geometric mean based upon tests: pts/blender, pts/himeno, pts/paraview and pts/git

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:12.*