

www.phoronix-test-suite.com

Xeon Platinum 8380 Linux Distro Performance

2 x Intel Xeon Platinum 8380 testing with autumn 2021 Linux distributions, benchmarks by Michael Larabel for a future article.

Automated Executive Summary

Clear Linux 35100 had the most wins, coming in first place for 46% of the tests.

Based on the geometric mean of all complete results, the fastest (Clear Linux 35100) was 1.363x the speed of the slowest (Ubuntu 20.04 LTS). CentOS Stream was 0.949x the speed of Clear Linux 35100, Arch Linux was 0.832x the speed of CentOS Stream, openSUSE Tumbleweed was 0.953x the speed of Arch Linux, Fedora 35 Beta was 0.999x the speed of openSUSE Tumbleweed, Ubuntu 21.10 Oct1 was 0.999x the speed of Fedora 35 Beta, Debian 11 was 0.991x the speed of Ubuntu 21.10 Oct1, Ubuntu 20.04 LTS was 0.985x the speed of Debian 11.

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

Facebook RocksDB (Test: Random Fill Sync) at 8.17x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency) at 7.619x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 250 - Mode: Read Write) at 7.612x
Facebook RocksDB (Test: Update Random) at 6.534x
DaCapo Benchmark (Java Test: Tradebeans) at 5.689x
Apache HTTP Server (Concurrent Requests: 200) at 4.945x

Facebook RocksDB (Test: Read Random Write Random) at 4.821x
Apache HTTP Server (Concurrent Requests: 100) at 4.523x
Stress-NG (Test: IO_uring) at 4.468x
Renaissance (Test: Genetic Algorithm Using Jenetics + Futures) at 4.199x.

Test Systems:

Fedora 35 Beta

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Fedora Linux 35, Kernel: 5.14.7-300.fc35.x86_64 (x86_64), Compiler: GCC 11.2.1 20210728, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Environment Notes: DEBUGINFOD_URLS=https://debuginfod.fedoraproject.org/
Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-link-serialization=1 --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-build-config=bootstrap-lto --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment 18.9 (build 11.0.12+7)
Python Notes: Python 3.10.0rc2
Security Notes: SELinux + itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Ubuntu 21.10 Oct1

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Ubuntu 21.10, Kernel: 5.13.0-16-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server, Vulkan: 1.1.182, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment (build 11.0.12+7-Ubuntu-0ubuntu3)
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

openSUSE Tumbleweed

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: openSUSE Tumbleweed 20210929, Kernel: 5.14.6-1-default (x86_64), Desktop: KDE Plasma, Display Server: X Server 1.20.13, Compiler: GCC 11.2.1 20210816 [revision 056e324ce46a7924b5cf10f61010cf9dd2ca10e9], File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: DEBUGINFOD_URLS=https://debuginfod.opensuse.org/
Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-werror --enable-cet=auto --enable-checking=release --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,objc,fortran,obj-c++,ada,go,d,jit --enable-libphobos --enable-libstdcxx-allocator=new --enable-link-mutex --enable-linux-futex --enable-multilib --enable-offload-targets=nvptx-none,amdgcn-amdhsa, --enable-plugin --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-build-config=bootstrap-lto-lean --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Disk Notes: NONE / relatime,rw,space_cache,ssd,subvol=/@/home,subvolid=262 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment (build 11.0.12+7-suse-3.1-x8664)
Python Notes: Python 3.8.12
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

CentOS Stream

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: CentOS Stream 8, Kernel: 4.18.0-338.el8.x86_64 (x86_64), Desktop: GNOME Shell 3.32.2, Display Server: X Server, Compiler: GCC 8.5.0 20210514, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment (build 1.8.0_302-b08)
Python Notes: Python 3.6.8
Security Notes: SELinux + itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Debian 11

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Debian 11, Kernel: 5.10.0-8-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug

--enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd000270
Java Notes: OpenJDK Runtime Environment (build 11.0.12+7-post-Debian-2)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Arch Linux

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Arch Linux, Kernel: 5.14.9-arch2-1 (x86_64), Compiler: GCC 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Disk Notes: NONE / relatime,rw
Processor Notes: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment (build 11.0.12+7)
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Clear Linux 35100

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Clear Linux OS 35100, Kernel: 5.13.13-1070.native (x86_64), Desktop: GNOME Shell 41.0, Display Server: X Server, Compiler: GCC 11.2.1 20211004 releases/gcc-11.2.0-267-gf0487cb1a4 + Clang 11.1.0 + LLVM 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -Wl,--enable-new-dtags -Wa,-mbranches-within-32B-boundaries" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -Wl,-sort-common -Wl,--enable-new-dtags -mtune=skylake -Wa,-mbranches-within-32B-boundaries -fvisibility-inlines-hidden -Wl,--enable-new-dtags" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -ftree-loop-vectorize -Wl,-sort-common -Wl,--enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ftree-loop-distribute-patterns -Wl,-z -Wl,now -Wl,-z -Wl,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -Wl,-sort-common -Wl,--enable-new-dtags -mtune=skylake -Wa,-mbranches-within-32B-boundaries" THEANO_FLAGS="floatX=float32,openmp=true,gcc.cxxflags="-ftree-vectorize -mavx""
Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-clocale=gnu --enable-default-pie --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-ld=default --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-gcc-major-version-only --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=skylake-avx512
Disk Notes: MQ-DEADLINE / relatime,rw,stripe=256 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd0002a0

Java Notes: OpenJDK Runtime Environment (build 1.8.0-u252-ga-b00)
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Ubuntu 20.04 LTS

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Ubuntu 20.04, Kernel: 5.11.0-37-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.11, Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xd0002a0
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-Ubuntu-0ubuntu2.20.04)
Python Notes: Python 3.8.10
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Fedora 35 Beta	Ubuntu 21.10 Oct1	openSUSE Tumbleweed	CentOS Stream	Debian 11	Arch Linux	Clear Linux 35100	Ubuntu 20.04 LTS
OpenVKL - vklBenchmark ISPC (Items / Sec)	271	268	274	285	275	279	280	269
Normalized	95.09%	94.04%	96.14%	100%	96.49%	97.89%	98.25%	94.39%
Standard Deviation	0%	0.6%	1%	0.6%	1.1%	0.5%	2.3%	0.9%
Renaissance - A.U.C.T (ms)	36176	35585	32549	15062	32557	37630	14420	34659
Normalized	39.86%	40.52%	44.3%	95.74%	44.29%	38.32%	100%	41.6%
Standard Deviation	1%	2%	0.5%	1.2%	0.6%	1.1%	2.5%	1.6%
Renaissance - Savina Reactors.IO (ms)	21211	21434	20868	14117	21143	21832	13882	21586
Normalized	65.45%	64.77%	66.52%	98.34%	65.66%	63.59%	100%	64.31%
Standard Deviation	3.4%	1.1%	2.4%	0.7%	1.7%	2.4%	2.3%	2.8%
TNN - CPU - DenseNet (ms)	4131	4539	3940	3667	3893	4020	3656	4489
Normalized	88.5%	80.54%	92.78%	99.68%	93.91%	90.93%	100%	81.43%
Standard Deviation	1.7%	2.8%	1.1%	0.1%	0.6%	0.1%	0.1%	3.9%
Mobile Neural Network - mobilenetV3 (ms)								2.190
Standard Deviation								12.9%

Xeon Platinum 8380 Linux Distro Performance

Renaissance - G.A.U.J.F (ms)	6932	6835	6432	**1689**	6986	**7090**	1714	6891
Normalized	24.36%	24.7%	26.26%	100%	24.17%	23.82%	98.54%	24.5%
Standard Deviation	0.3%	0.8%	0.5%	4.3%	1.2%	0.8%	5.5%	1%
Renaissance - ALS Movie Lens (ms)	18146	18068	18283	6747	18182	19364	**6482**	**19697**
Normalized	35.72%	35.88%	35.46%	96.08%	35.65%	33.48%	100%	32.91%
Standard Deviation	0.1%	0.5%	1.6%	1.5%	1.4%	0.4%	1.3%	0.7%
Apache HTTP Server - 1000 (Reqs/sec)	59961	106682	**206714**	119249	**39218**	113981	123987	54994
Normalized	29.01%	51.61%	100%	57.69%	18.97%	55.14%	59.98%	26.6%
Standard Deviation	17.5%	17.8%	1.7%	0.9%	4.8%	4.3%	0.8%	10.4%
LevelDB - Hot Read (us/Op)	**205.520**	182.263	179.589	191.577	**171.136**	180.162	179.392	180.012
Normalized	83.27%	93.9%	95.29%	89.33%	100%	94.99%	95.4%	95.07%
Standard Deviation	2.5%	2%	1.8%	1.3%	1.6%	1.3%	3.5%	1.9%
Mobile Neural Network - inception-v3 (ms)	22.304	21.614	22.326	22.969	22.468	22.048	**21.537**	**23.009**
Normalized	96.56%	99.64%	96.47%	93.77%	95.86%	97.68%	100%	93.6%
Standard Deviation	2.2%	0.6%	1.3%	1.6%	1.5%	2.3%	1.3%	1.8%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	1.946	1.844	1.995	1.902	1.930	1.864	**1.708**	**2.061**
Normalized	87.77%	92.62%	85.61%	89.8%	88.5%	91.63%	100%	82.87%
Standard Deviation	5.5%	1%	2.7%	2.5%	5.8%	2.3%	1.9%	4.7%
Mobile Neural Network - MobileNetV2_224 (ms)	2.795	2.731	2.876	2.720	2.892	2.941	**2.539**	**3.296**
Normalized	90.84%	92.97%	88.28%	93.35%	87.79%	86.33%	100%	77.03%
Standard Deviation	5.7%	1.9%	7.1%	3%	3.6%	2.3%	0.2%	4.7%
Mobile Neural Network - SqueezeNetV1.0 (ms)	4.672	4.421	**5.061**	4.559	4.712	4.923	**4.370**	4.770
Normalized	93.54%	98.85%	86.35%	95.85%	92.74%	88.77%	100%	91.61%
Standard Deviation	12%	0.4%	4.6%	11.7%	5.5%	4.3%	7.9%	5.7%
Mobile Neural Network - resnet-v2-50 (ms)	19.122	18.794	18.854	19.436	**19.756**	18.842	**18.116**	19.548
Normalized	94.74%	96.39%	96.09%	93.21%	91.7%	96.15%	100%	92.67%
Standard Deviation	1.2%	0.4%	2.9%	1.3%	2.1%	2%	1.5%	2.8%
Mobile Neural Network - squeezenetv1.1 (ms)	3.840	3.770	3.760	3.881	3.828	3.725	**3.426**	**4.077**
Normalized	89.22%	90.88%	91.12%	88.28%	89.5%	91.97%	100%	84.03%
Standard Deviation	5.1%	6.1%	6.1%	5.3%	5.2%	4.1%	3%	5%
SecureMark - SecureMark-TLS	228244	223678	229049	**234638**	230202	**220316**	228542	225598
Normalized	97.27%	95.33%	97.62%	100%	98.11%	93.9%	97.4%	96.15%
Standard Deviation	0.1%	0.1%	2.4%	0.4%	0.1%	0.2%	0.1%	0.1%
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency (ms)	7.663	8.039	**20.686**	**2.715**	8.798	2.945	2.868	8.070
Normalized	35.43%	33.77%	13.12%	100%	30.86%	92.19%	94.67%	33.64%
Standard Deviation	0.1%	0.3%	3.2%	0.2%	2.9%	1.3%	1.6%	0%

Xeon Platinum 8380 Linux Distro Performance

PostgreSQL pgbench - 100 - 250 - Read Write (TPS)	32630	31120	12099	92097	28458	84918	87199	31001
Normalized	35.43%	33.79%	13.14%	100%	30.9%	92.2%	94.68%	33.66%
Standard Deviation	0.1%	0.3%	3.3%	0.2%	2.9%	1.3%	1.6%	0%
Rodinia - OpenMP Leukocyte (sec)	48.918	53.420	51.066	45.741	55.253	64.730	33.650	68.971
Normalized	68.79%	62.99%	65.9%	73.57%	60.9%	51.99%	100%	48.79%
Standard Deviation	6.1%	3.9%	8.1%	4.7%	7.6%	2.4%	5%	1.5%
High Performance Conjugate Gradient (GFLOP/s)	39.6784	40.0345	39.8828	40.5930	40.1957	40.8601	39.7832	40.2727
Normalized	97.11%	97.98%	97.61%	99.35%	98.37%	100%	97.36%	98.56%
Standard Deviation	0.3%	0.2%	0.4%	0.3%	0.7%	0.1%	0.6%	1.2%
Renaissance - F.H.R (ms)	8138	7753	5996		5967	8108	3536	7850
Normalized	43.45%	45.6%	58.97%		59.25%	43.61%	100%	45.04%
Standard Deviation	2.4%	0.5%	2.4%		2%	2%	2.3%	2.5%
nginx - 500 (Reqs/sec)	213761	189132	206192	196944	200483	193418	192913	189594
Normalized	100%	88.48%	96.46%	92.13%	93.79%	90.48%	90.25%	88.69%
Standard Deviation	1.1%	2.5%	1.1%	0.8%	8.1%	2.1%	0.3%	2.4%
TensorFlow Lite - Mobilenet Float (us)	40682	42433	39087	33156	37544	33958	35294	41762
Normalized	81.5%	78.14%	84.82%	100%	88.31%	97.64%	93.94%	79.39%
Standard Deviation	2.1%	4.2%	1.3%	1.1%	4.1%	1%	2.2%	5%
Renaissance - Apache Spark ALS (ms)	3172	3096	3176	1325	3149	3349	1316	3500
Normalized	41.49%	42.52%	41.45%	99.35%	41.81%	39.3%	100%	37.61%
Standard Deviation	0.6%	0.8%	0.8%	0.8%	1%	0.8%	0.4%	4.1%
TensorFlow Lite - NASNet Mobile (us)	83310	84493	82945	75555	76318	79477	77893	83659
Normalized	90.69%	89.42%	91.09%	100%	99%	95.07%	97%	90.31%
Standard Deviation	2%	1.9%	2.8%	1%	2.3%	1.6%	2.5%	4.2%
Appleseed - Material Tester (sec)	194.072632	190.722468	189.12003	192.679047	185.484738	203.90362	187.961182	187.061565
Normalized	95.57%	97.25%	98.08%	96.27%	100%	90.97%	98.68%	99.16%
nginx - 1000 (Reqs/sec)	216774	191182	208713	200334	204201	195471	197112	191031
Normalized	100%	88.19%	96.28%	92.42%	94.2%	90.17%	90.93%	88.12%
Standard Deviation	1%	1.1%	1.2%	1.2%	9.8%	2.2%	0.4%	1.6%
nginx - 200 (Reqs/sec)	204765	168716	195438	188446	95362	186361	186905	179650
Normalized	100%	82.4%	95.44%	92.03%	46.57%	91.01%	91.28%	87.73%
Standard Deviation	1%	19.3%	2.3%	0.5%	0.5%	1.4%	0.8%	1.1%
GNU GMP GMPbench - Total Time (GMPbench Score)	3777	4503	3828	4229	4519	3875	4907	4518
Normalized	76.97%	91.77%	78.02%	86.18%	92.09%	78.96%	100%	92.07%
Apache HTTP Server - 200 (Reqs/sec)	39792	43438	196789	131724	49245	128457	126351	43506
Normalized	20.22%	22.07%	100%	66.94%	25.02%	65.28%	64.21%	22.11%
Standard Deviation	0.4%	0.8%	1.3%	0.5%	1%	2.9%	0.3%	1.1%

Xeon Platinum 8380 Linux Distro Performance

Renaissance - Apache Spark Bayes (ms)	1018	973.5	1172	523.7	992.4	1157	523.9	1044
Normalized	51.45%	53.8%	44.69%	100%	52.77%	45.28%	99.96%	50.17%
Standard Deviation	2.5%	2.3%	0.8%	8.9%	1.6%	2.4%	8.2%	2.5%
Appleseed - Emily (sec)	178.073796	178.454037	175.525803	122.616377	179.056715	204.68717	122.924983	179.673217
Normalized	68.86%	68.71%	69.86%	100%	68.48%	59.9%	99.75%	68.24%
Zstd Compression - 8 - D.S (MB/s)	3105	2917	3026	2987	2733	3103	3118	3020
Normalized	99.57%	93.56%	97.06%	95.8%	87.64%	99.5%	100%	96.84%
Standard Deviation	0.2%	12%	7.6%	0.8%	20%	0.1%	0.4%	0.5%
Zstd Compression - 8 - Compression Speed (MB/s)	2027	2035	1947	2763	1948	2327	2356	2083
Normalized	73.35%	73.64%	70.44%	100%	70.49%	84.21%	85.25%	75.38%
Standard Deviation	1%	5.1%	3.7%	6.7%	1.5%	1.7%	7.4%	1.2%
Blender - Barbershop - CPU-Only (sec)	109.60	108.68	105.32	102.30	104.77	106.75	102.87	107.96
Normalized	93.34%	94.13%	97.13%	100%	97.64%	95.83%	99.45%	94.76%
Standard Deviation	0.7%	0.7%	0.2%	0.1%	0.4%	0.4%	0.2%	0.5%
PyPerformance - regex_compile (Milliseconds)	206	215	248	208	198	173	175	199
Normalized	83.98%	80.47%	69.76%	83.17%	87.37%	100%	98.86%	86.93%
Standard Deviation	0.6%	7.9%	2.5%		2.4%	0%	0%	3.4%
DaCapo Benchmark - Tradebeans (msec)	16993	16793	15573	3712	16382	16914	2987	16704
Normalized	17.58%	17.79%	19.18%	80.47%	18.23%	17.66%	100%	17.88%
Standard Deviation	0.6%	1.2%	0.8%	10.1%	0.8%	1.5%	2.4%	1.8%
Stress-NG - CPU Cache (Bogo Ops/s)	15.93	16.10	16.45	16.26	16.61	17.45	16.47	16.20
Normalized	91.29%	92.26%	94.27%	93.18%	95.19%	100%	94.38%	92.84%
Standard Deviation	0%	2.4%	3.8%	2.3%	6.1%	2.5%	3.2%	2.8%
PyPerformance - 2to3 (Milliseconds)	524	515	556	353	511	334	319	502
Normalized	60.88%	61.94%	57.37%	90.37%	62.43%	95.51%	100%	63.55%
Standard Deviation	0.2%	0%	0%			1.9%	0.2%	
Zstd Compression - 19, Long Mode - D.S (MB/s)	2729	2690	2743	2638	2732	2735	2741	2665
Normalized	99.49%	98.04%	100%	96.15%	99.57%	99.68%	99.92%	97.15%
Standard Deviation	0.5%	0.3%	0.4%	0.3%	0.3%	0.3%	0.1%	0.8%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	44.6	44.1	48.0	45.1	44.7	44.6	52.3	45.7
Normalized	85.28%	84.32%	91.78%	86.23%	85.47%	85.28%	100%	87.38%
Standard Deviation	0.3%	0.5%	2.6%	1%	1.8%	2.4%	2.4%	3.8%
PyPerformance - django_template (Milliseconds)	55.8	59.1	67.9	77.8	58.0	49.2	49.3	58.1
Normalized	88.17%	83.25%	72.46%	63.24%	84.83%	100%	99.8%	84.68%
Standard Deviation	2.4%	10.3%	1.1%	0.1%	7.4%	0.1%	0.2%	6.3%

Xeon Platinum 8380 Linux Distro Performance

PyPerformance - crypto_pyaes (Milliseconds)	137	133	173	113	125	106	103	141
Normalized	75.18%	77.44%	59.54%	91.15%	82.4%	97.17%	100%	73.05%
Standard Deviation	1.5%	9.2%	7.1%	0.5%	7.5%	2%	0%	8.3%
PyPerformance - raytrace (Milliseconds)	525	487	627	618	468	487	481	486
Normalized	89.14%	96.1%	74.64%	75.73%	100%	96.1%	97.3%	96.3%
Standard Deviation	0.4%	0.9%	0.7%		1%	0.1%	0.3%	0.7%
Apache HTTP Server - 100 (Reqs/sec)	40138	30630	78275	118170	28231	30174	115621	26129
Normalized	33.97%	25.92%	66.24%	100%	23.89%	25.53%	97.84%	22.11%
Standard Deviation	1.1%	0.9%	0.4%	0.9%	1.5%	0.4%	0.1%	0.7%
nginx - 100 (Reqs/sec)	88738	72553	78819	213115	74654	63777	202876	76291
Normalized	41.64%	34.04%	36.98%	100%	35.03%	29.93%	95.2%	35.8%
Standard Deviation	1.9%	0.7%	1.6%	0.9%	0.3%	0.9%	0.5%	0%
PyPerformance - python_startup (Milliseconds)	16.1	16.8	19.9	10.4	17.1	15.3	9.53	17.6
Normalized	59.19%	56.73%	47.89%	91.63%	55.73%	62.29%	100%	54.15%
Standard Deviation	0.4%	1%	0.3%	0%	0.6%	0.4%	0.1%	0.6%
Facebook RocksDB - Rand Read (Op/s)	369206119	324373890		332140763	356094496	349410415	365538279	319846122
Normalized	100%	87.86%		89.96%	96.45%	94.64%	99.01%	86.63%
Standard Deviation	4%	1.9%		2.4%	0.2%	0.3%	0.2%	0.5%
Chaos Group V-RAY - CPU (vsamples)	63528	63275	66690	67330	66940	64816	67747	63885
Normalized	93.77%	93.4%	98.44%	99.38%	98.81%	95.67%	100%	94.3%
Standard Deviation	0.9%	1%	1.2%	1.6%	1.5%	1.2%	0.8%	0.3%
PyPerformance - pickle_pure_python (Milliseconds)	516	604	705	540	555	443	441	560
Normalized	85.47%	73.01%	62.55%	81.67%	79.46%	99.55%	100%	78.75%
Standard Deviation	1%	7.6%	9.5%		7.8%	0.2%	0.2%	10.9%
PyPerformance - pathlib (Milliseconds)	28.7	26.1	29.4	20.3	24.9	17.7	16.9	26.3
Normalized	58.89%	64.75%	57.48%	83.25%	67.87%	95.48%	100%	64.26%
Standard Deviation	0%	5.2%	6.3%	0.3%	7.4%	0.3%	0.3%	6.5%
PyPerformance - nbody (Milliseconds)	161	152	191	125	138	120	116	163
Normalized	72.05%	76.32%	60.73%	92.8%	84.06%	96.67%	100%	71.17%
Standard Deviation	2.2%	9.1%	8.3%	0.5%	5.4%	0.8%	0%	
TensorFlow Lite - Inception V4 (us)	710372	710386	693874	667444	668386	672669	688405	693194
Normalized	93.96%	93.96%	96.19%	100%	99.86%	99.22%	96.96%	96.29%
Standard Deviation	0.7%	2.1%	1.1%	0.3%	1.4%	1.5%	1.3%	2.3%
Renaissance - Rand Forest (ms)	1537	1562	1429	688.7	1495	1536	680.5	1529
Normalized	44.27%	43.56%	47.63%	98.81%	45.52%	44.3%	100%	44.51%
Standard Deviation	2.3%	1%	1.1%	2.2%	1.1%	1.3%	2.2%	2.4%

Xeon Platinum 8380 Linux Distro Performance

PyPerformance - chaos (Milliseconds)	132	136	177	126	128	110	109	139
Normalized	82.58%	80.15%	61.58%	86.51%	85.16%	99.09%	100%	78.42%
Standard Deviation	1.6%	1.9%	6.7%	0.5%	7%	0.5%	0.5%	9.1%
7-Zip Compression - C.S.T (MIPS)	290145	306548	354644	392910	351256	308670	387139	296557
Normalized	73.85%	78.02%	90.26%	100%	89.4%	78.56%	98.53%	75.48%
Standard Deviation	0.6%	0.9%	0.6%	1.1%	0.3%	0.9%	1.1%	1.8%
PyPerformance - float (Milliseconds)	128	148	174	120	149	118	116	132
Normalized	90.63%	78.38%	66.67%	96.67%	77.85%	98.31%	100%	87.88%
Standard Deviation	0%	9.6%	7.6%	0.5%	7.4%	0.8%	0.5%	2.3%
TNN - CPU - MobileNet v2 (ms)	396.219	441.997	383.432	365.187	375.456	376.362	359.470	442.721
Normalized	90.73%	81.33%	93.75%	98.43%	95.74%	95.51%	100%	81.2%
Standard Deviation	1.2%	8.4%	5%	0.1%	1.6%	1.4%	0.1%	7.1%
Blender - Classroom - CPU-Only (sec)	73.64	73.41	72.44	71.29	71.32	72.60	72.16	72.57
Normalized	96.81%	97.11%	98.41%	100%	99.96%	98.2%	98.79%	98.24%
Standard Deviation	0%	0.2%	0.3%	0.4%	0.2%	0.2%	0.5%	0.1%
simdjson - PartialTweets (GB/s)	3.63	3.71	3.65	3.83	3.78	3.66	3.80	3.89
Normalized	93.32%	95.37%	93.83%	98.46%	97.17%	94.09%	97.69%	100%
Standard Deviation	0.3%	0%	0.6%	0.2%	0.2%	0.6%	0.2%	0%
PyPerformance - json_loads	26.2	30.5	31.8	26.3	31.5	24.6	24.3	28.9
Normalized	92.75%	79.67%	76.42%	92.4%	77.14%	98.78%	100%	84.08%
Standard Deviation	1%	7.2%	7.7%	0%	3.9%	0.5%	0.2%	2.1%
Zstd Compression - 19 - D.S (MB/s)	2658	2646	2671	2578	2620	2648	2663	2547
Normalized	99.52%	99.08%	100%	96.53%	98.09%	99.14%	99.69%	95.37%
Standard Deviation	0.2%	0.1%	0.1%	0.3%	0.8%	0.2%	0.1%	0.4%
Zstd Compression - 19 - Compression Speed (MB/s)	81.2	80.2	87.1	89.9	86.6	81.1	87.3	81.1
Normalized	90.32%	89.21%	96.89%	100%	96.33%	90.21%	97.11%	90.21%
Standard Deviation	1.2%	1.1%	2.2%	1.7%	3.9%	1.1%	0.8%	1.2%
LZ4 Compression - 9 - D.S (MB/s)	7150	7211	7115	7100	7484	7225	7143	7114
Normalized	95.53%	96.34%	95.07%	94.86%	100%	96.54%	95.44%	95.05%
Standard Deviation	0.2%	0.1%	0.1%	2.2%	0%	0.2%	0.1%	0.2%
LZ4 Compression - 9 - Compression Speed (MB/s)	43.19	44.32	45.51	48.94	48.49	42.88	45.14	45.97
Normalized	88.25%	90.56%	92.99%	100%	99.08%	87.62%	92.24%	93.94%
Standard Deviation	0.1%	0.1%	0.1%	0.2%	0%	1.5%	0.1%	0.1%
LZ4 Compression - 3 - D.S (MB/s)	7137	7194	7153	6931	7475	7246	7271	7104
Normalized	95.47%	96.23%	95.69%	92.72%	100%	96.93%	97.27%	95.03%
Standard Deviation	0.1%	0.2%	0.5%	0%	0.1%	1%	0%	0.2%

Xeon Platinum 8380 Linux Distro Performance

LZ4 Compression - 3 - Compression Speed (MB/s)	43.83	45.33	46.33	49.78	49.48	44.28	46.13	46.89
Normalized	88.05%	91.06%	93.07%	100%	99.4%	88.95%	92.67%	94.19%
Standard Deviation	0.8%	0%	0.3%	0.4%	0.2%	0%	0.1%	0.8%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	59.770	62.546	72.652	60.538	58.901	63.432	60.053	61.310
Normalized	98.55%	94.17%	81.07%	97.3%	100%	92.86%	98.08%	96.07%
Standard Deviation	0.7%	0.8%	0.8%	0.6%	0.7%	0.1%	0.2%	0.7%
Git - T.T.C.C.G.C (sec)	62.329	60.819	60.788	61.820	59.890	60.787	59.606	62.659
Normalized	95.63%	98.01%	98.06%	96.42%	99.53%	98.06%	100%	95.13%
Standard Deviation	0.5%	0.2%	0.4%	0.3%	0.7%	0.2%	0%	1.2%
simdjson - Kostya	2.44	2.45	2.50	2.44	2.53	2.45	2.43	2.52
Normalized	96.44%	96.84%	98.81%	96.44%	100%	96.84%	96.05%	99.6%
Standard Deviation	0.2%	0.2%	0.2%	0%	0%	0%	0.2%	0%
Stress-NG - S.V.M.P (Bogo Ops/s)	4098551	3578020	3045985	5648012	1764395	4562405	6778570	2775167
Normalized	60.46%	52.78%	44.94%	83.32%	26.03%	67.31%	100%	40.94%
Standard Deviation	9.2%	2.4%	0.3%	0.1%	2.3%	2.3%	0.2%	0.2%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	2.952	2.944	3.036	4.858	2.944	3.314	4.997	2.902
Normalized	59.08%	58.92%	60.76%	97.22%	58.92%	66.32%	100%	58.07%
Standard Deviation	0.5%	0.6%	0.5%	2%	0.7%	1.8%	0.4%	0.8%
x265 - Bosphorus 4K (FPS)	11.91	12.08	12.30	27.07	13.49	11.28	28.67	12.68
Normalized	41.54%	42.13%	42.9%	94.42%	47.05%	39.34%	100%	44.23%
Standard Deviation	1%	1.8%	0.4%	5.8%	1.6%	1.7%	0.9%	1.6%
Facebook RocksDB - Update Rand (Op/s)	96320	94412		586633	89779	99751	540694	93073
Normalized	16.42%	16.09%		100%	15.3%	17%	92.17%	15.87%
Standard Deviation	0.2%	0.1%		0.1%	0.2%	0.6%	0.1%	0.2%
simdjson - LargeRand (GB/s)	0.86	0.85	0.87	0.85	0.86	0.85	0.84	0.84
Normalized	98.85%	97.7%	100%	97.7%	98.85%	97.7%	96.55%	96.55%
Standard Deviation	0.7%	0%	0%	0.7%	0%	0%	0%	0%
Facebook RocksDB - Rand Fill Sync (Op/s)	100599	71086		536318	68379	102363	558645	70334
Normalized	18.01%	12.72%		96%	12.24%	18.32%	100%	12.59%
Standard Deviation	0.2%	0.1%		0.3%	0.9%	0.1%	0.2%	0.4%
Facebook RocksDB - R.R.W.R (Op/s)	884458	866761		3806446	837568	889444	4037696	857431
Normalized	21.91%	21.47%		94.27%	20.74%	22.03%	100%	21.24%
Standard Deviation	0.2%	0.1%		1.3%	0.1%	0.1%	0.3%	0.1%
Stress-NG - IO_uring (Bogo Ops/s)	336629	91422	75342		258561	275046	205237	
Normalized	100%	27.16%	22.38%		76.81%	81.71%	60.97%	
Standard Deviation	4.1%	0.7%	8.5%		1.7%	2.2%	0.7%	
Appleseed - Disney Material (sec)	83.066417	81.862378	83.338994	57.698613	81.754584	86.075688	57.435819	81.953373
Normalized	69.14%	70.16%	68.92%	99.54%	70.25%	66.73%	100%	70.08%

Xeon Platinum 8380 Linux Distro Performance

Stress-NG - Semaphores (Bogo	9177477	9460606	10452080	12432373	10070481	12285180	13343121	9291736
Normalized	68.78%	70.9%	78.33%	93.17%	75.47%	92.07%	100%	69.64%
Standard Deviation	2.5%	0.2%	0.2%	0.5%	0.1%	0.4%	0.9%	0.5%
OSPray - San Miguel - Path Tracer (FPS)	10.42	10.42	10.64	10.56	10.68	10.45	10.56	10.42
Normalized	97.57%	97.57%	99.63%	98.88%	100%	97.85%	98.88%	97.57%
Standard Deviation	0%	0%	0%	0.6%	0.6%	0.6%	0.6%	0%
Rodinia - OpenMP LavaMD (sec)	45.727	46.576	44.160	45.530	38.065	40.025	43.689	39.759
Normalized	83.24%	81.73%	86.2%	83.6%	100%	95.1%	87.13%	95.74%
Standard Deviation	0.5%	1.8%	0.1%	0.6%	0.8%	0.7%	0.7%	1.4%
Node.js Express HTTP Load Test (Reqs/sec)	5453	7318		10069	4676	5620	8971	7883
Normalized	54.16%	72.68%		100%	46.44%	55.81%	89.1%	78.29%
Standard Deviation	2.4%	4.4%		2.4%	1.3%	4.3%	0.9%	14.2%
DaCapo Benchmark - Jython (msec)	5386	4727	5022	3663	5519	5179	3657	5337
Normalized	67.9%	77.36%	72.82%	99.84%	66.26%	70.61%	100%	68.52%
Standard Deviation	13.4%	11.7%	12.5%	1.4%	11.1%	8.8%	0.5%	14.8%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	0.28029	0.27847	0.27899	0.27436	0.27334	0.27372	0.27961	0.27199
Normalized	97.04%	97.67%	97.49%	99.14%	99.51%	99.37%	97.27%	100%
Standard Deviation	0.6%	0.4%	0.3%	0.3%	0.3%	0.2%	0.3%	0.2%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	2387053	2282293	2393687	2333336	2372627	2419880	2446328	2303021
Normalized	97.58%	93.29%	97.85%	95.38%	96.99%	98.92%	100%	94.14%
Standard Deviation	0.1%	0.1%	0%	0.5%	0.1%	0.2%	0.1%	0.2%
Stress-NG - RdRand (Bogo Ops/s)	666960	666871	666960	669870	666684	669356	669174	666842
Normalized	99.57%	99.55%	99.57%	100%	99.52%	99.92%	99.9%	99.55%
Standard Deviation	0.6%	0.6%	0.6%	0%	0.6%	0%	0%	0.6%
Stress-NG - Memory Copying (Bogo Ops/s)	13309	13002	13315	8418	8288	8197	13565	8580
Normalized	98.11%	95.85%	98.16%	62.05%	61.1%	60.42%	100%	63.25%
Standard Deviation	0.2%	0.1%	0.1%	0.2%	0.1%	0.5%	0.3%	0.3%
Stress-NG - SENDFILE (Bogo Ops/s)	1225385	1197036	1231360	978143	1149339	1227990	1233692	1200899
Normalized	99.33%	97.03%	99.81%	79.29%	93.16%	99.54%	100%	97.34%
Standard Deviation	0.4%	0.4%	0.5%	2.1%	0.7%	0.1%	0.2%	0.7%
Stress-NG - Malloc (Bogo Ops/s)	139940329 6	140728159 1	141053215 6	144515650 2	147729463 9	140518236 8	143149043 6	145926167 5
Normalized	94.73%	95.26%	95.48%	97.82%	100%	95.12%	96.9%	98.78%
Standard Deviation	0.2%	0.2%	0.4%	0.2%	0.1%	0.2%	0.8%	0.3%
Stress-NG - CPU Stress (Bogo Ops/s)	126640	126296	127127	111992	125486	128536	127100	115268
Normalized	98.53%	98.26%	98.9%	87.13%	97.63%	100%	98.88%	89.68%
Standard Deviation	0.5%	0.4%	0.3%	1%	0.3%	1.3%	0.1%	0.5%

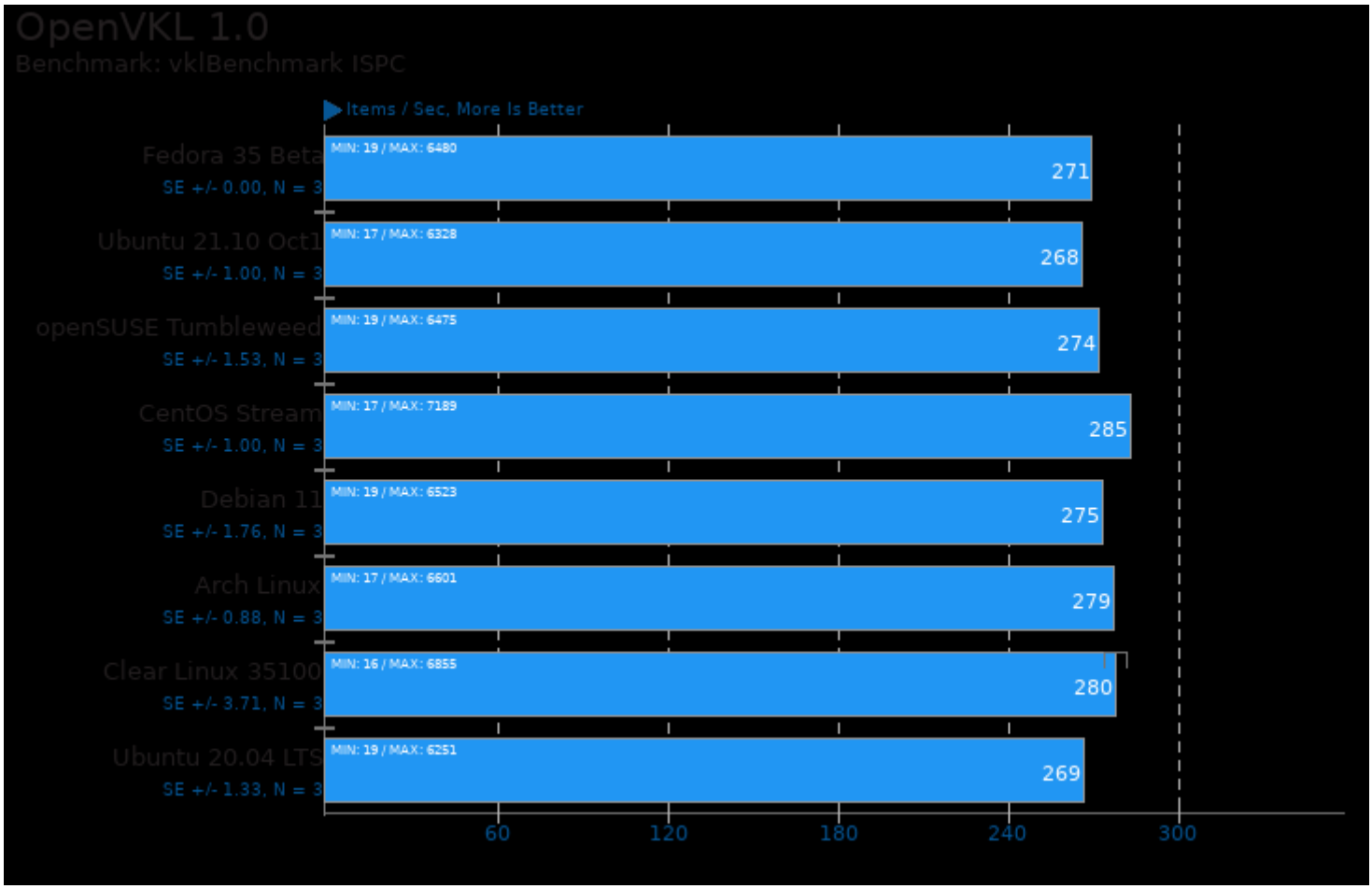
Xeon Platinum 8380 Linux Distro Performance

Stress-NG - Crypto (Bogo Ops/s)	14075	13703	14258	12281	13483	14009	16810	13446
Normalized	83.73%	81.52%	84.82%	73.06%	80.21%	83.34%	100%	79.99%
Standard Deviation	1.5%	1.5%	0.8%	0.1%	0.6%	0.1%	0%	0.5%
Stress-NG - Vector Math (Bogo Ops/s)	277479	278045	278158	223731	250970	286563	307671	252122
Normalized	90.19%	90.37%	90.41%	72.72%	81.57%	93.14%	100%	81.95%
Standard Deviation	0.5%	0.6%	0.3%	2%	0.3%	0.1%	0.1%	0.3%
Google SynthMark - VoiceMark_100	543.430	550.527	543.043	547.054	549.780	558.783	559.114	568.263
Normalized	95.63%	96.88%	95.56%	96.27%	96.75%	98.33%	98.39%	100%
Standard Deviation	1.9%	1.3%	0.2%	0.1%	0.5%	1.9%	0.3%	1.1%
Blender - BMW27 - CPU-Only (sec)	29.86	29.53	29.20	28.43	28.82	29.60	28.51	29.68
Normalized	95.21%	96.27%	97.36%	100%	98.65%	96.05%	99.72%	95.79%
Standard Deviation	0.3%	0.7%	0.3%	0.4%	0.7%	0.7%	0.4%	0.2%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	9.049	9.038	9.076	8.719	9.150		9.224	9.031
Normalized	98.1%	97.98%	98.4%	94.53%	99.2%		100%	97.91%
Standard Deviation	0.4%	2.2%	0.6%	0.2%	0.2%		0.5%	0.1%
PHPBench - P.B.S (Score)	761666	784757	628171	640144	727869	780762	945980	730802
Normalized	80.52%	82.96%	66.4%	67.67%	76.94%	82.53%	100%	77.25%
Standard Deviation	0.2%	0.5%	1.9%	0.3%	0.1%	0.4%	0.3%	1.1%
OSPray - San Miguel - SciVis (FPS)	90.91	90.91	90.91	100	90.91	90.91	100	90.91
Normalized	90.91%	90.91%	90.91%	100%	90.91%	90.91%	100%	90.91%
Standard Deviation	0%	0%	0%		0%	0%	0%	0%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	30.117	31.697	34.268	58.905	30.512	27.203	62.808	28.691
Normalized	47.95%	50.47%	54.56%	93.79%	48.58%	43.31%	100%	45.68%
Standard Deviation	0.7%	0.6%	0.5%	1.7%	2.2%	2.3%	0.8%	2.2%
DaCapo Benchmark - H2 (msec)	10776	10704	9579	3706	9850	10518	3839	10445
Normalized	34.39%	34.62%	38.69%	100%	37.62%	35.23%	96.54%	35.48%
Standard Deviation	1.7%	1.1%	2.4%	6.6%	0.7%	0.3%	1.9%	1.9%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	30.32	29.74	30.04	38.01	29.69	38.06	35.59	29.25
Normalized	79.66%	78.14%	78.93%	99.87%	78.01%	100%	93.51%	76.85%
Standard Deviation	0.9%	2.2%	0.7%	1.1%	0.9%	2.4%	0.3%	0.8%
PyBench - T.F.A.T.T (Milliseconds)	1157	1011	1205	1184	978	1028	1036	974
Normalized	84.18%	96.34%	80.83%	82.26%	99.59%	94.75%	94.02%	100%
Standard Deviation	0.2%	0.6%	0.4%	0.4%	0.2%	0.7%	0.8%	0.3%
x265 - Bosphorus 1080p (FPS)	26.99	26.95	27.06	76.57	28.19	22.73	76.11	27.79
Normalized	35.25%	35.2%	35.34%	100%	36.82%	29.69%	99.4%	36.29%
Standard Deviation	1.4%	2.1%	1.7%	2.1%	1.2%	0.8%	0.2%	0.9%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	172.78	178.73	178.98	361.28	169.81	127.23	371.86	167.75
Normalized	46.46%	48.06%	48.13%	97.15%	45.67%	34.21%	100%	45.11%
Standard Deviation	0.9%	1.5%	2.4%	1.2%	2.4%	3.1%	2.3%	1.1%

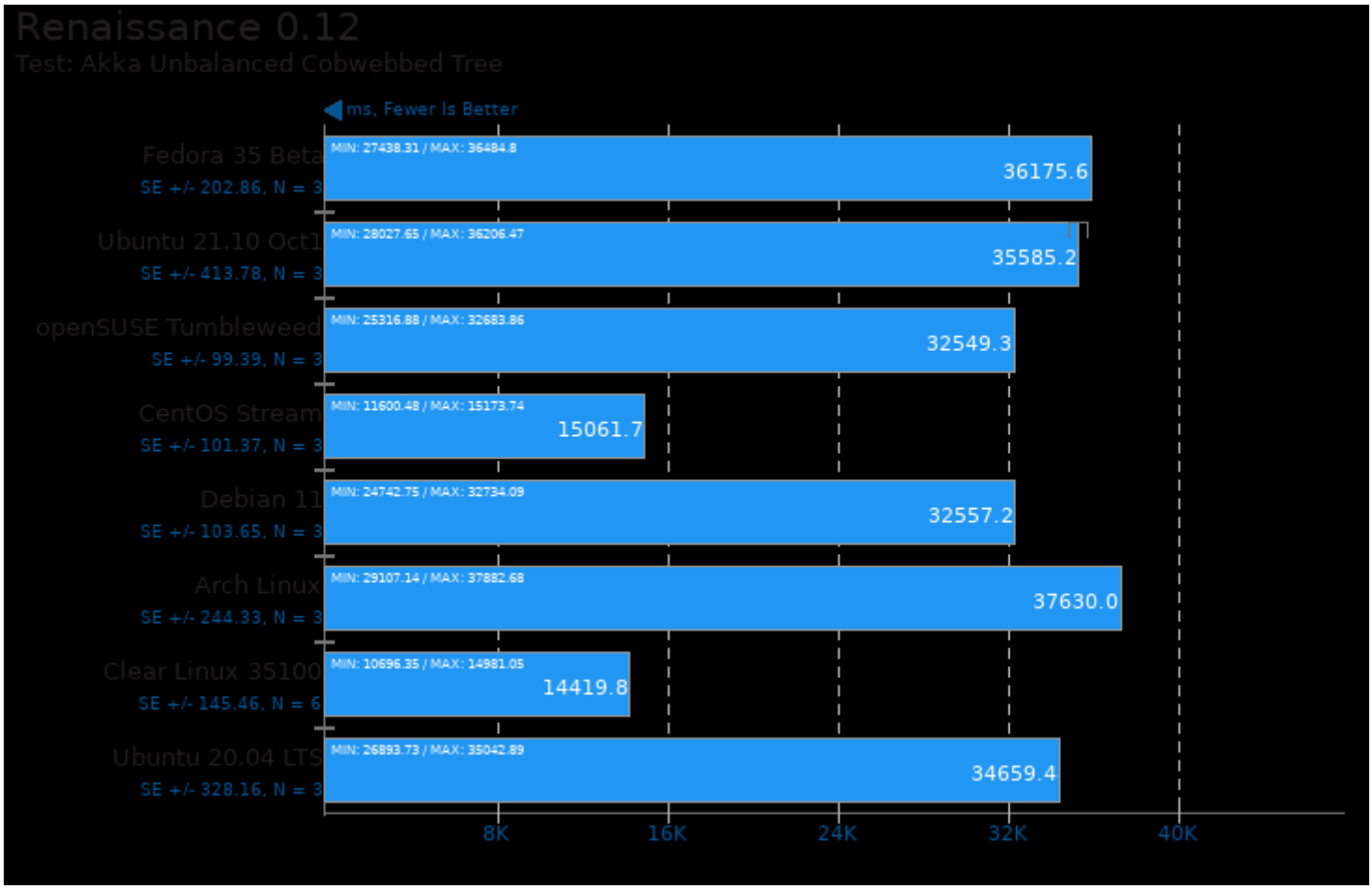
Xeon Platinum 8380 Linux Distro Performance

Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)	2.87	2.94	2.90	2.94	2.91	2.90	**2.95**	**2.67**
Normalized	97.29%	99.66%	98.31%	99.66%	98.64%	98.31%	100%	90.51%
Standard Deviation	0.3%	0.3%	0.6%	1%	0.5%	0.3%	0.5%	0.2%
Embree - Pathtracer ISPC - Crown (FPS)	**64.7554**	66.3379	71.8391	73.3976	66.4038	74.0660	**75.3054**	67.2055
Normalized	85.99%	88.09%	95.4%	97.47%	88.18%	98.35%	100%	89.24%
Standard Deviation	0.6%	0.5%	2.4%	0.8%	0.6%	1.2%	0.8%	0.6%
Embree - Pathtracer - Asian Dragon (FPS)	81.9327	83.0416	83.5001	82.4740	**84.4523**	**81.0275**	83.6306	82.5666
Normalized	97.02%	98.33%	98.87%	97.66%	100%	95.94%	99.03%	97.77%
Standard Deviation	0.9%	1.8%	1.6%	1.8%	1.2%	0.1%	1%	2.4%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	105.4949	107.6734	**108.9060**	108.5165	107.0315	**103.2698**	108.0111	105.8153
Normalized	96.87%	98.87%	100%	99.64%	98.28%	94.82%	99.18%	97.16%
Standard Deviation	2.2%	1.1%	0.6%	0.9%	2.2%	1.8%	2%	2.5%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	207.34	214.16	212.88	459.87	203.41	**168.85**	**469.77**	196.31
Normalized	44.14%	45.59%	45.32%	97.89%	43.3%	35.94%	100%	41.79%
Standard Deviation	1.9%	2.4%	0.7%	2.7%	2.2%	1.1%	0.8%	2.2%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	168.45	174.24	176.05	304.17	170.57	**130.00**	**313.26**	166.07
Normalized	53.77%	55.62%	56.2%	97.1%	54.45%	41.5%	100%	53.01%
Standard Deviation	1.8%	1.4%	1.9%	2.5%	0.6%	2.5%	1.6%	2.5%
OSPray - M.R - SciVis (FPS)	111.11	**110.19**	111.11	**125**	111.11	111.11	**125**	111.11
Normalized	88.89%	88.15%	88.89%	100%	88.89%	88.89%	100%	88.89%
Standard Deviation	0%	2.9%	0%		0%	0%	0%	0%

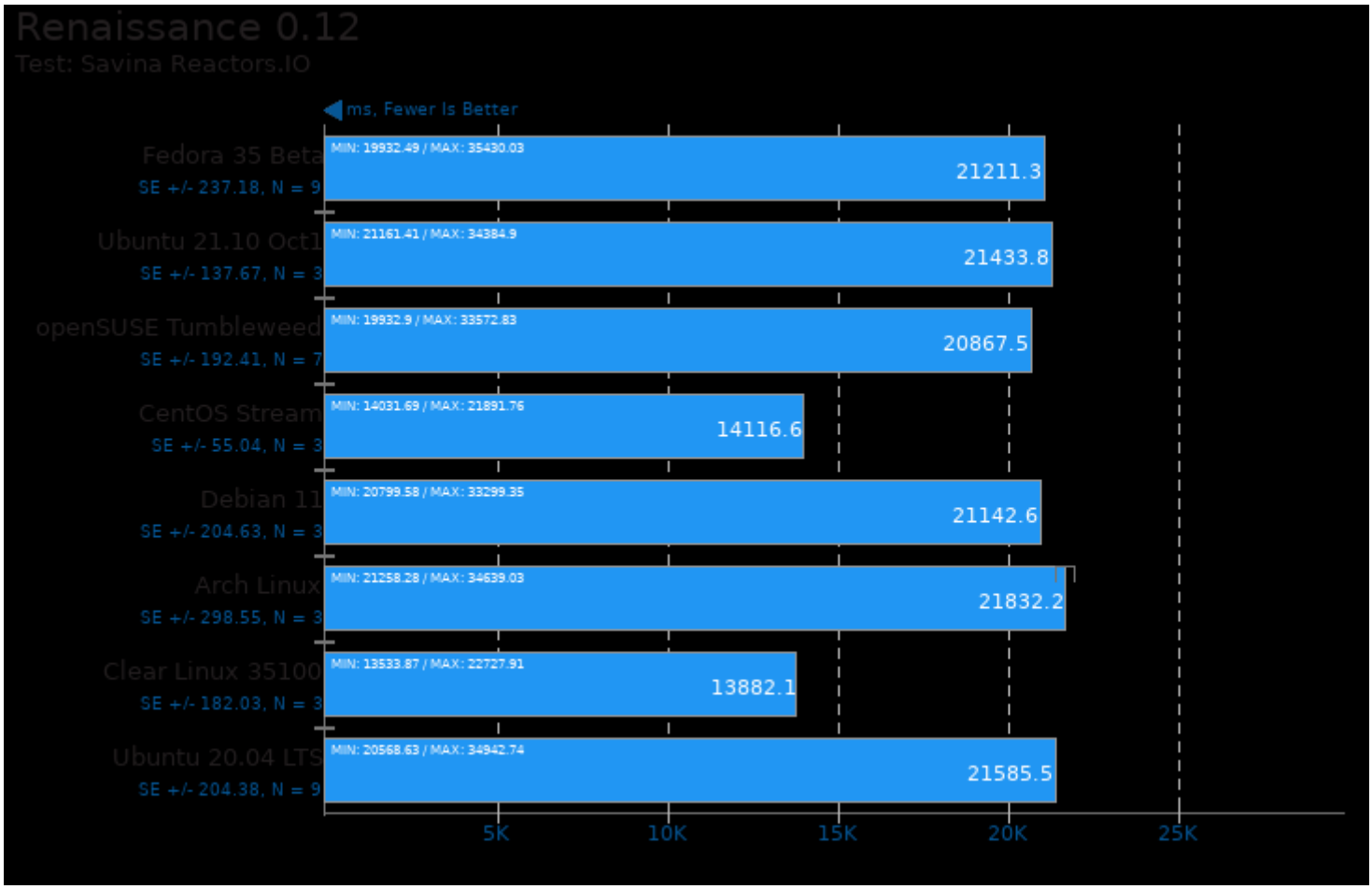
Xeon Platinum 8380 Linux Distro Performance



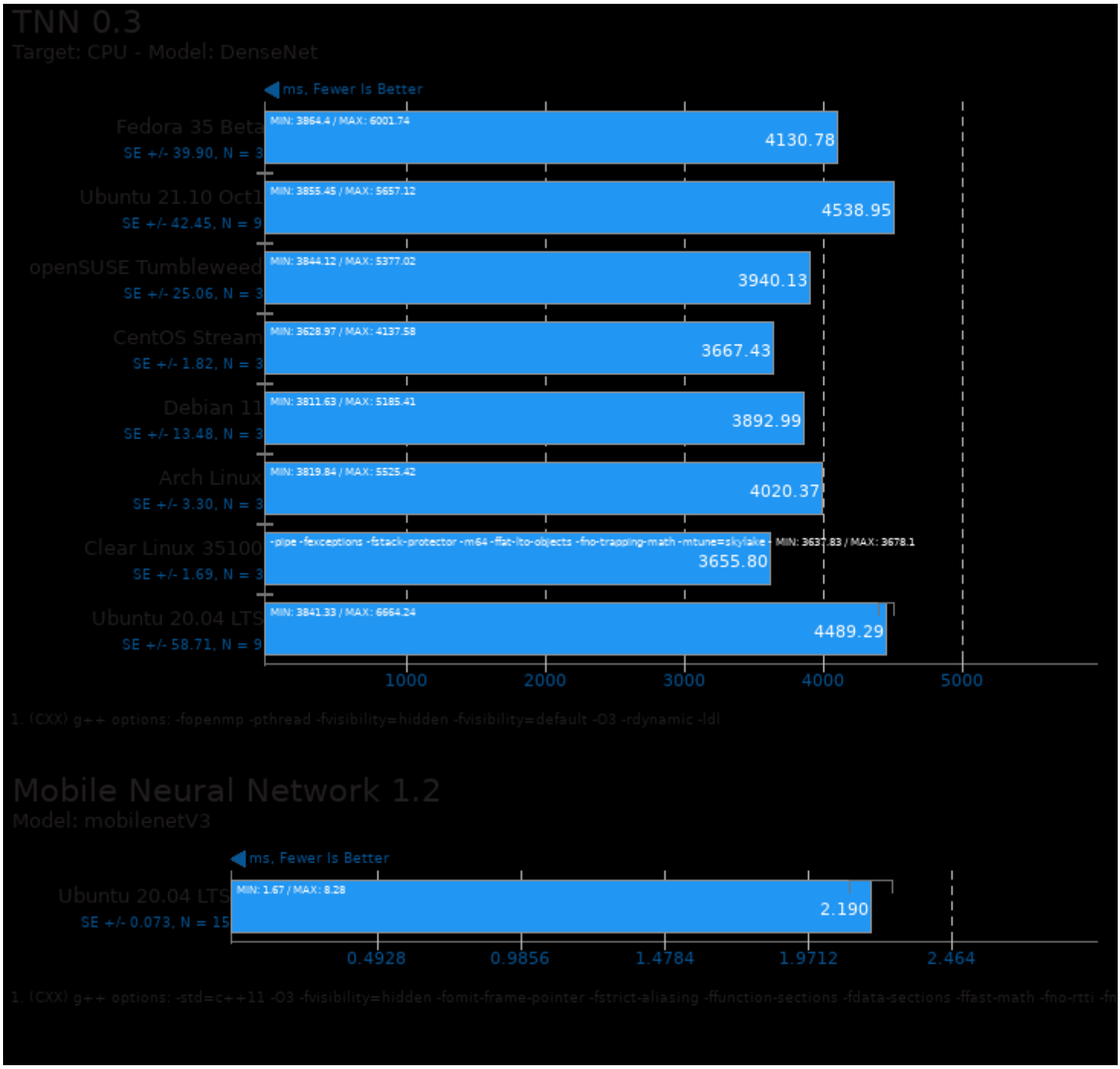
Xeon Platinum 8380 Linux Distro Performance



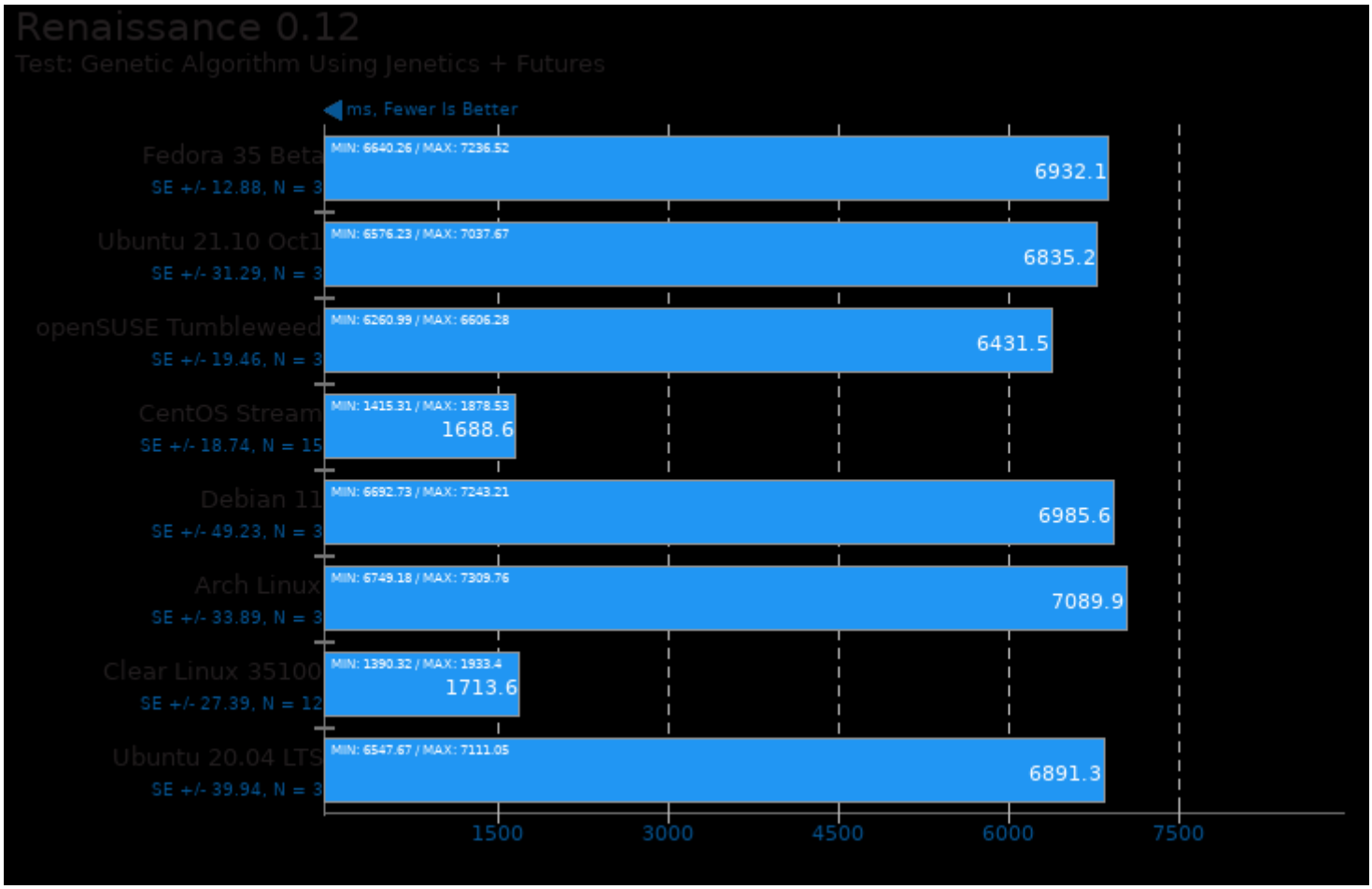
Xeon Platinum 8380 Linux Distro Performance



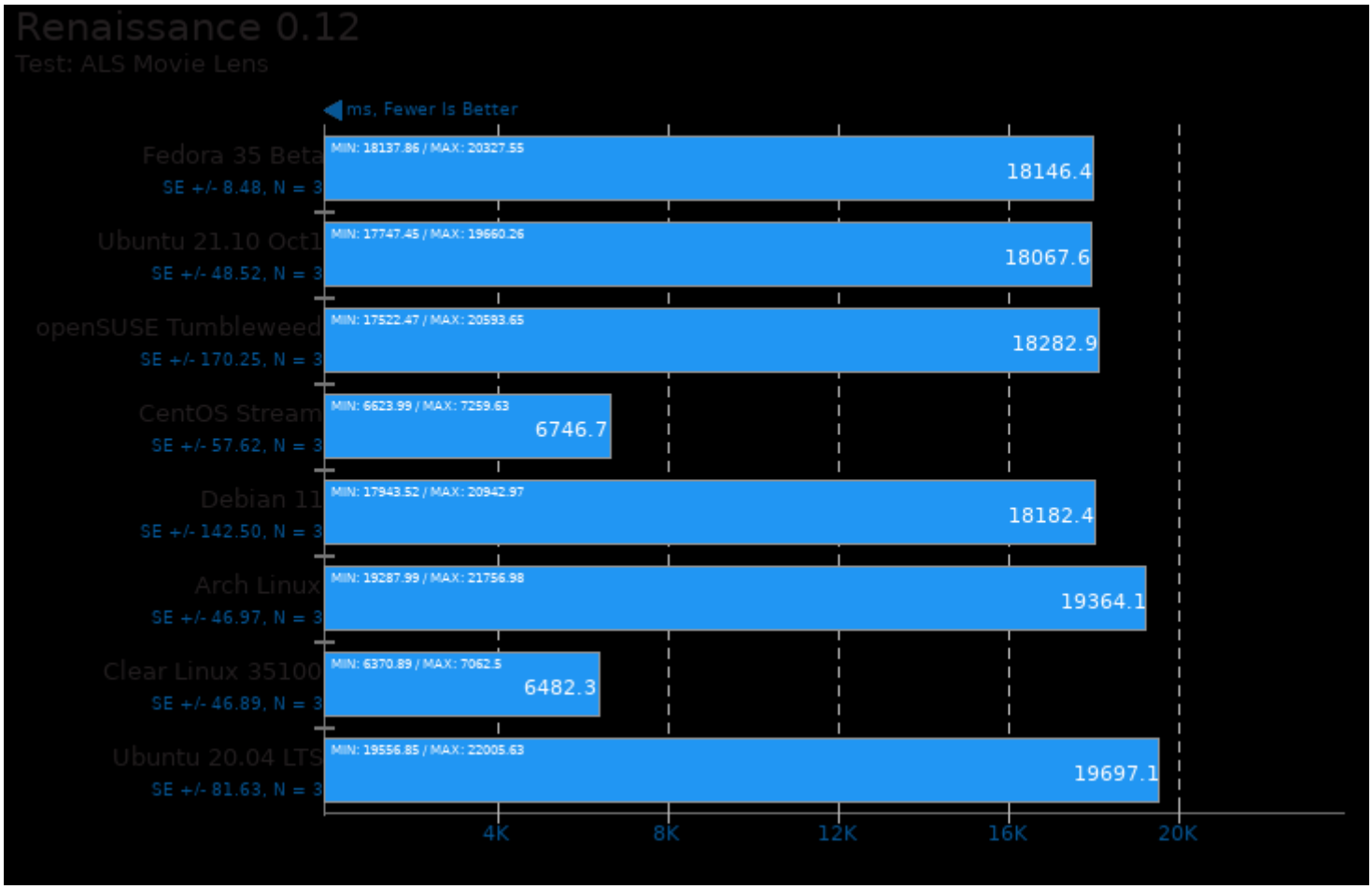
Xeon Platinum 8380 Linux Distro Performance



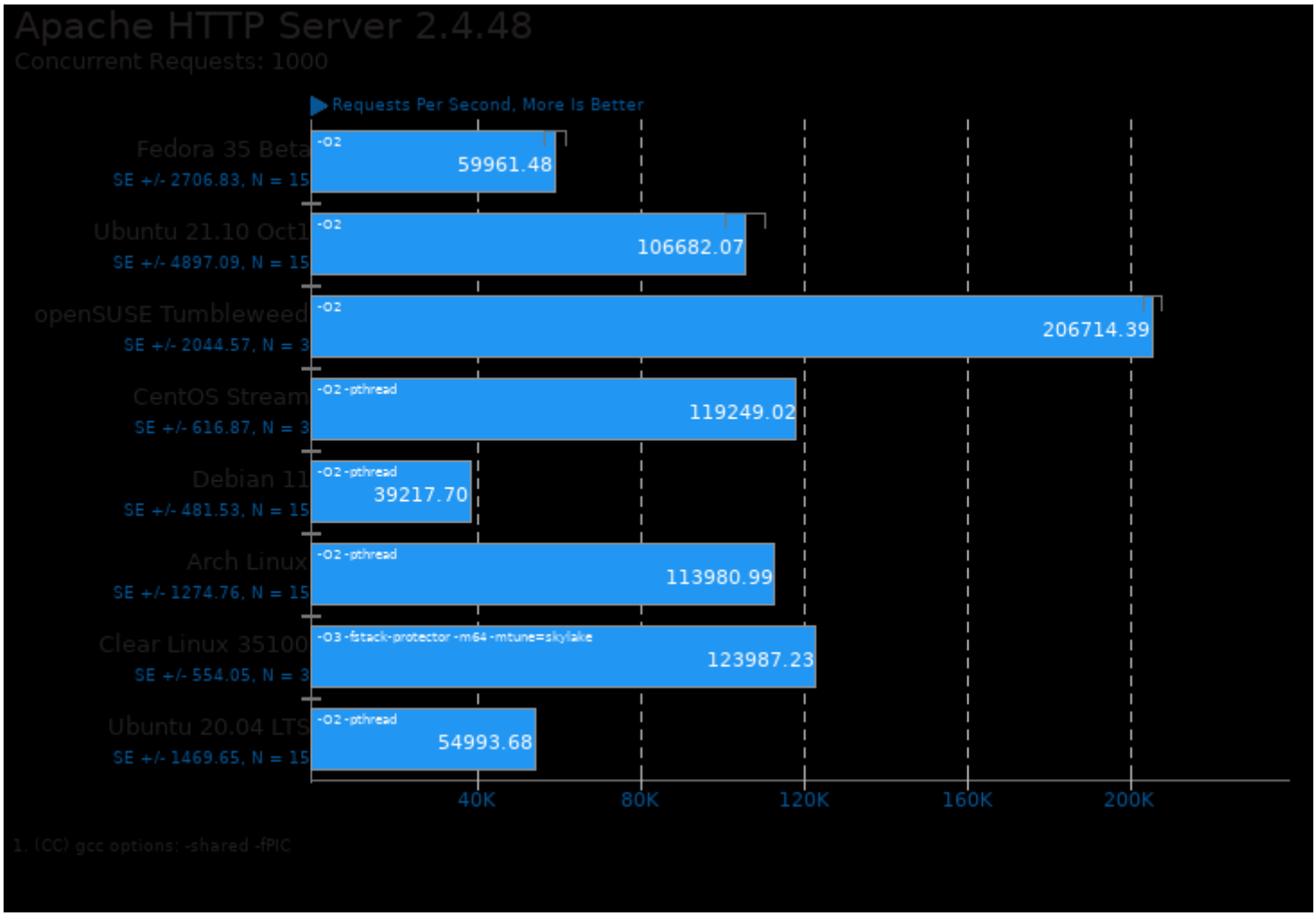
Xeon Platinum 8380 Linux Distro Performance



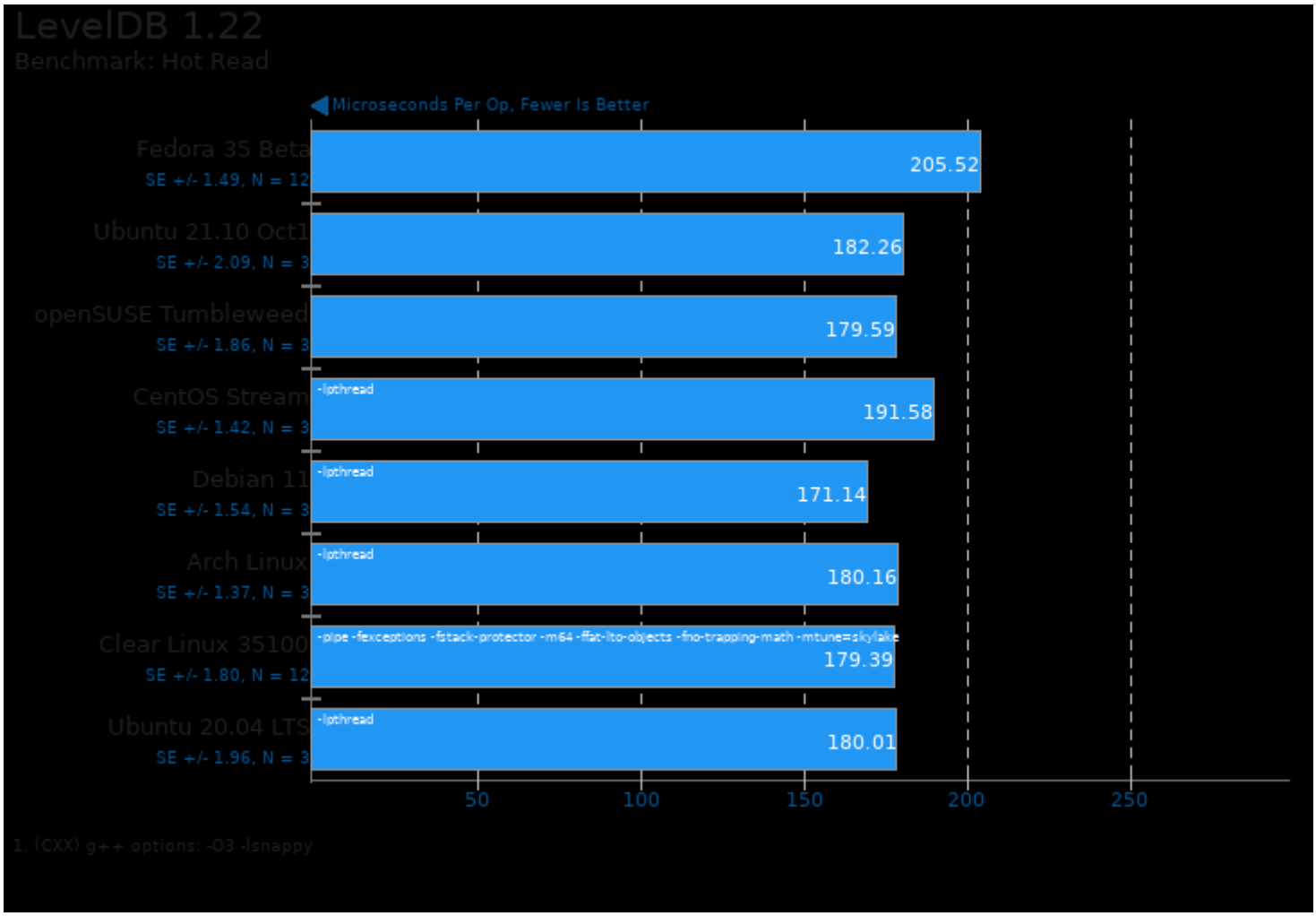
Xeon Platinum 8380 Linux Distro Performance



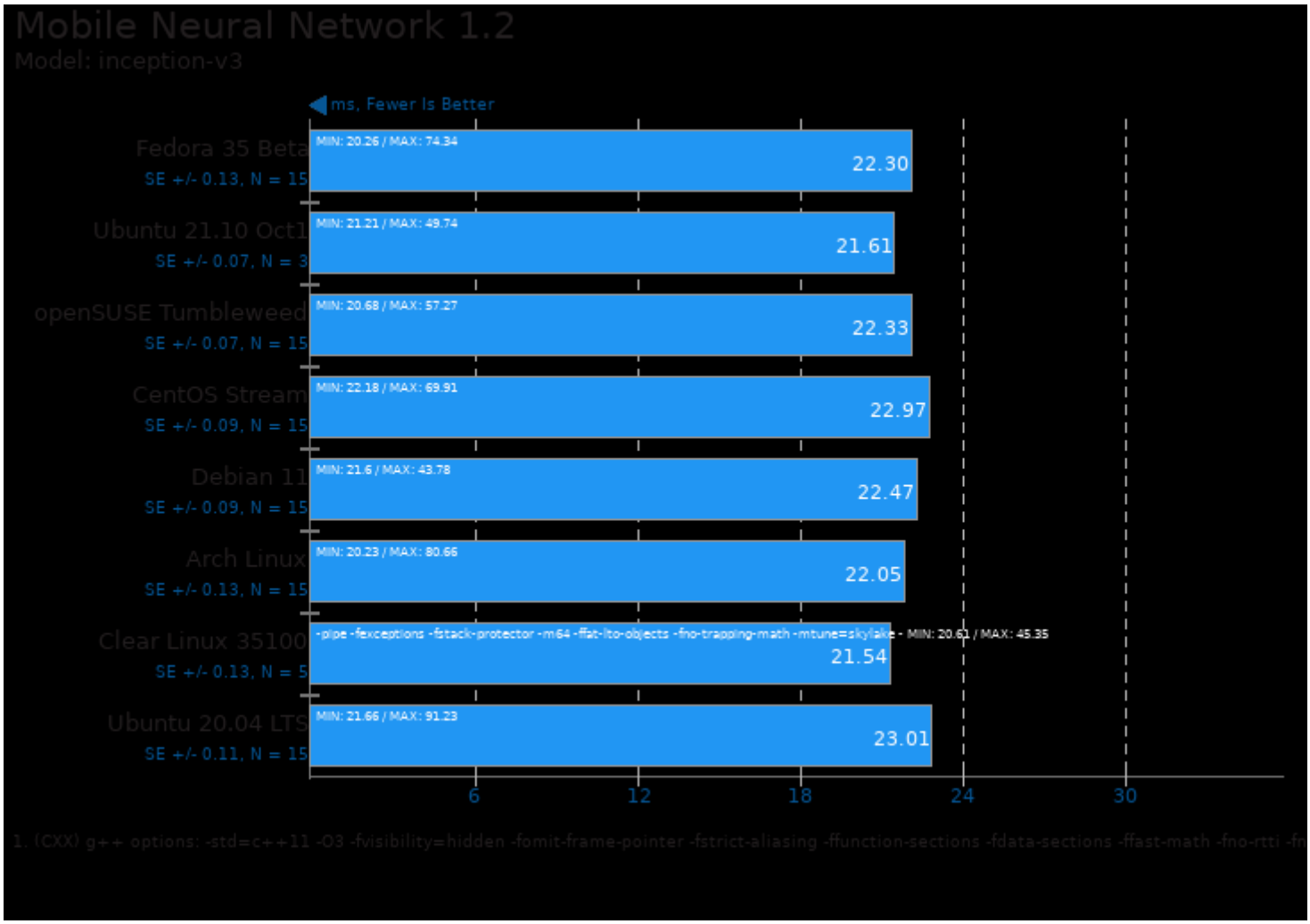
Xeon Platinum 8380 Linux Distro Performance



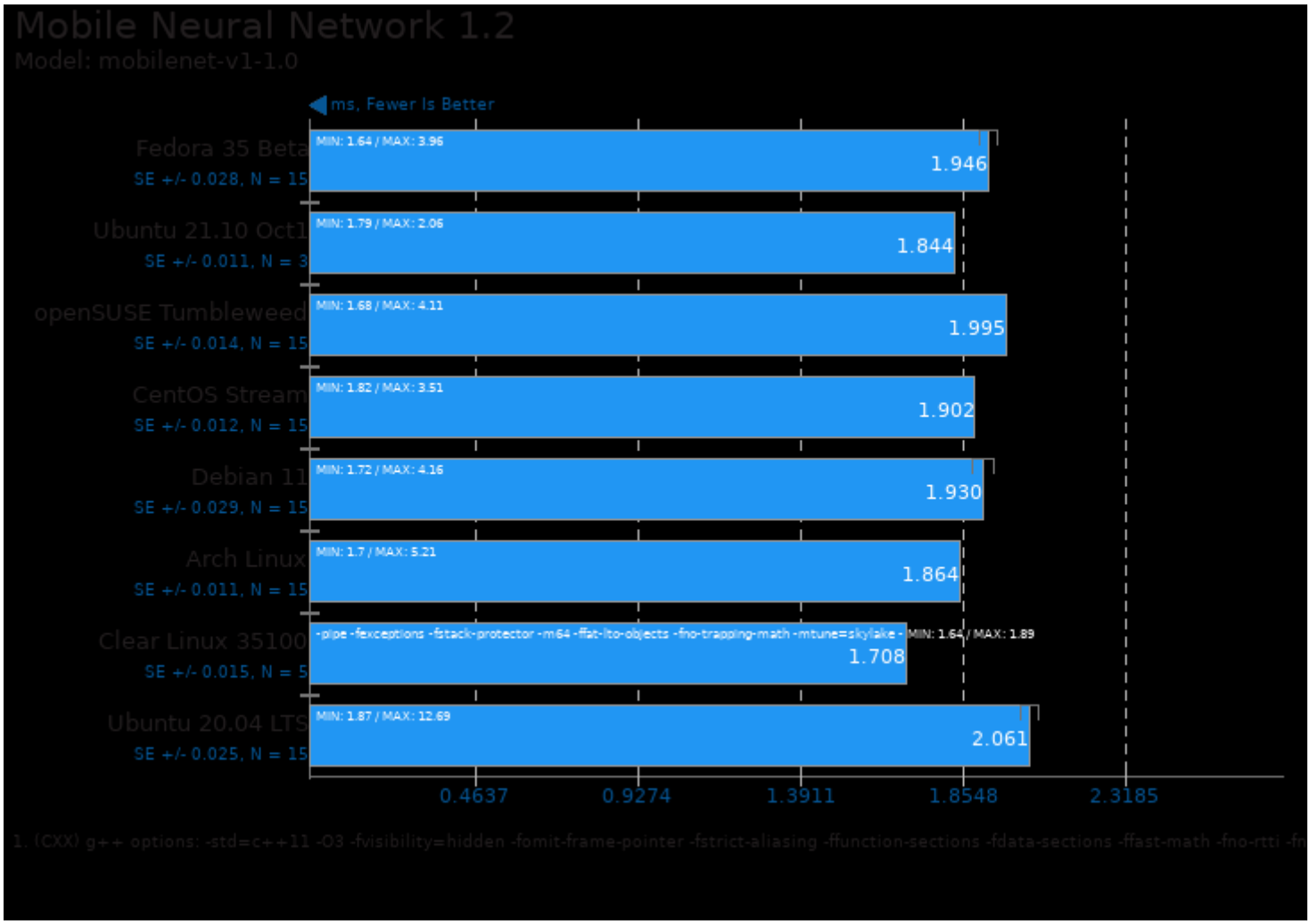
Xeon Platinum 8380 Linux Distro Performance



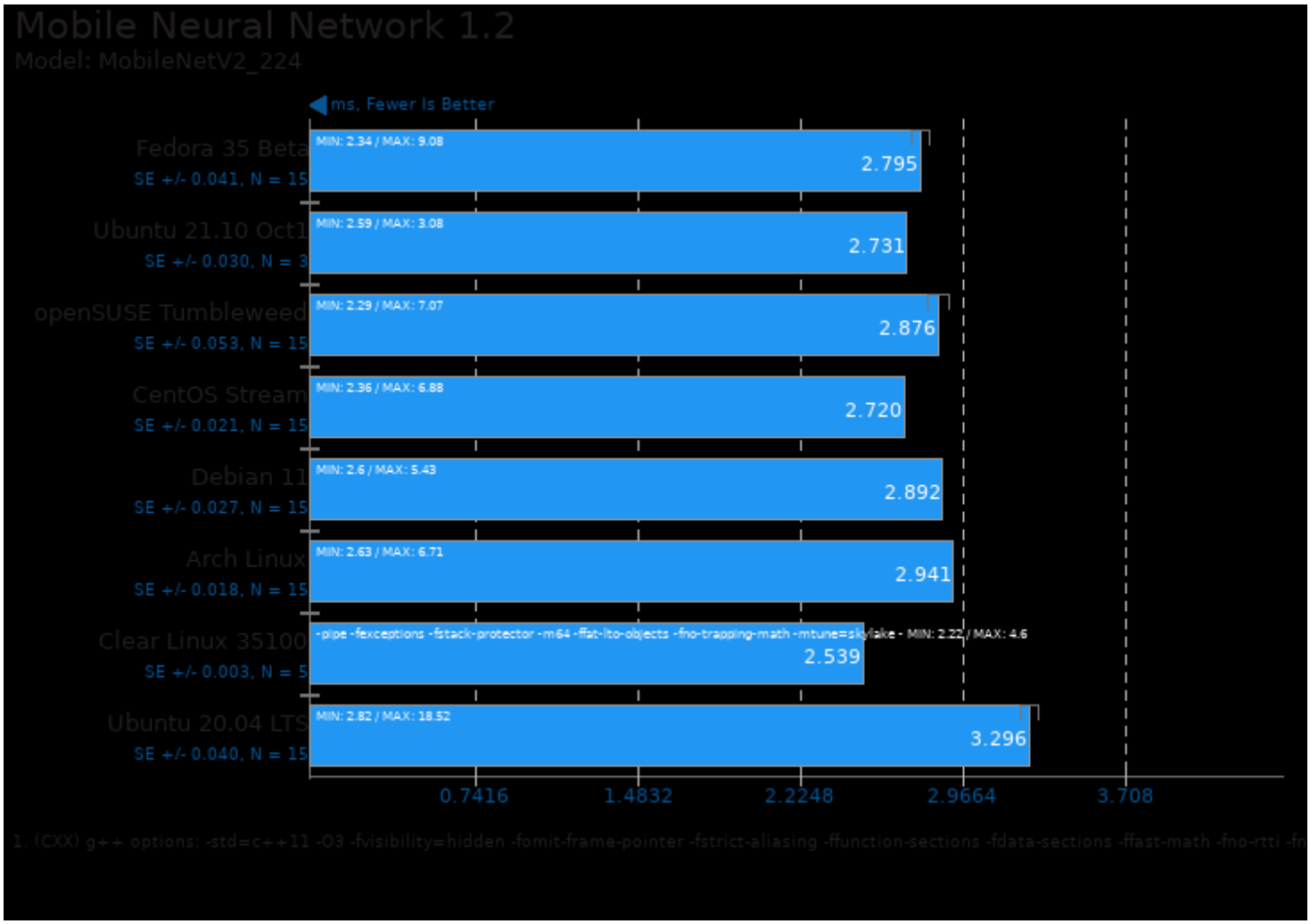
Xeon Platinum 8380 Linux Distro Performance



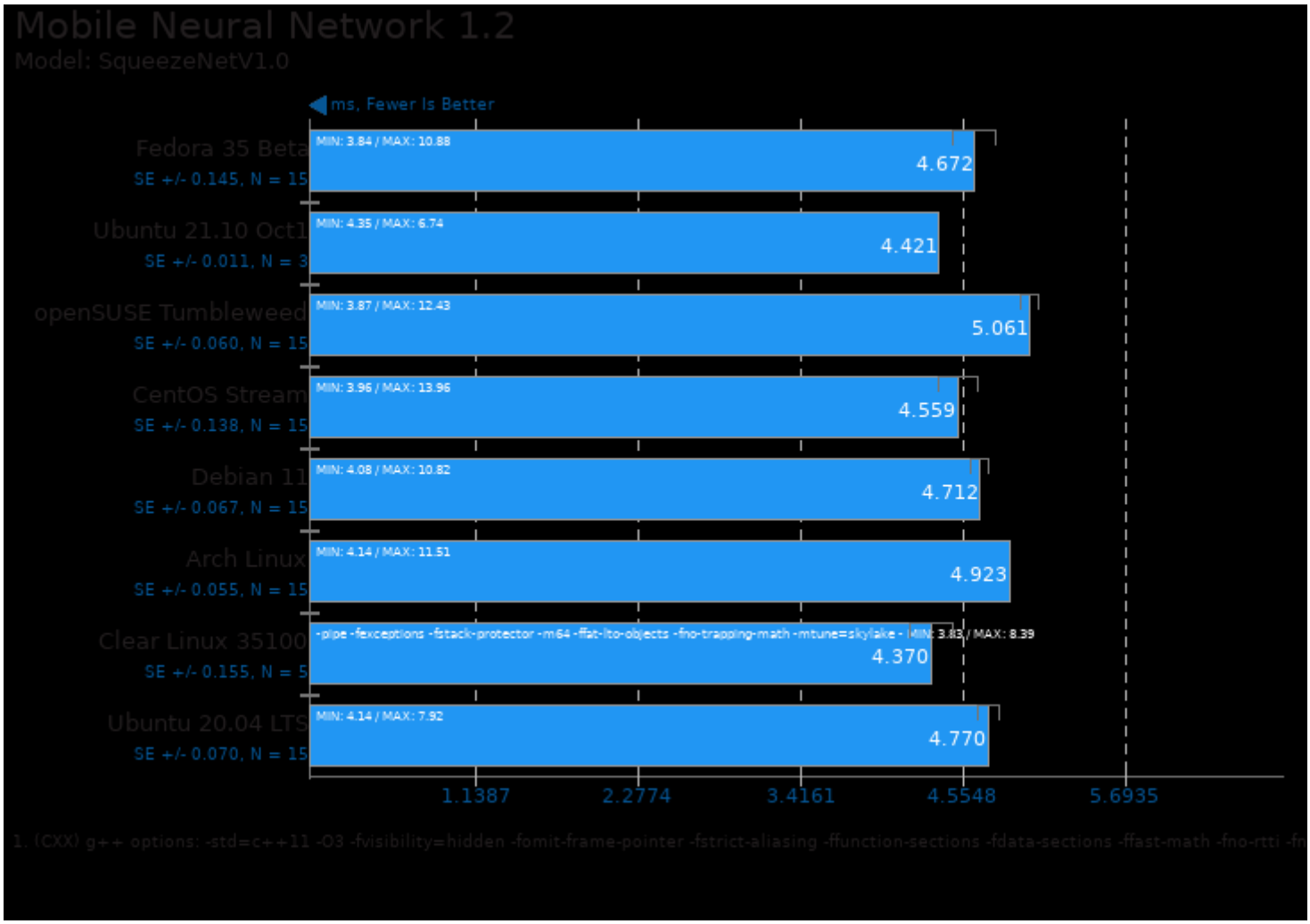
Xeon Platinum 8380 Linux Distro Performance



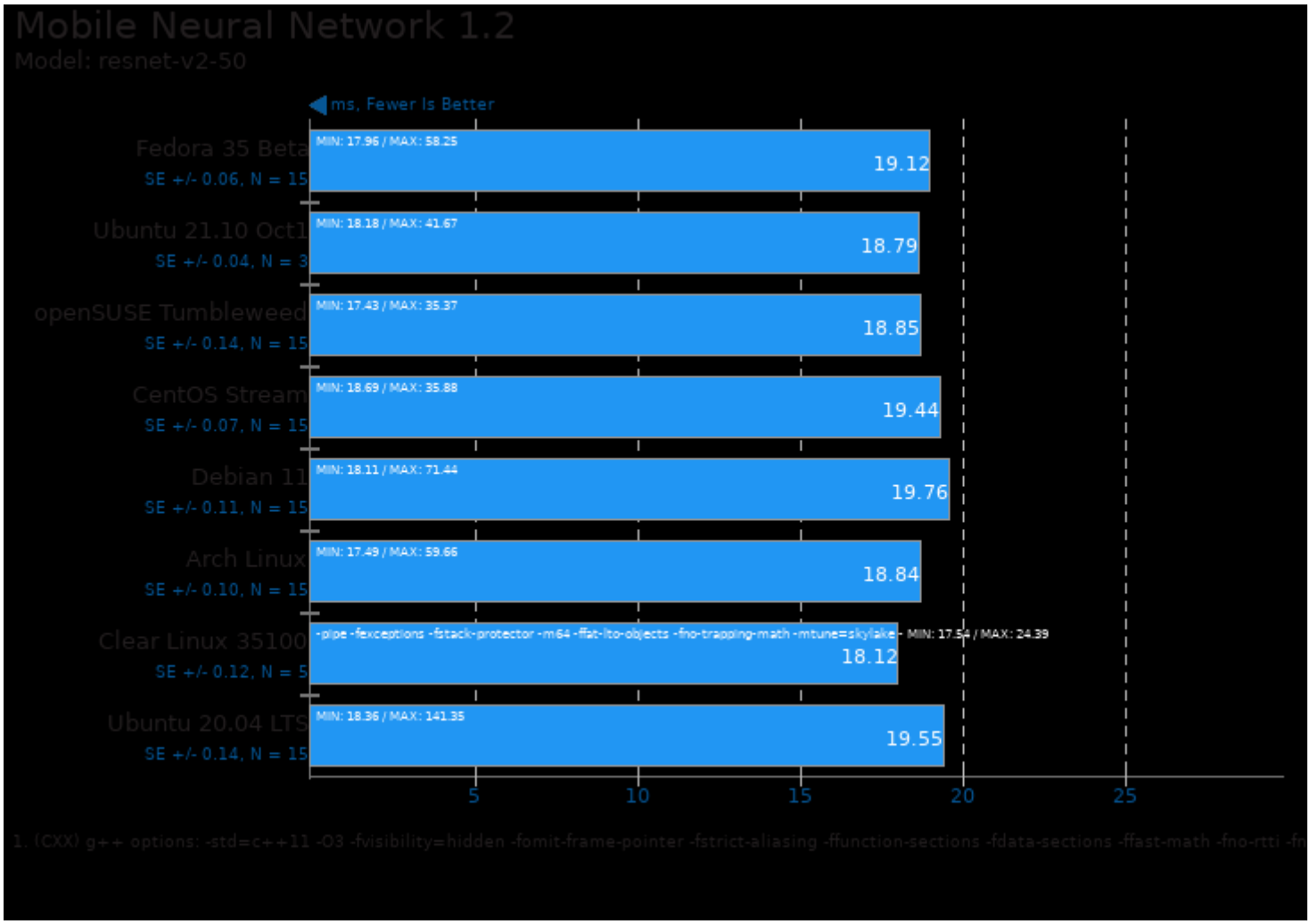
Xeon Platinum 8380 Linux Distro Performance



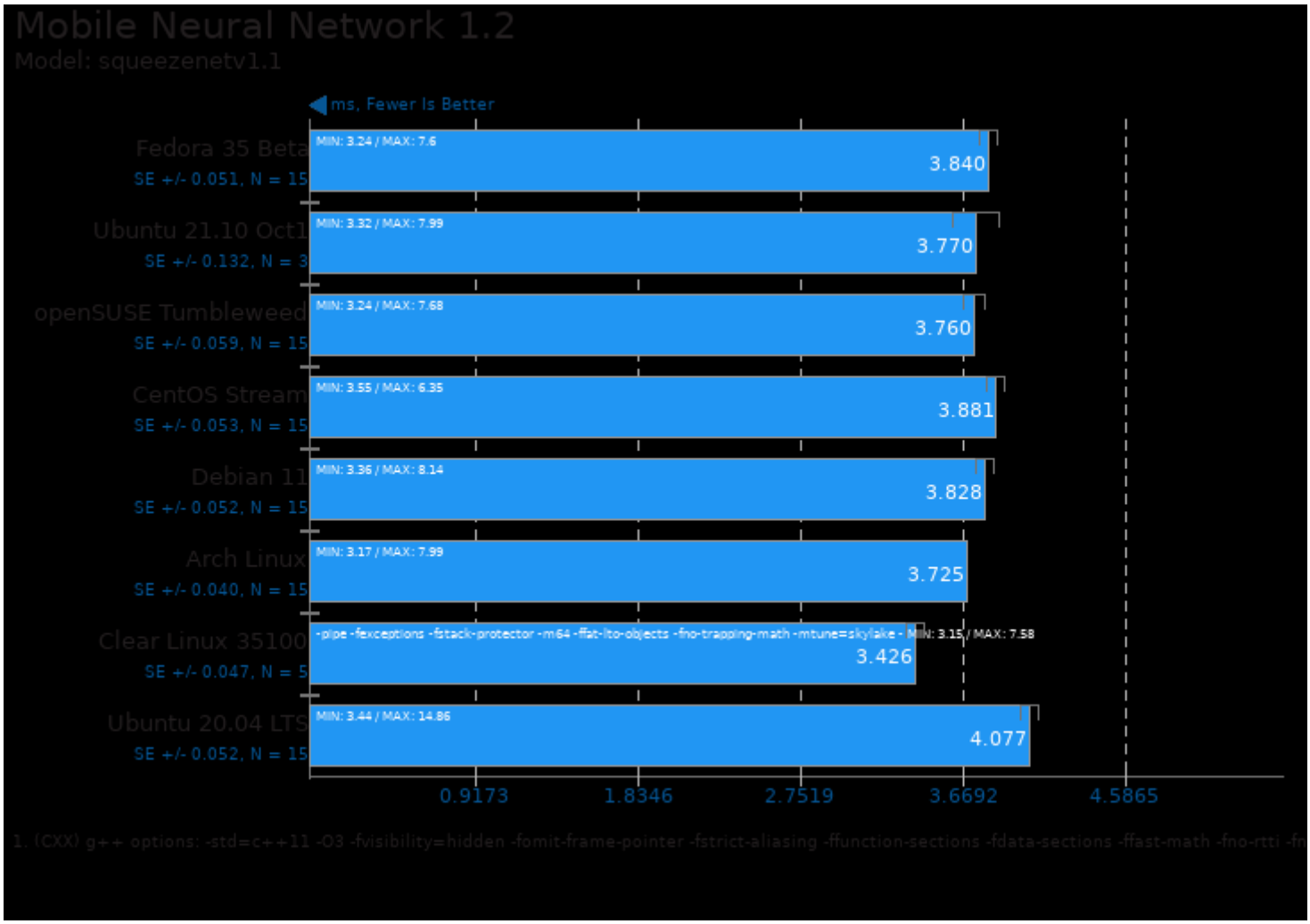
Xeon Platinum 8380 Linux Distro Performance



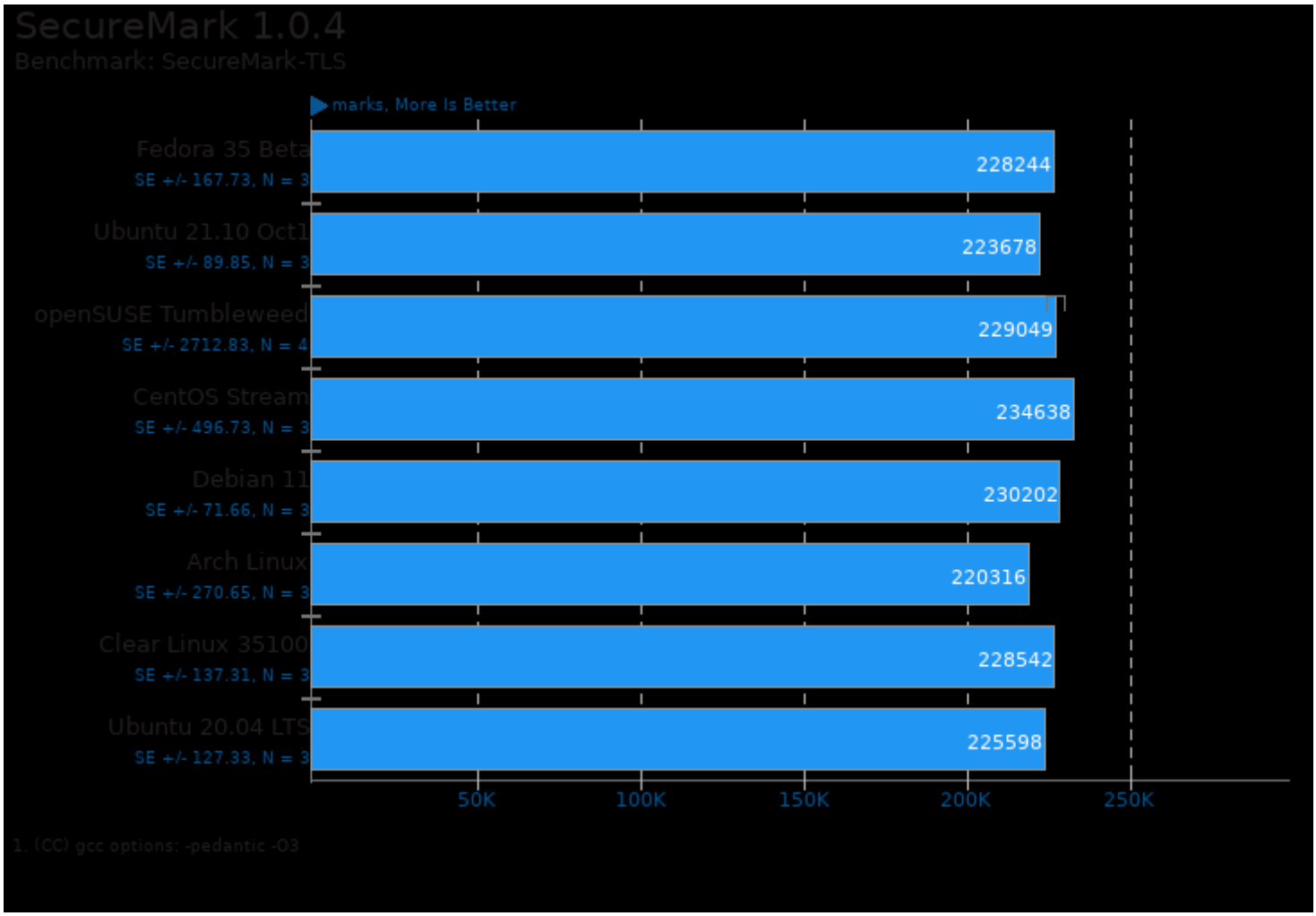
Xeon Platinum 8380 Linux Distro Performance



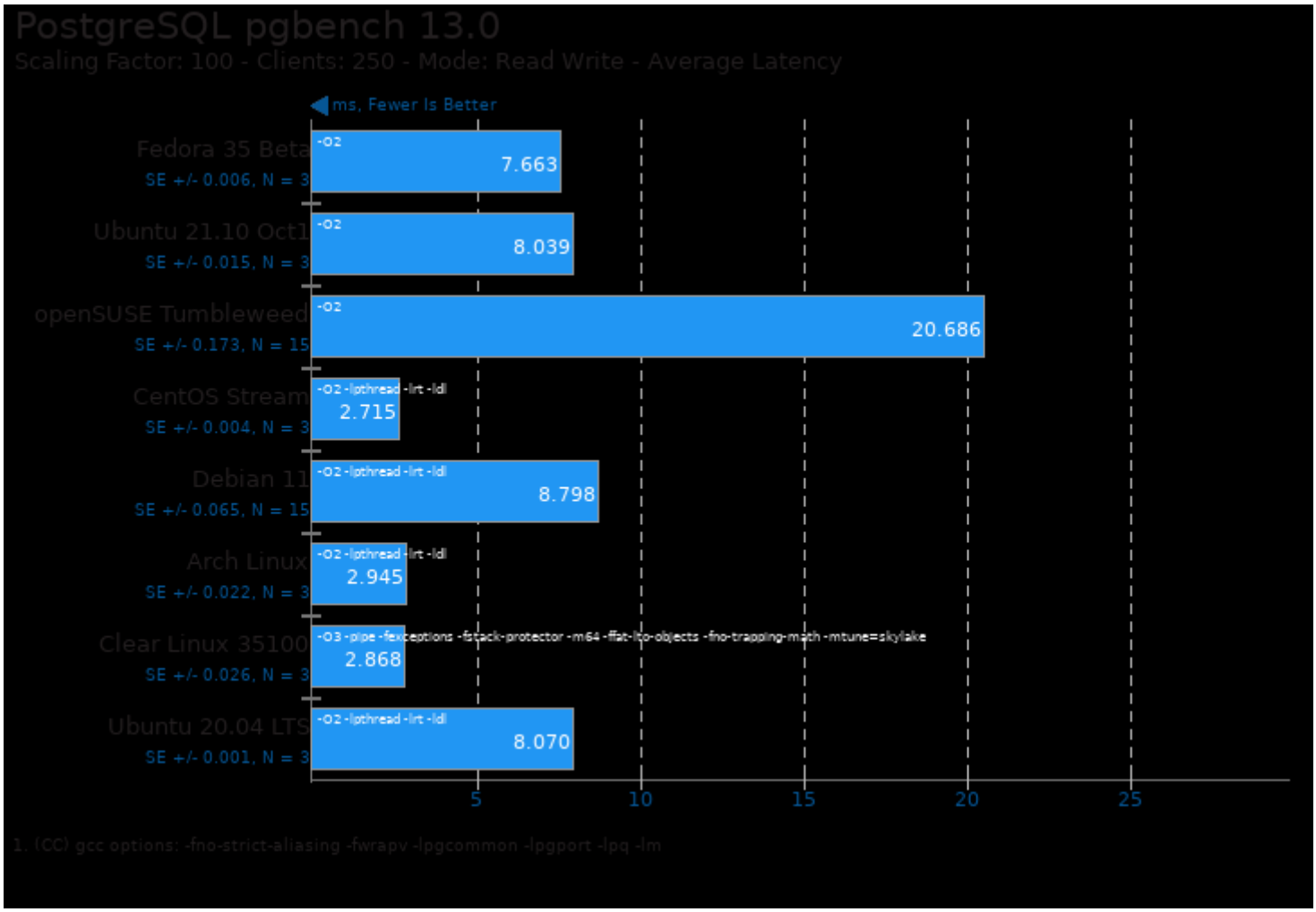
Xeon Platinum 8380 Linux Distro Performance



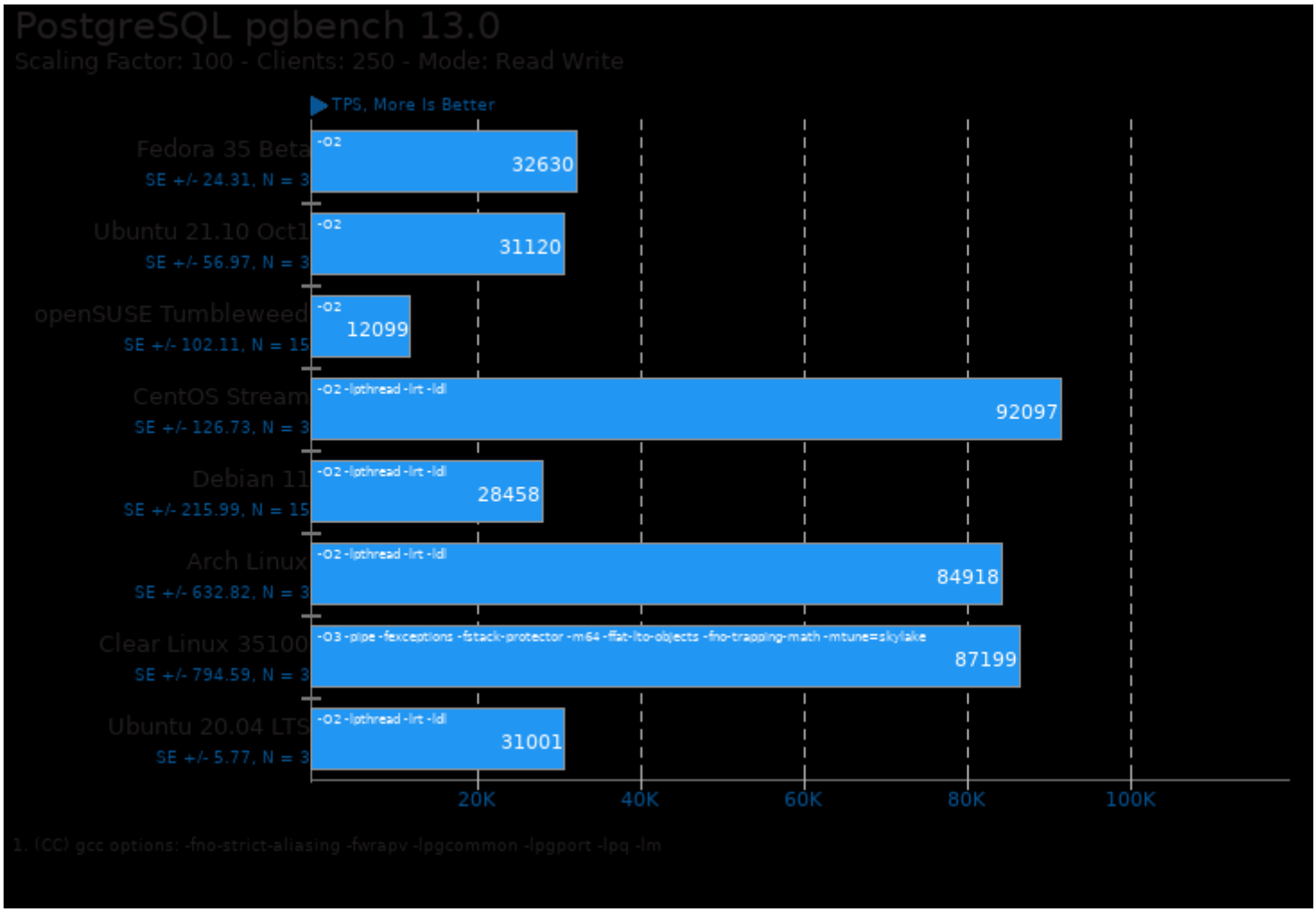
Xeon Platinum 8380 Linux Distro Performance



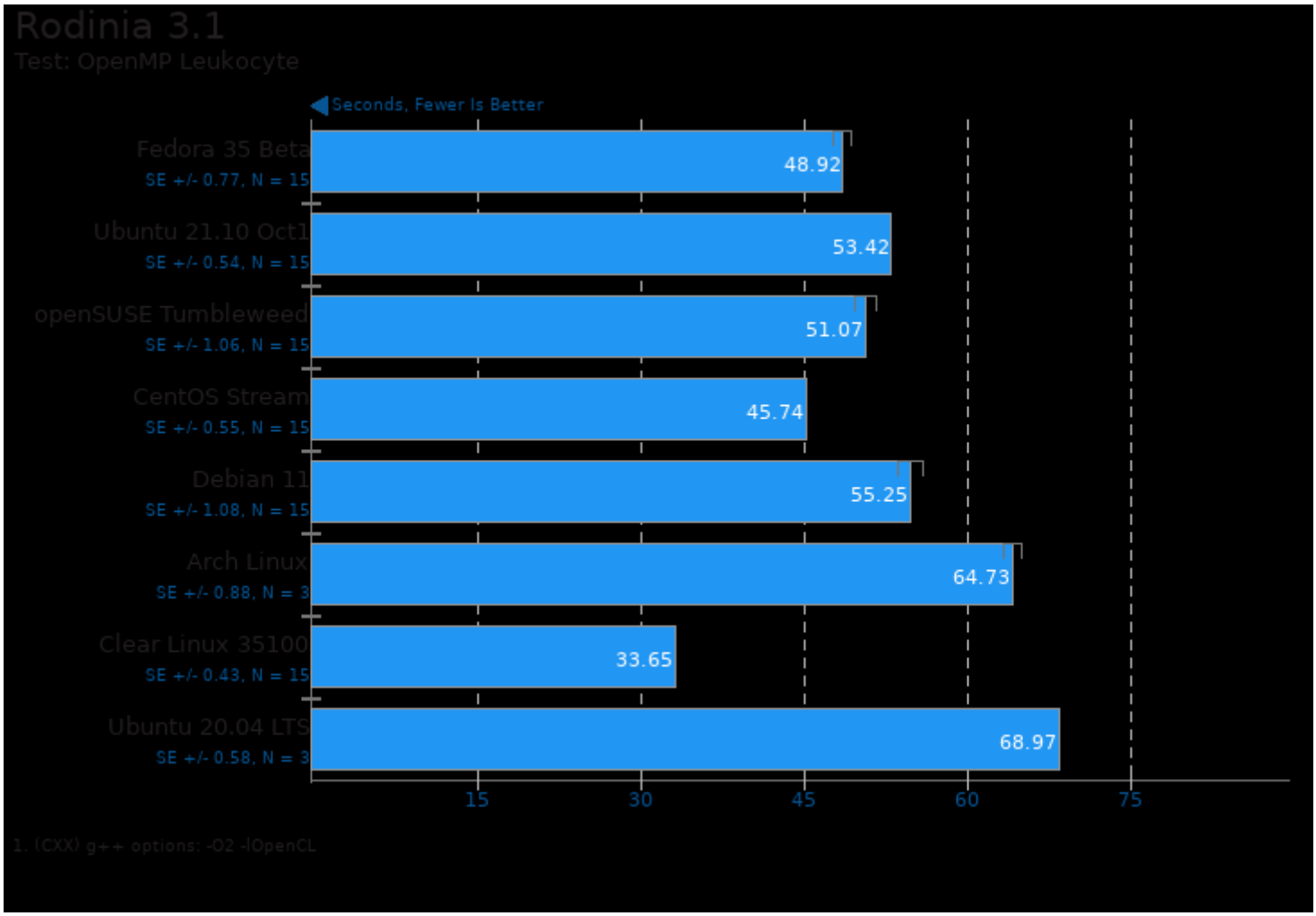
Xeon Platinum 8380 Linux Distro Performance



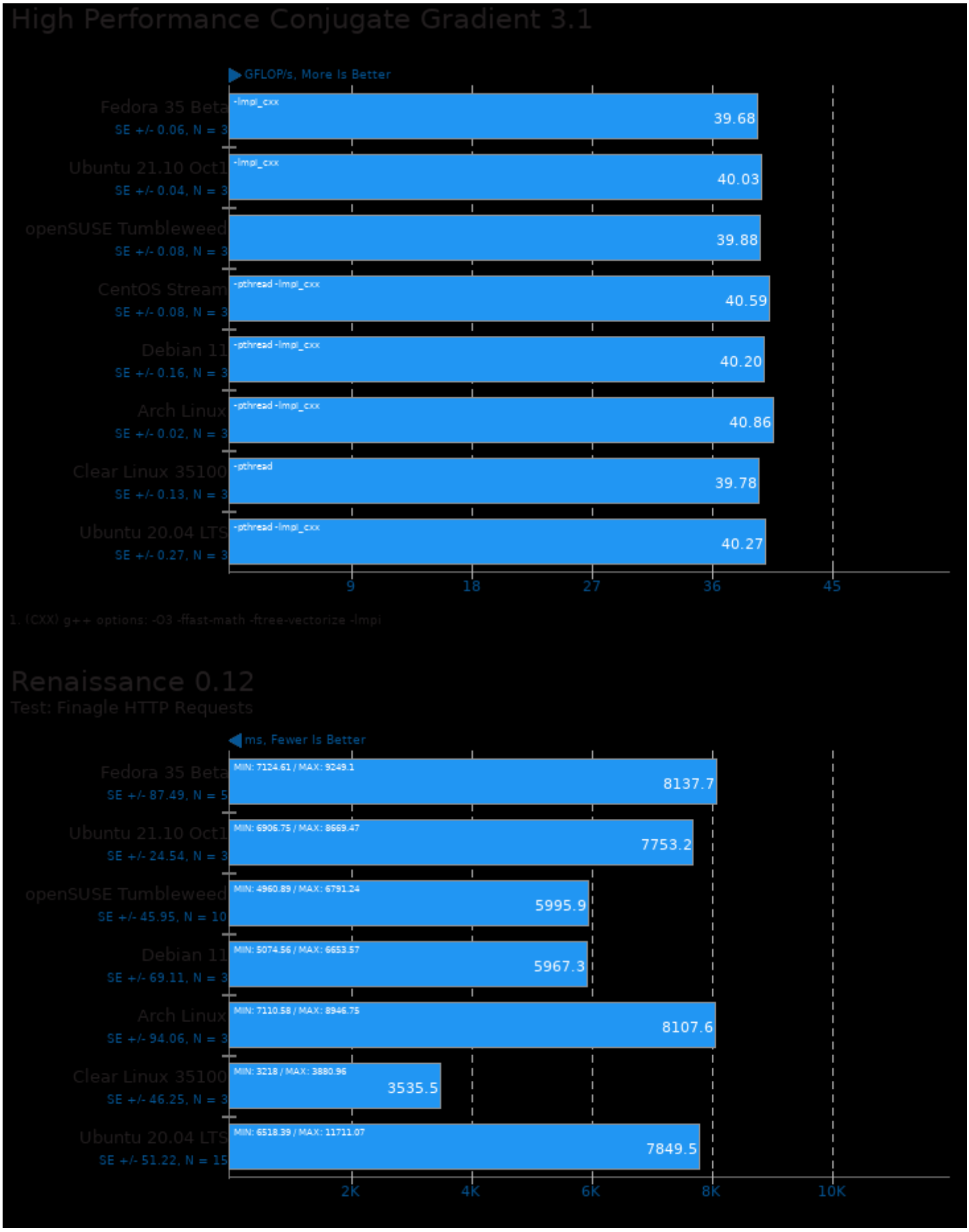
Xeon Platinum 8380 Linux Distro Performance



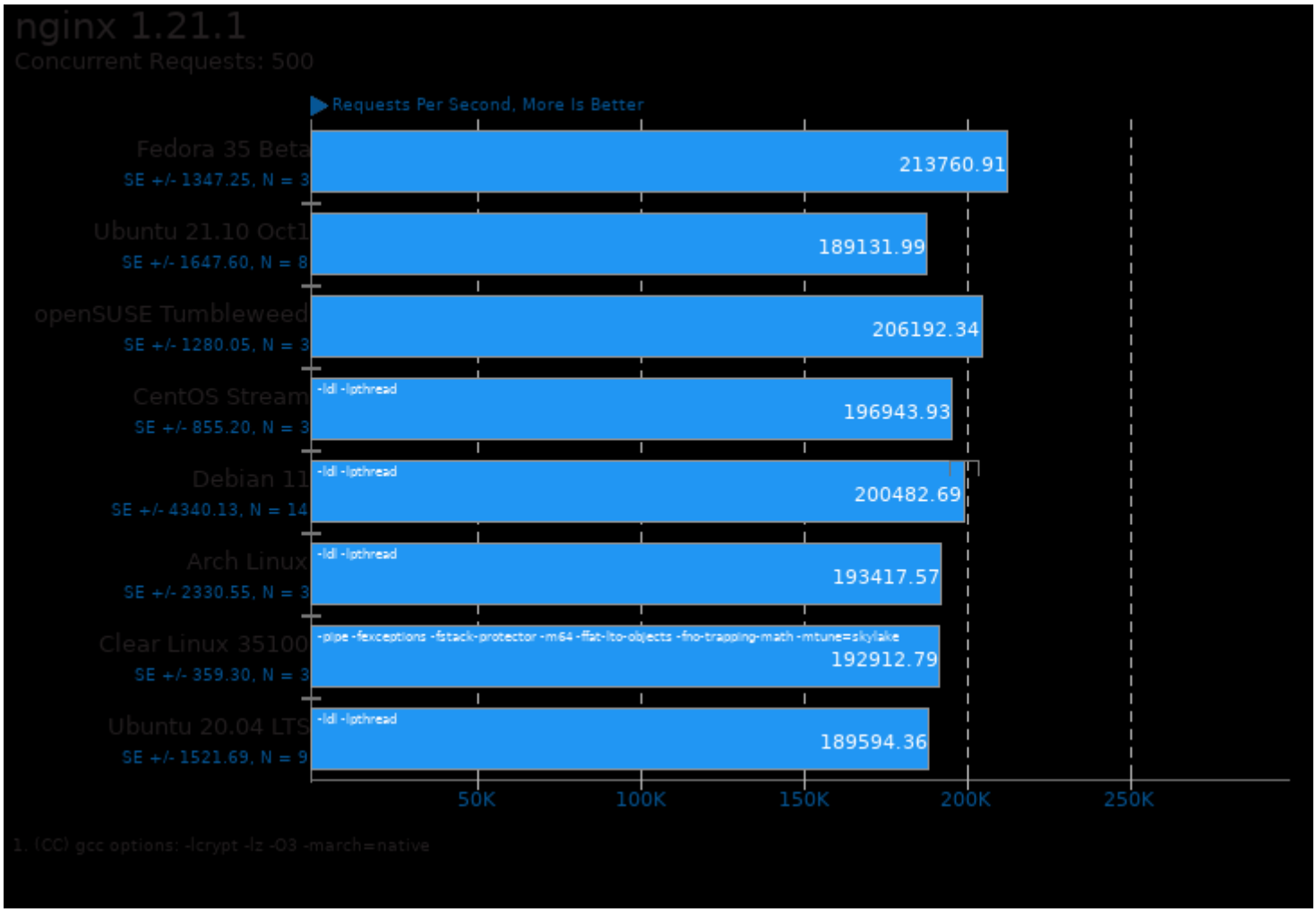
Xeon Platinum 8380 Linux Distro Performance



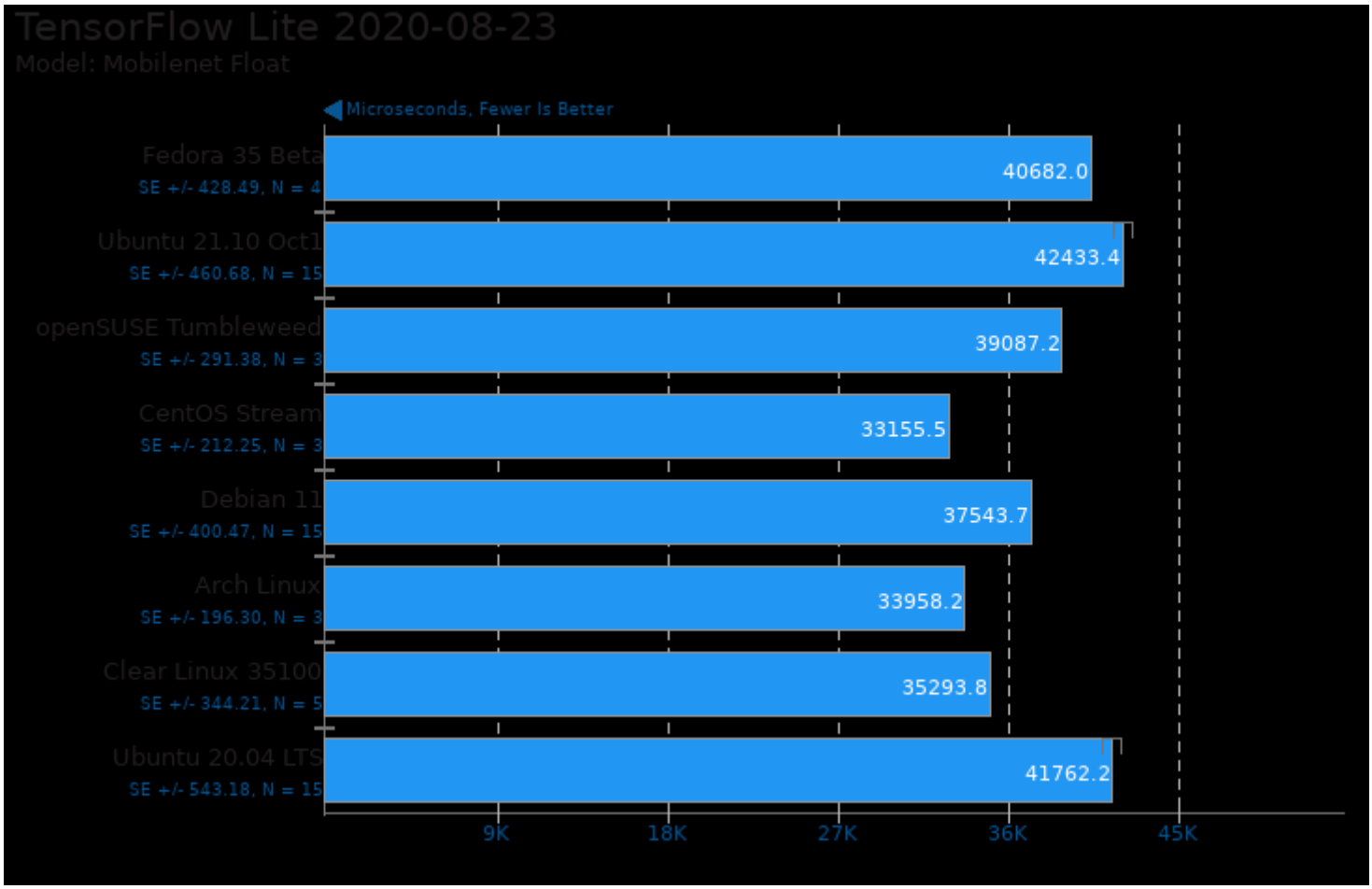
Xeon Platinum 8380 Linux Distro Performance



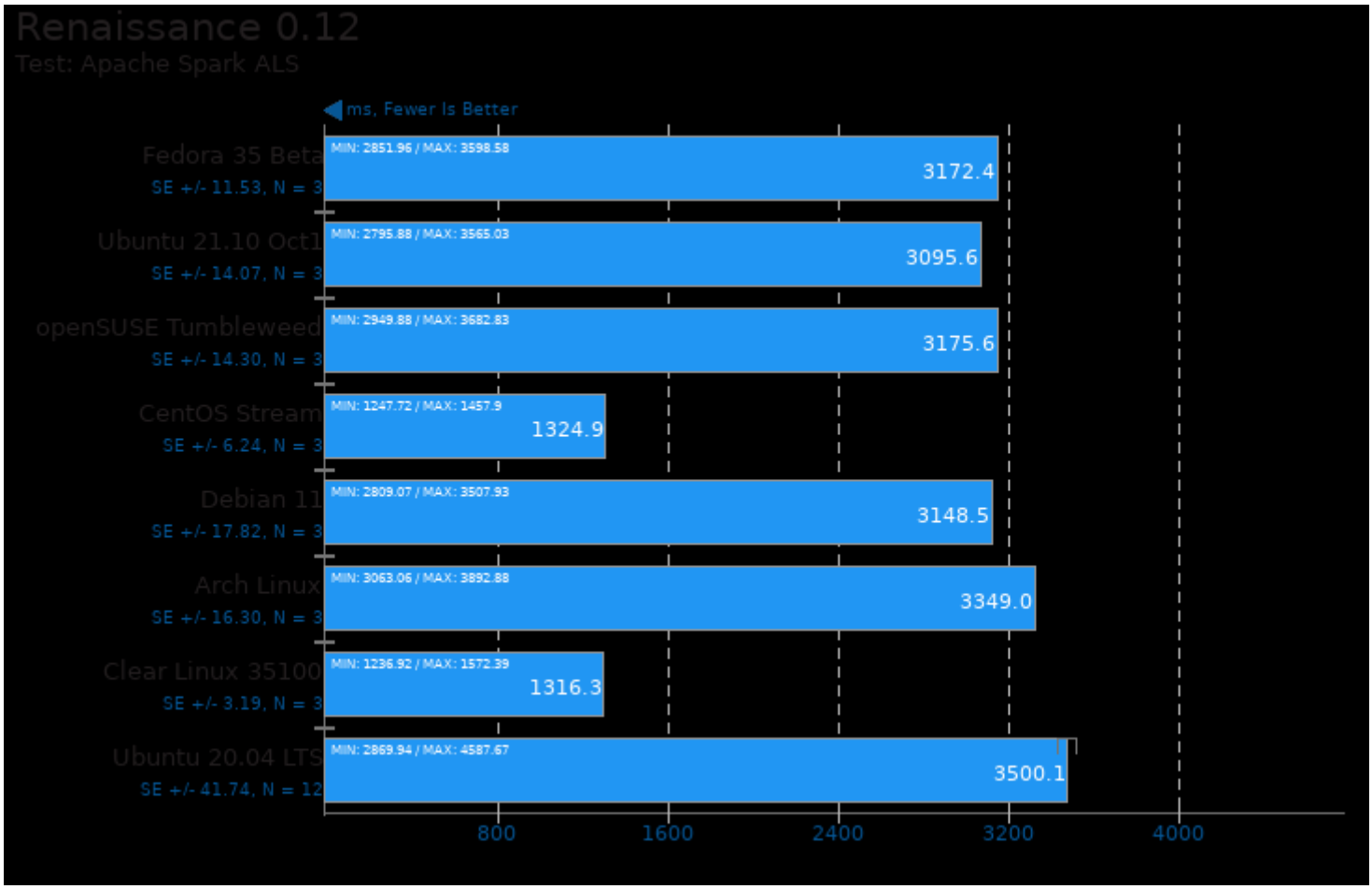
Xeon Platinum 8380 Linux Distro Performance



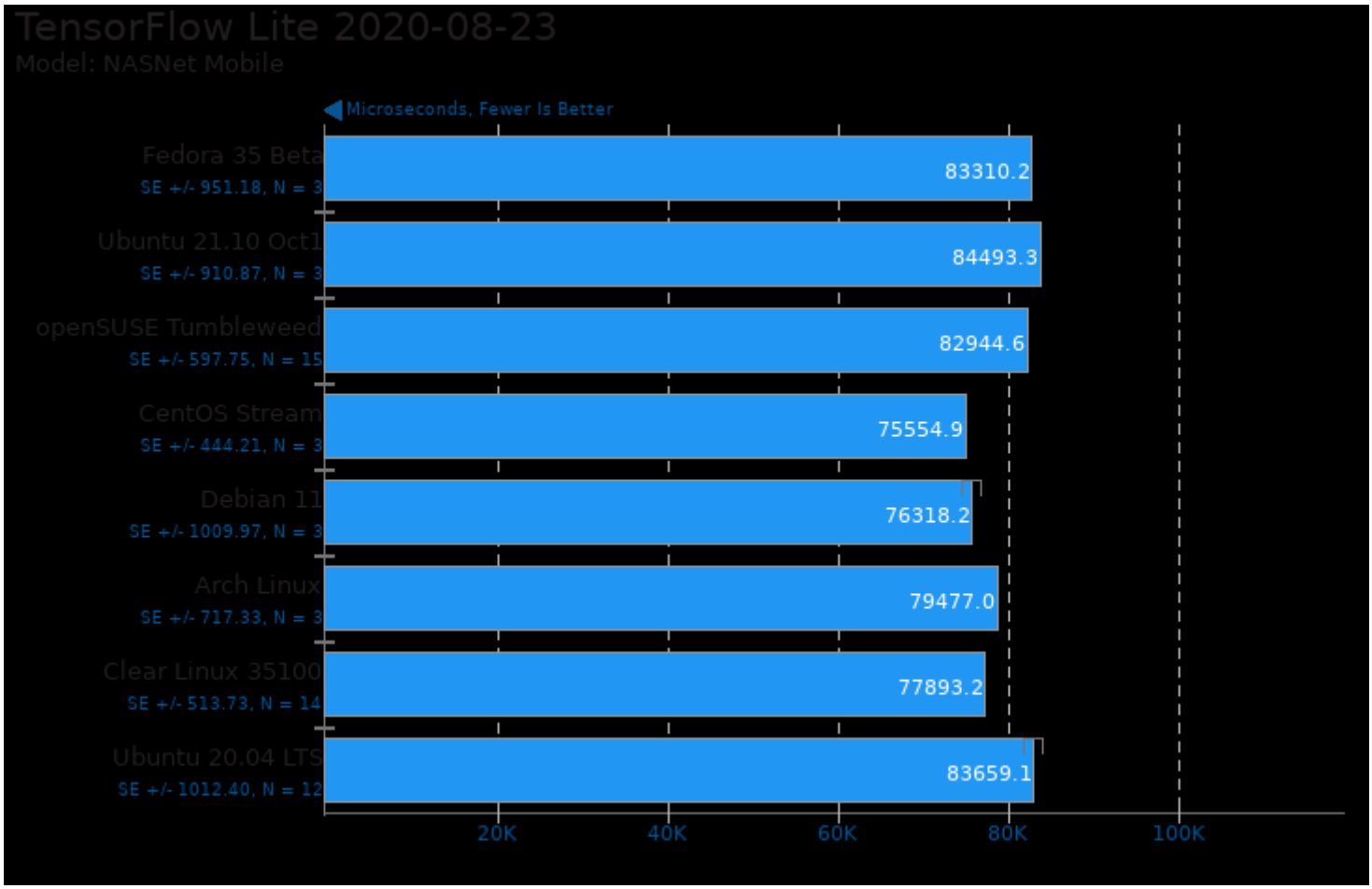
Xeon Platinum 8380 Linux Distro Performance



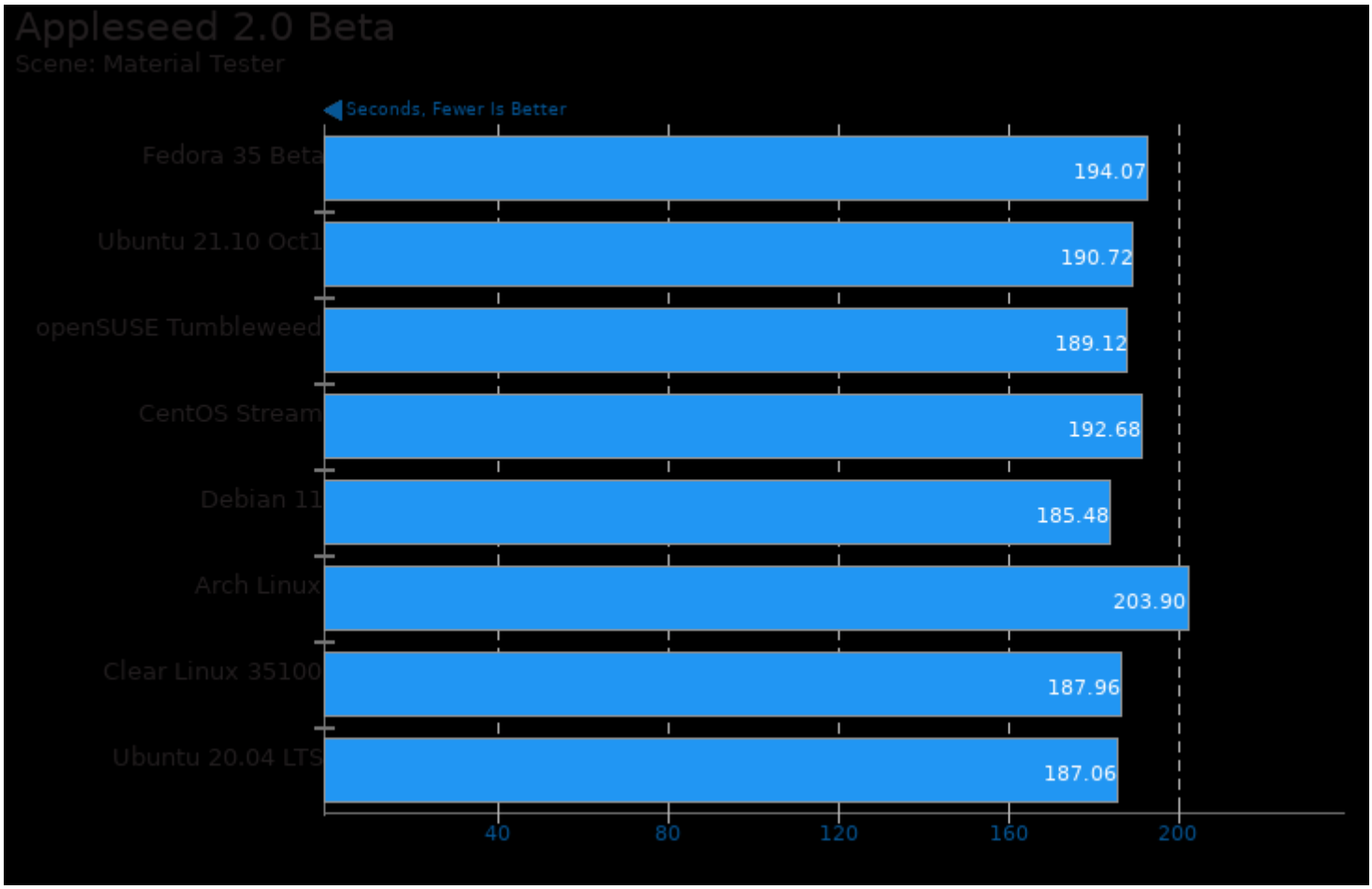
Xeon Platinum 8380 Linux Distro Performance



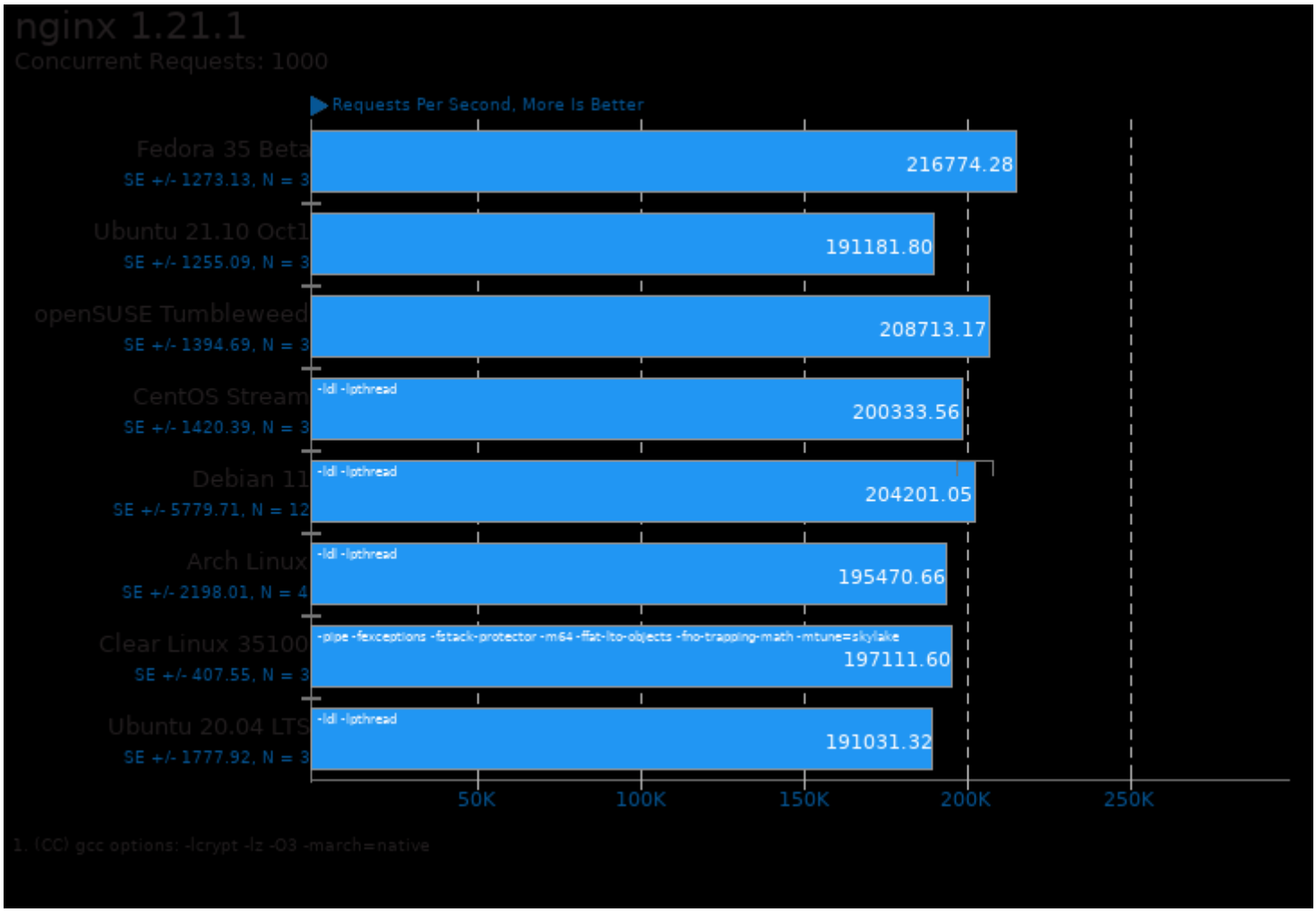
Xeon Platinum 8380 Linux Distro Performance



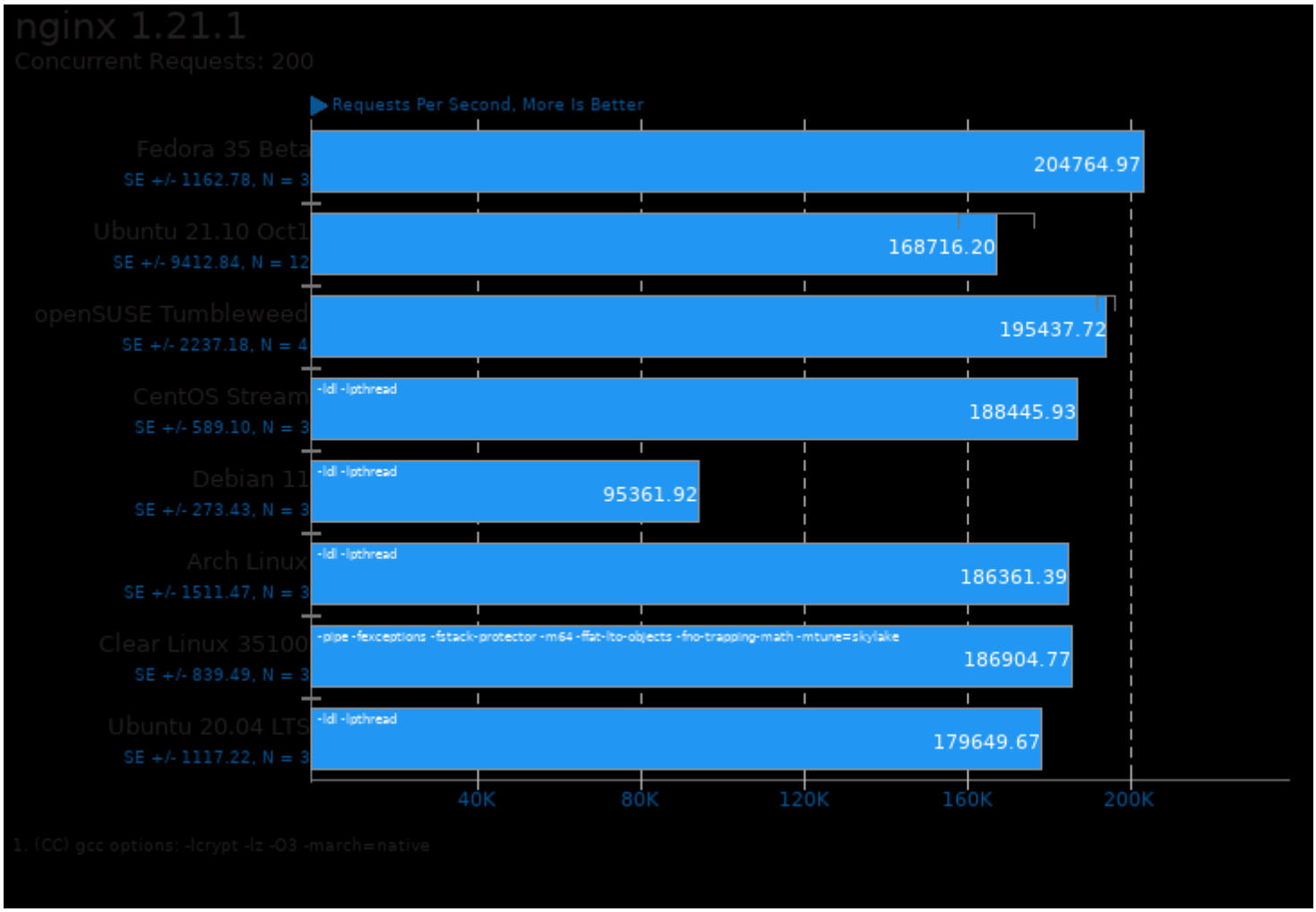
Xeon Platinum 8380 Linux Distro Performance



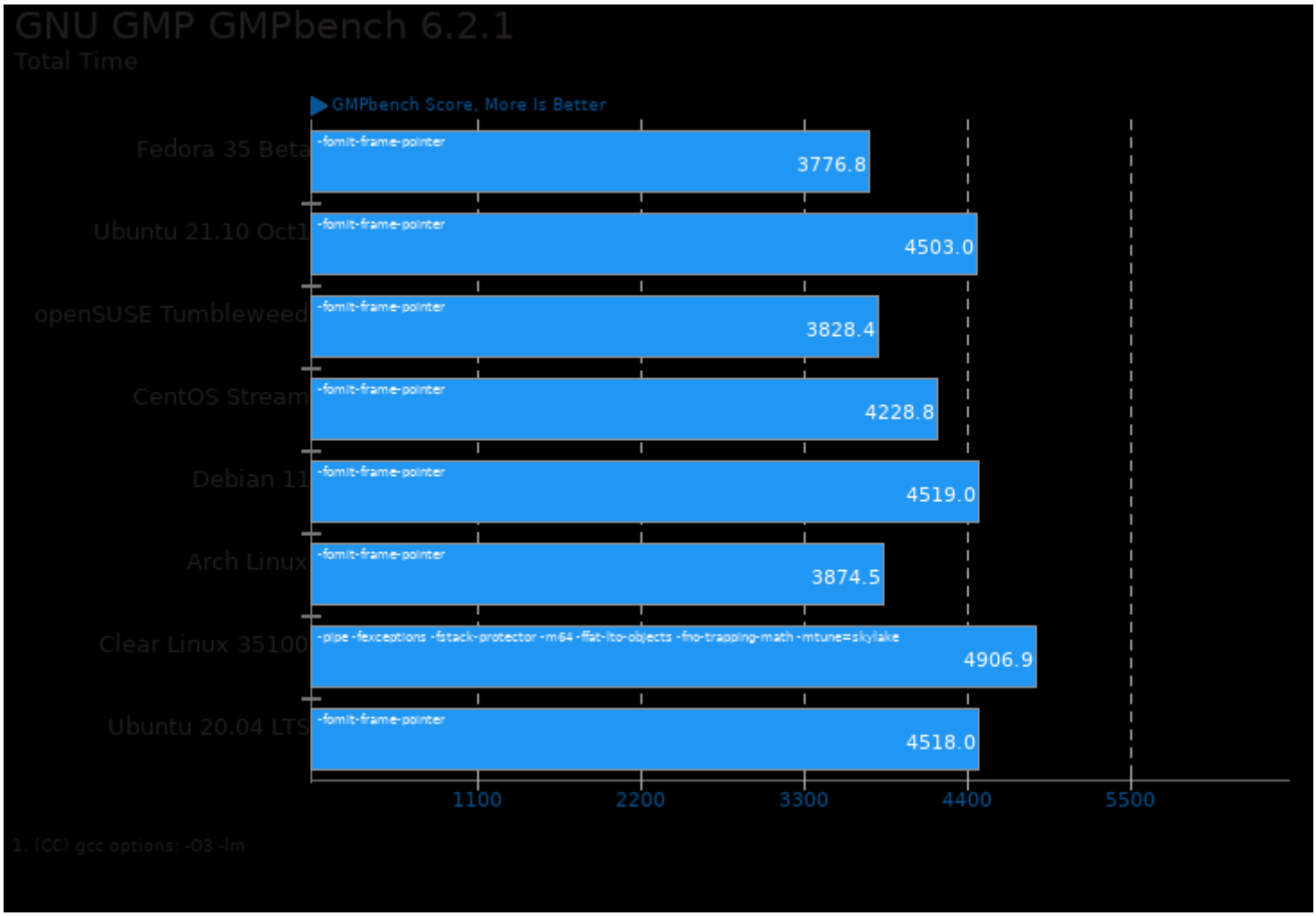
Xeon Platinum 8380 Linux Distro Performance



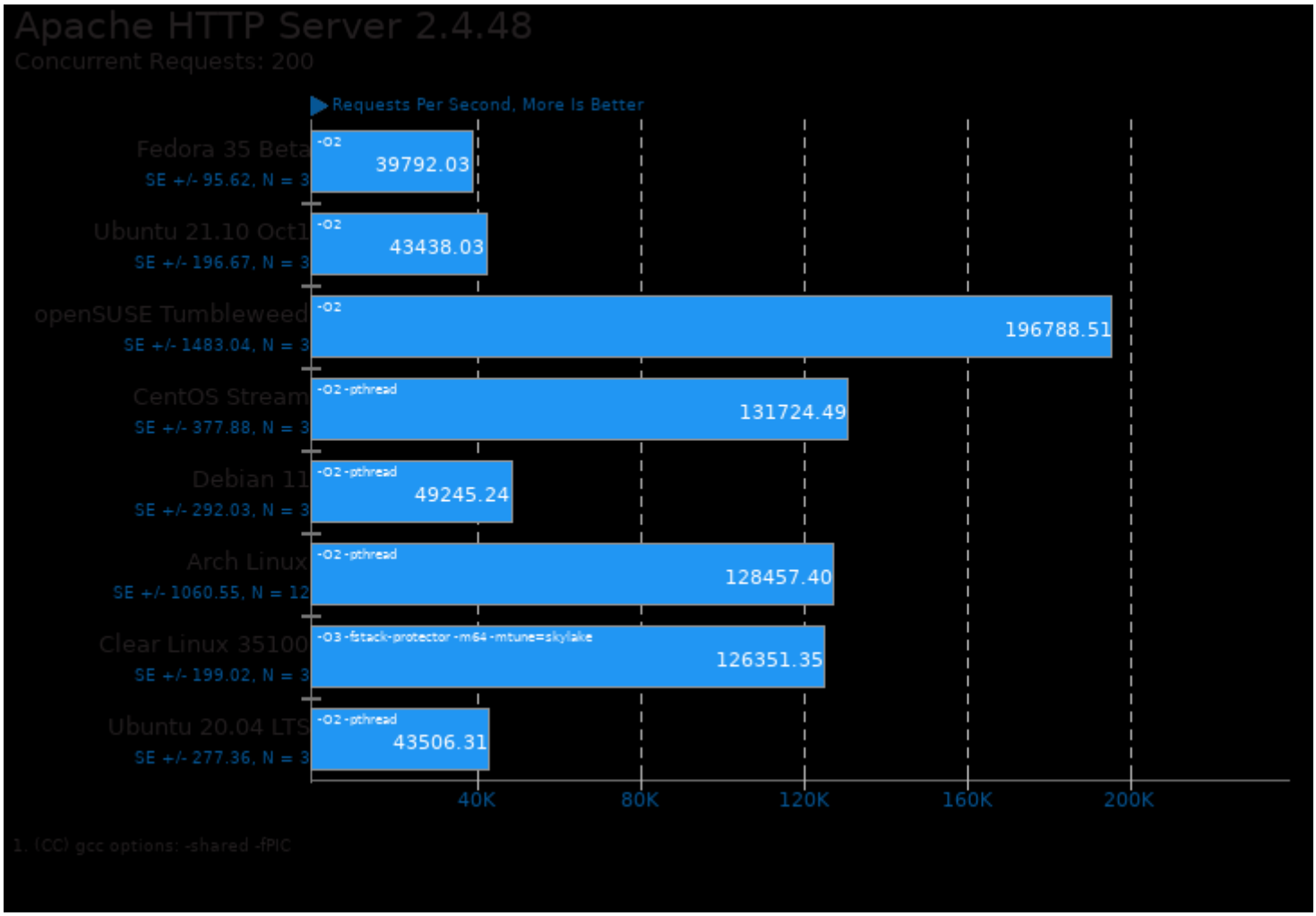
Xeon Platinum 8380 Linux Distro Performance



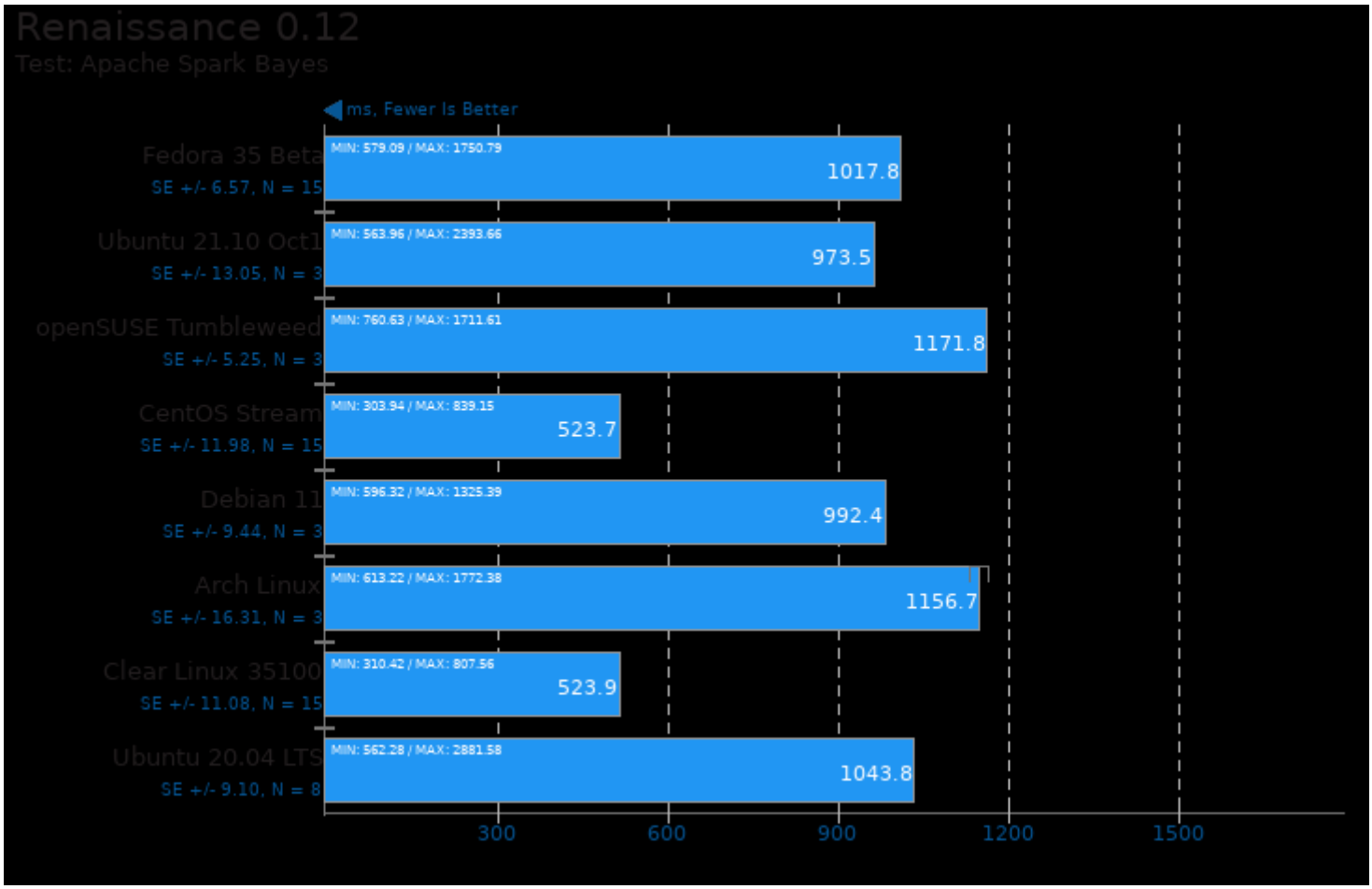
Xeon Platinum 8380 Linux Distro Performance



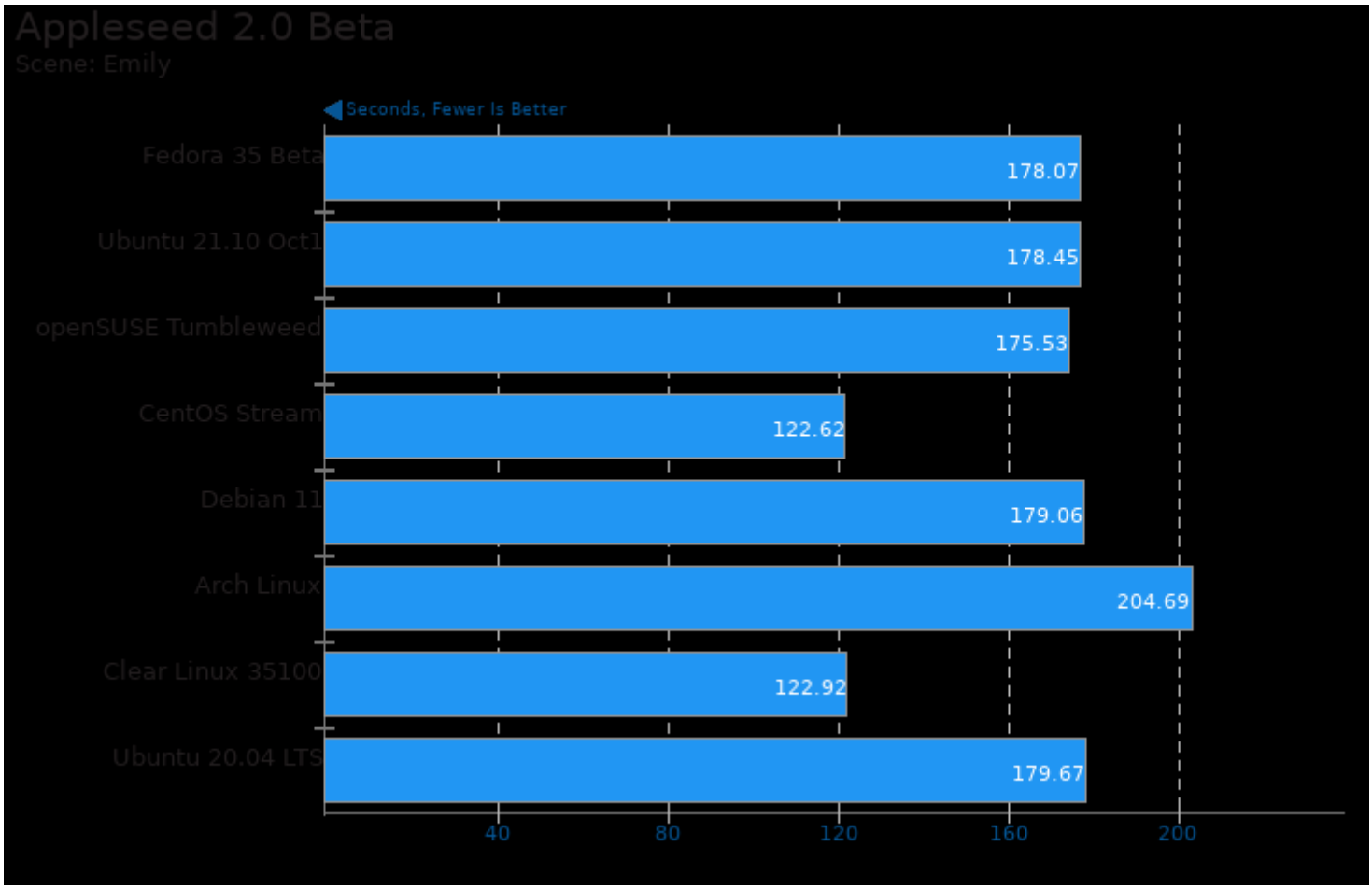
Xeon Platinum 8380 Linux Distro Performance



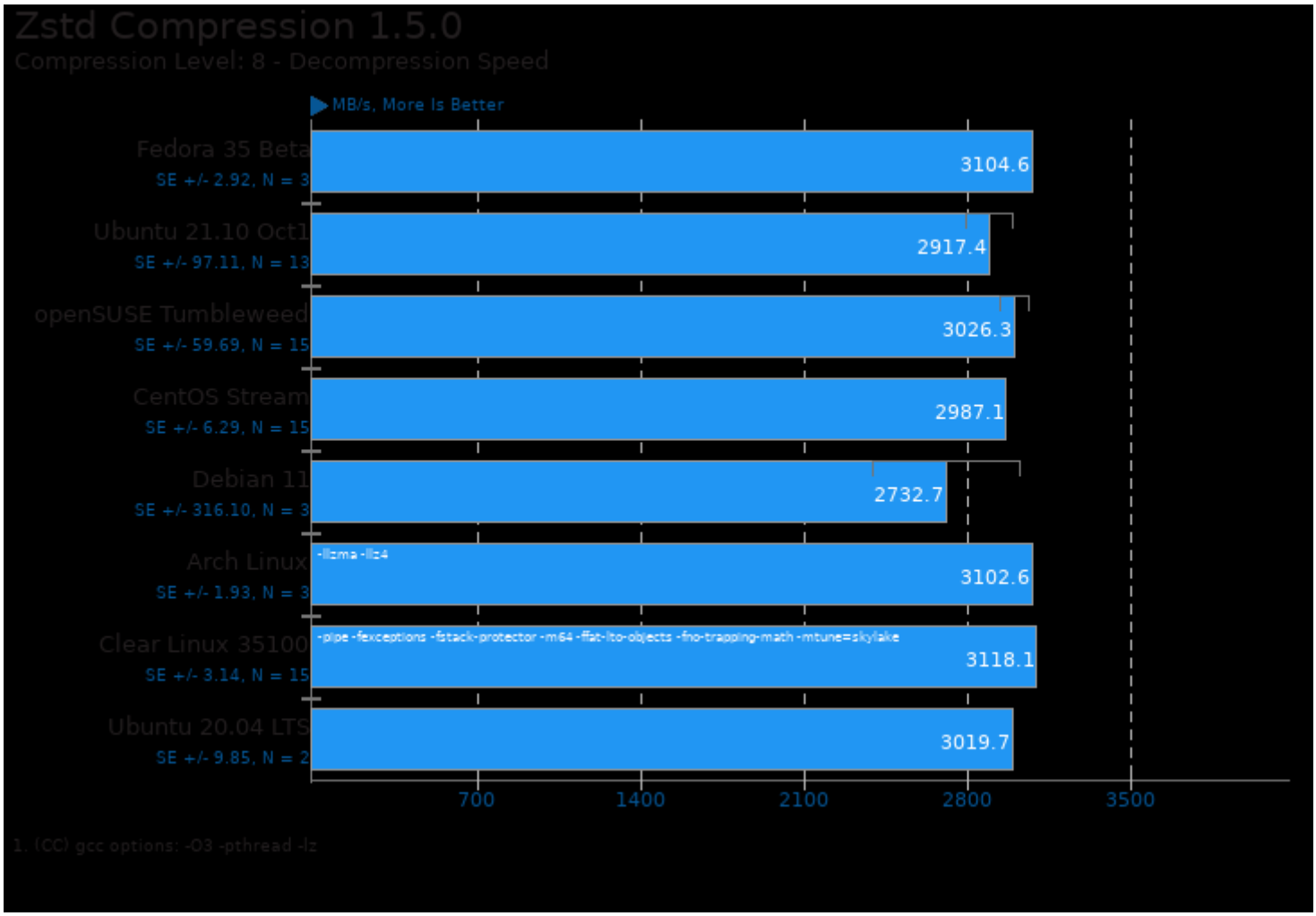
Xeon Platinum 8380 Linux Distro Performance



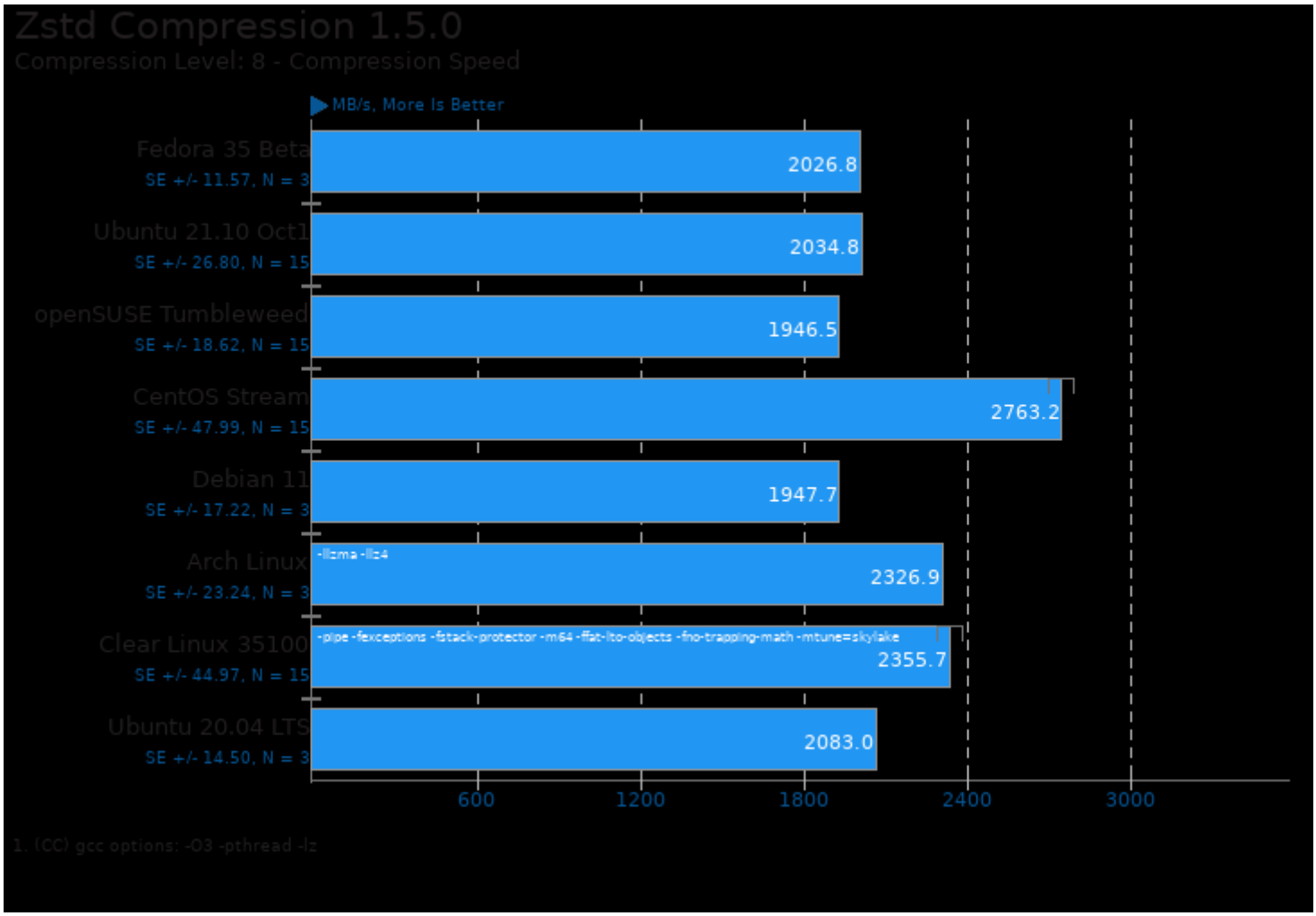
Xeon Platinum 8380 Linux Distro Performance



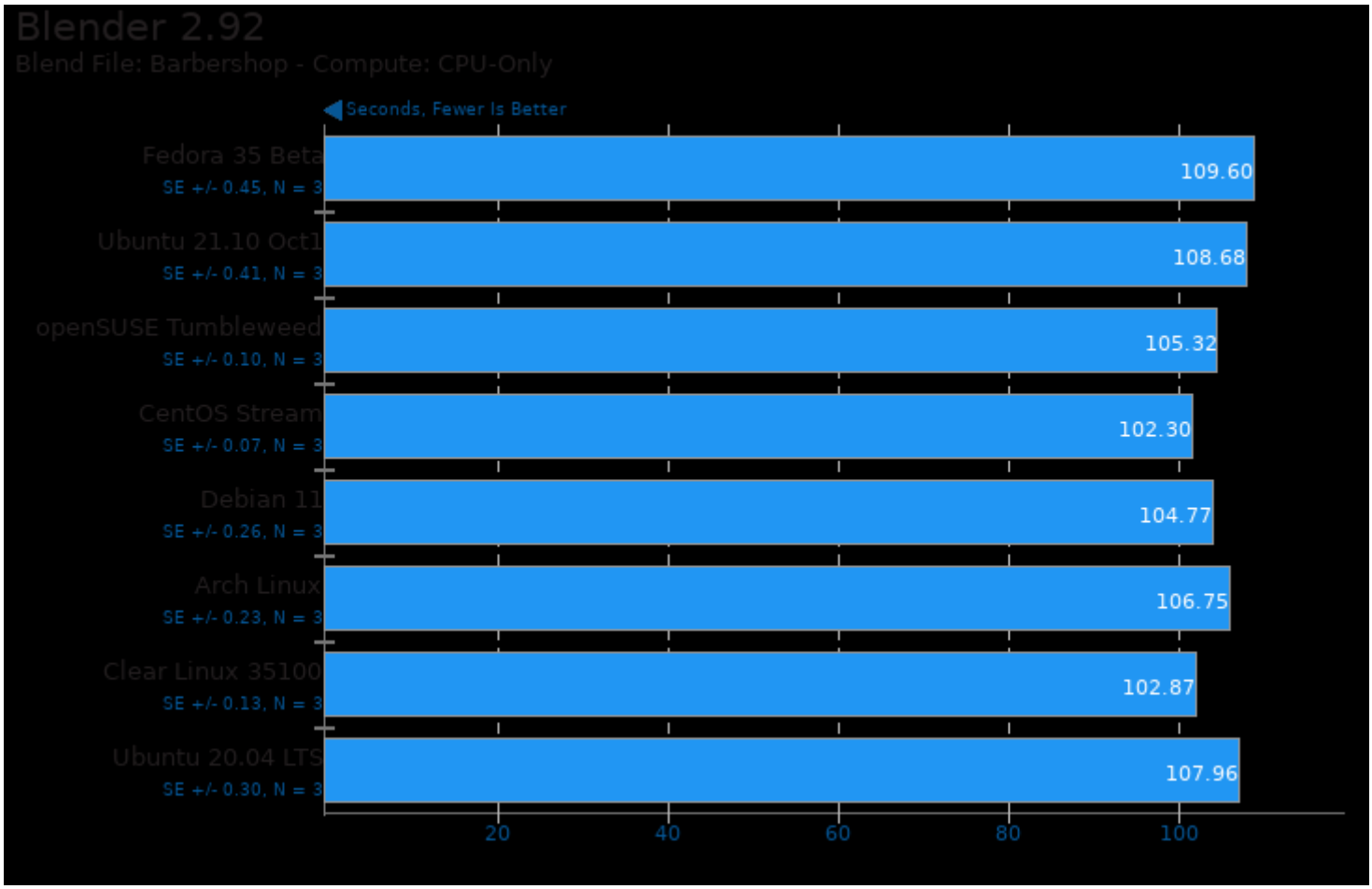
Xeon Platinum 8380 Linux Distro Performance



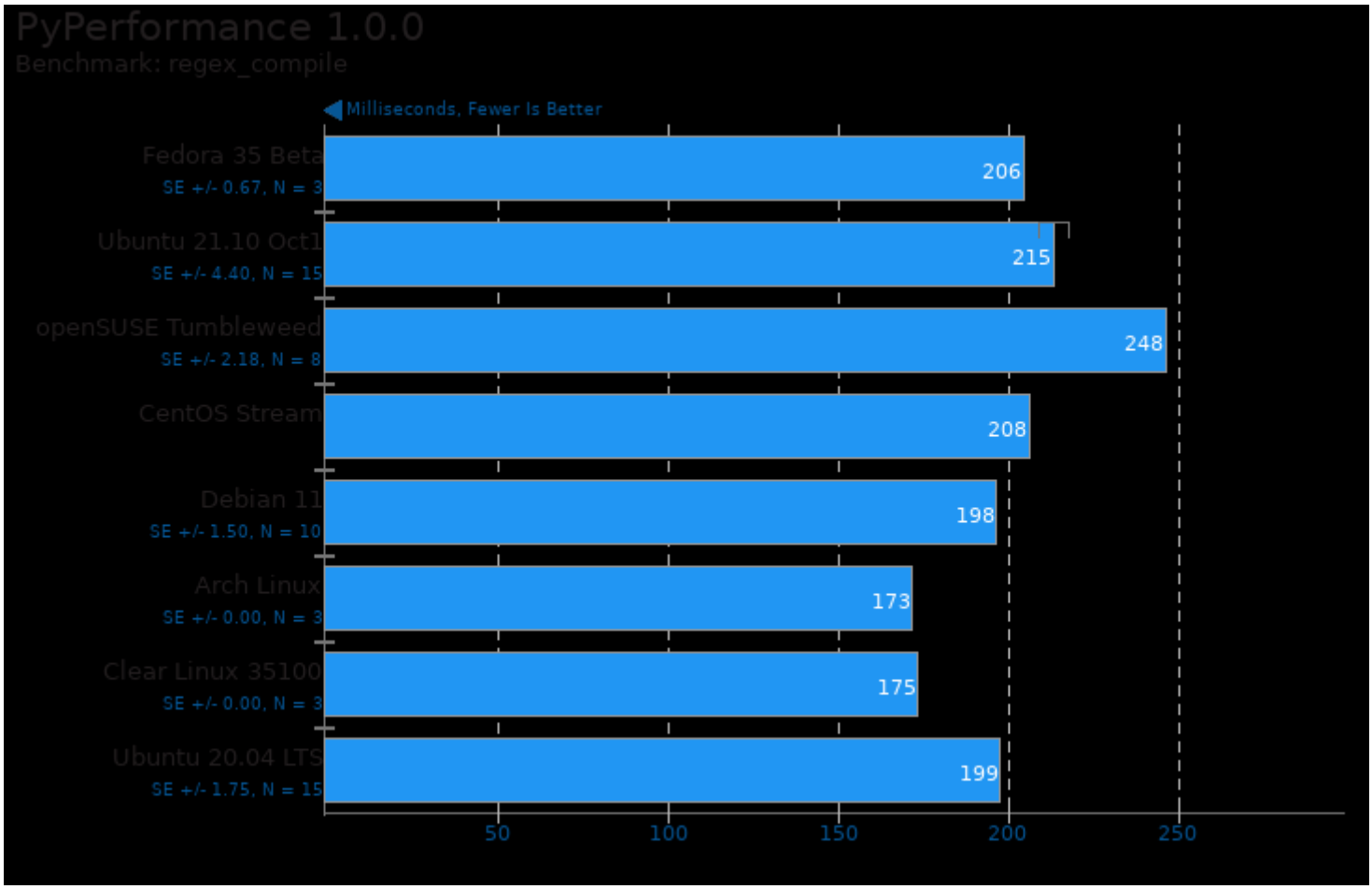
Xeon Platinum 8380 Linux Distro Performance



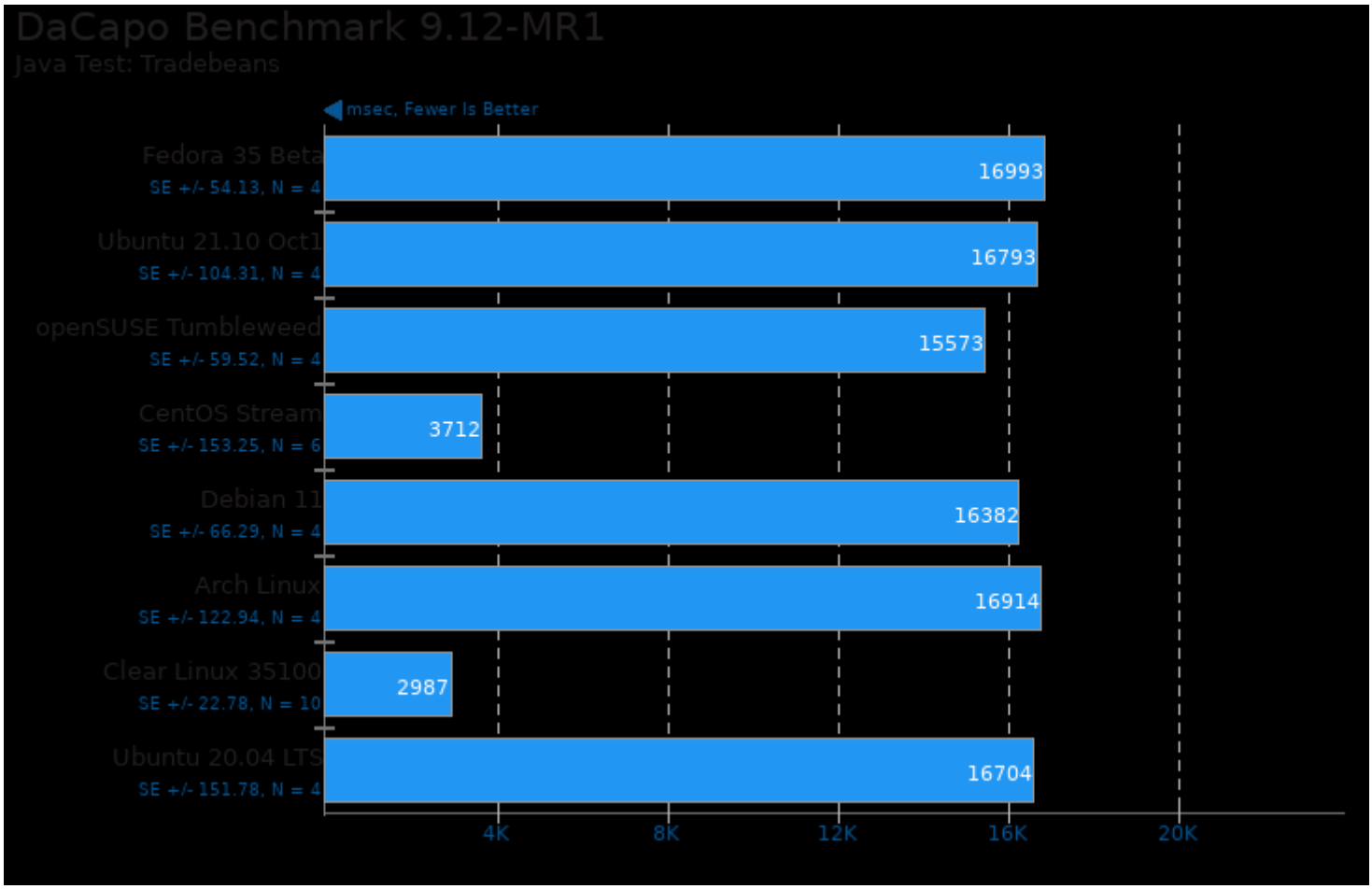
Xeon Platinum 8380 Linux Distro Performance



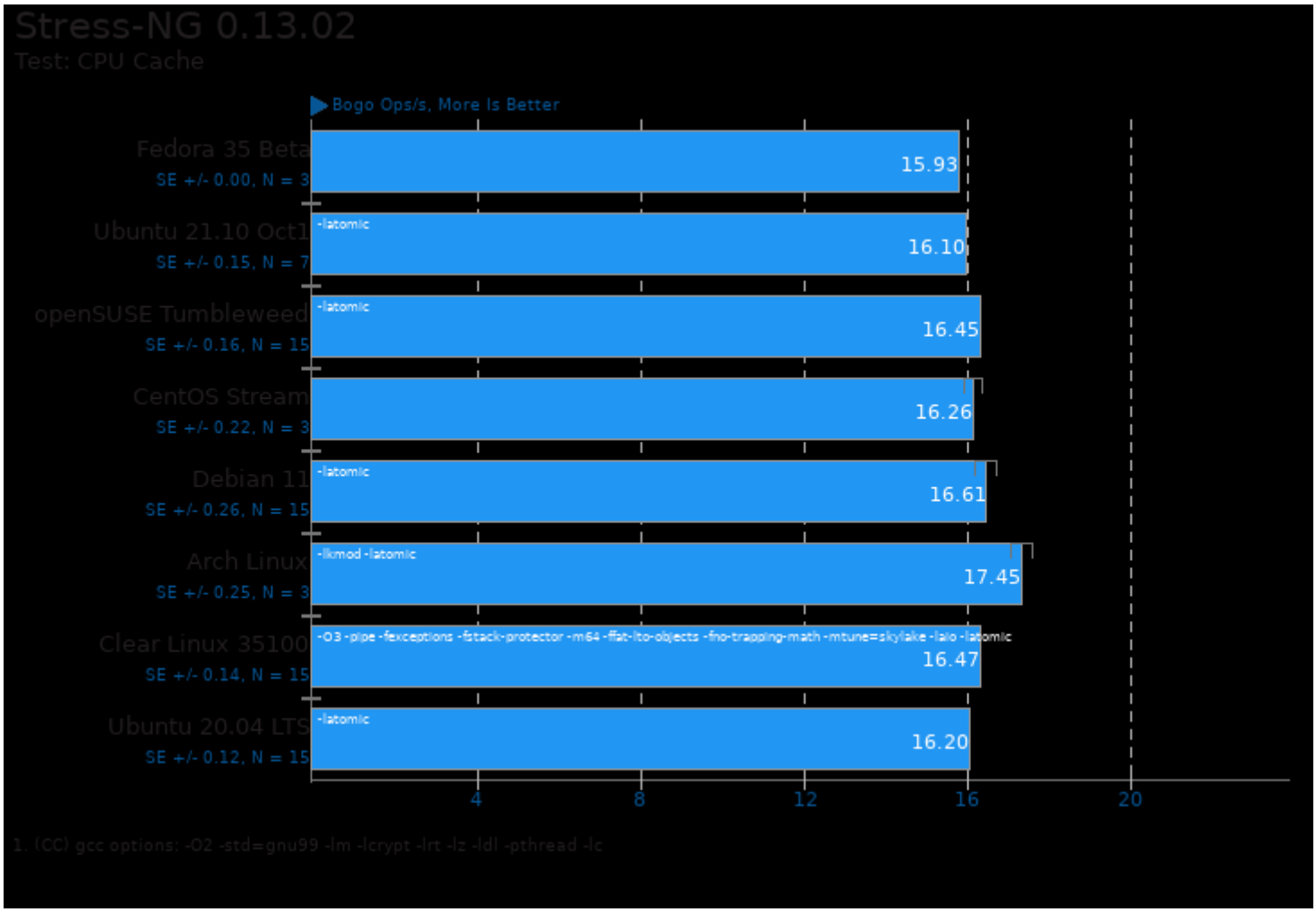
Xeon Platinum 8380 Linux Distro Performance



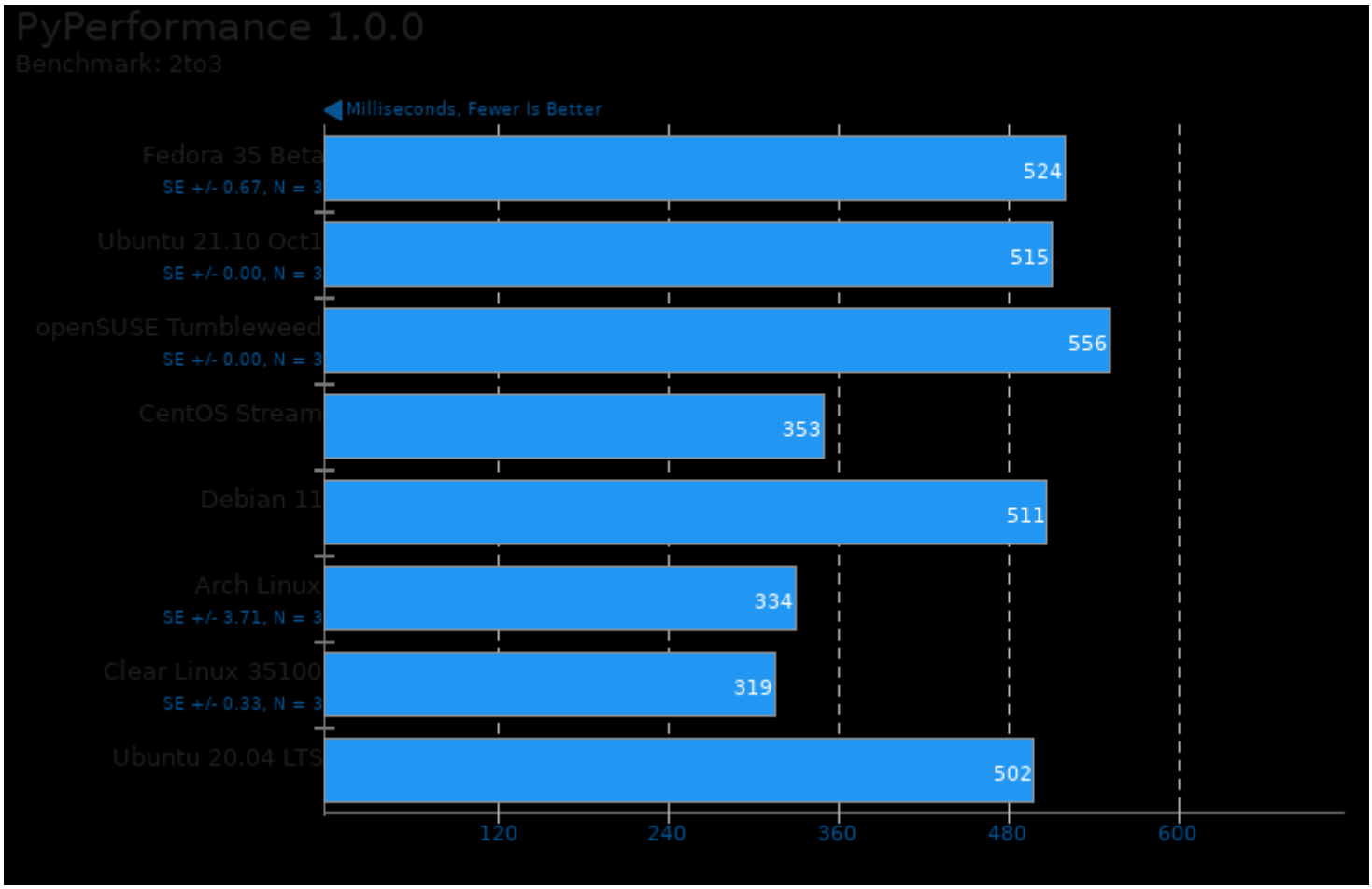
Xeon Platinum 8380 Linux Distro Performance



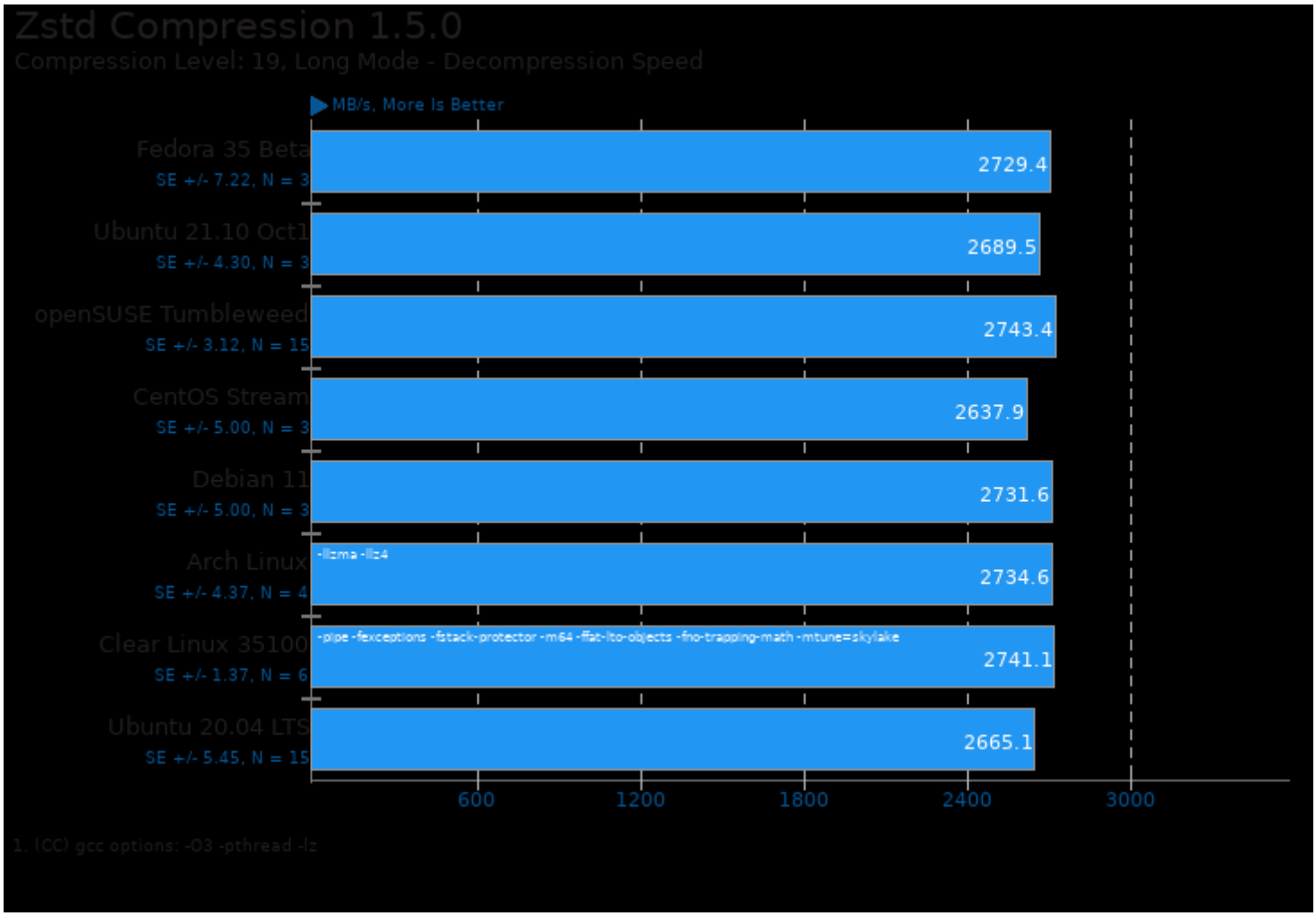
Xeon Platinum 8380 Linux Distro Performance



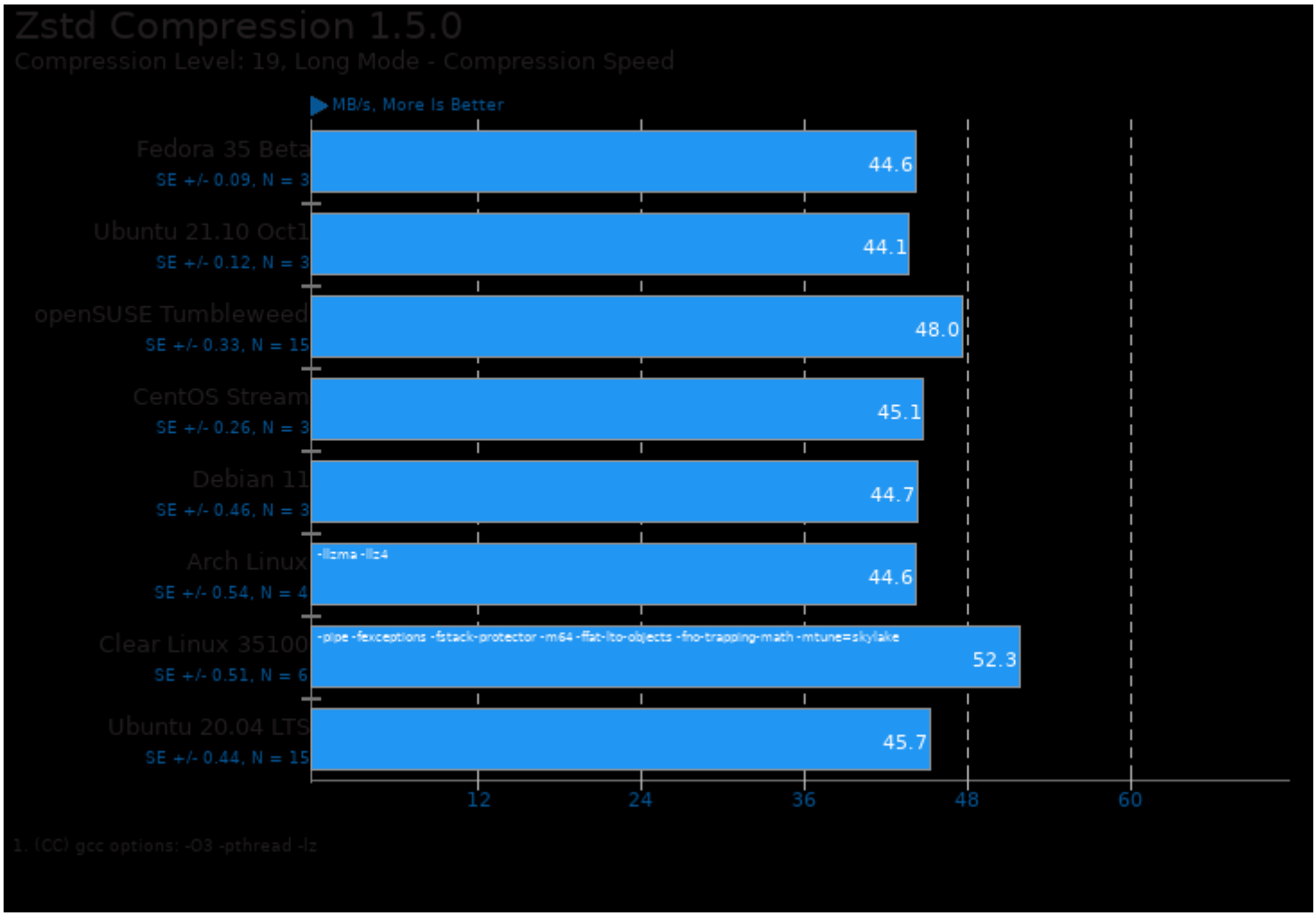
Xeon Platinum 8380 Linux Distro Performance



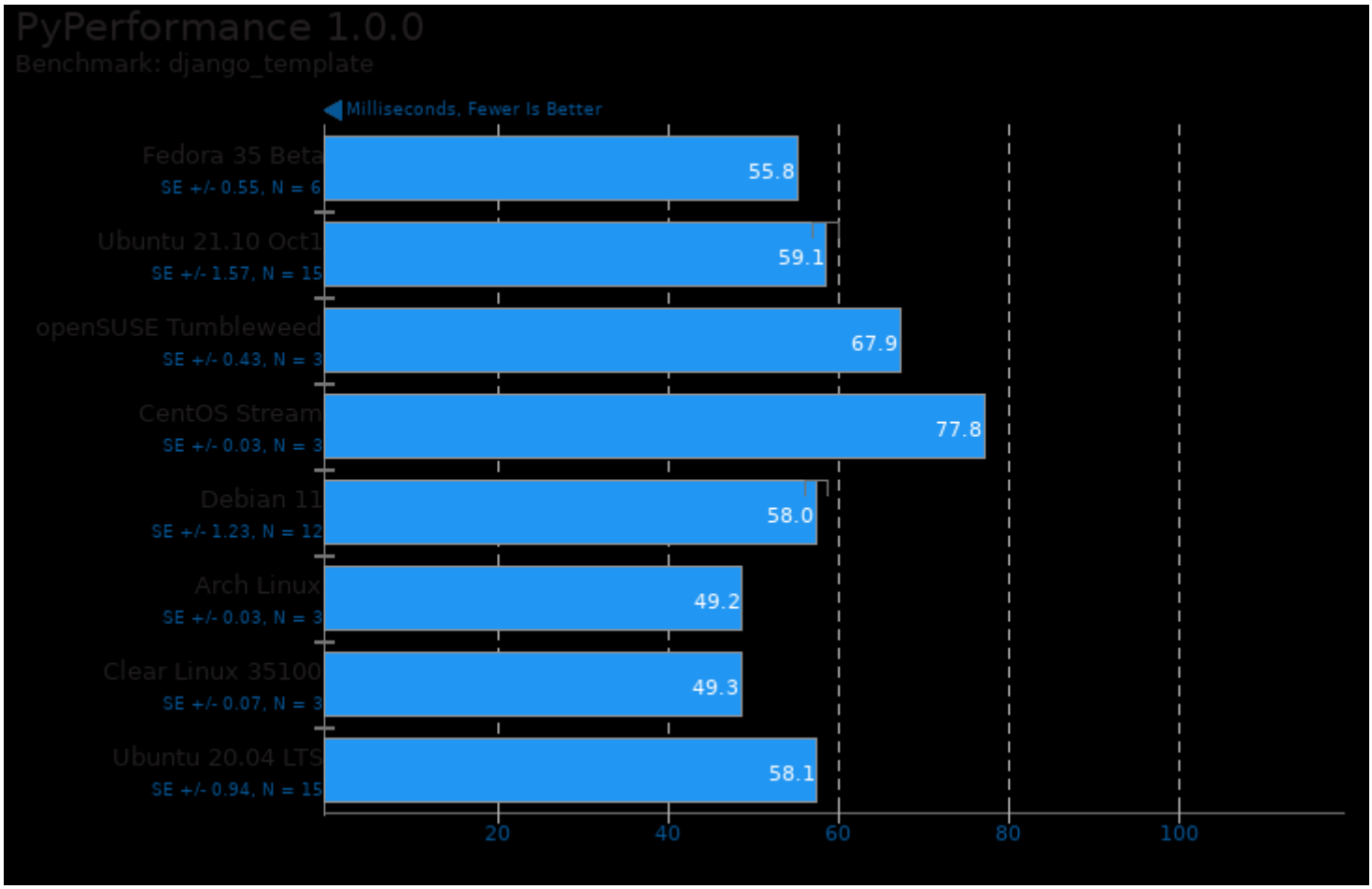
Xeon Platinum 8380 Linux Distro Performance



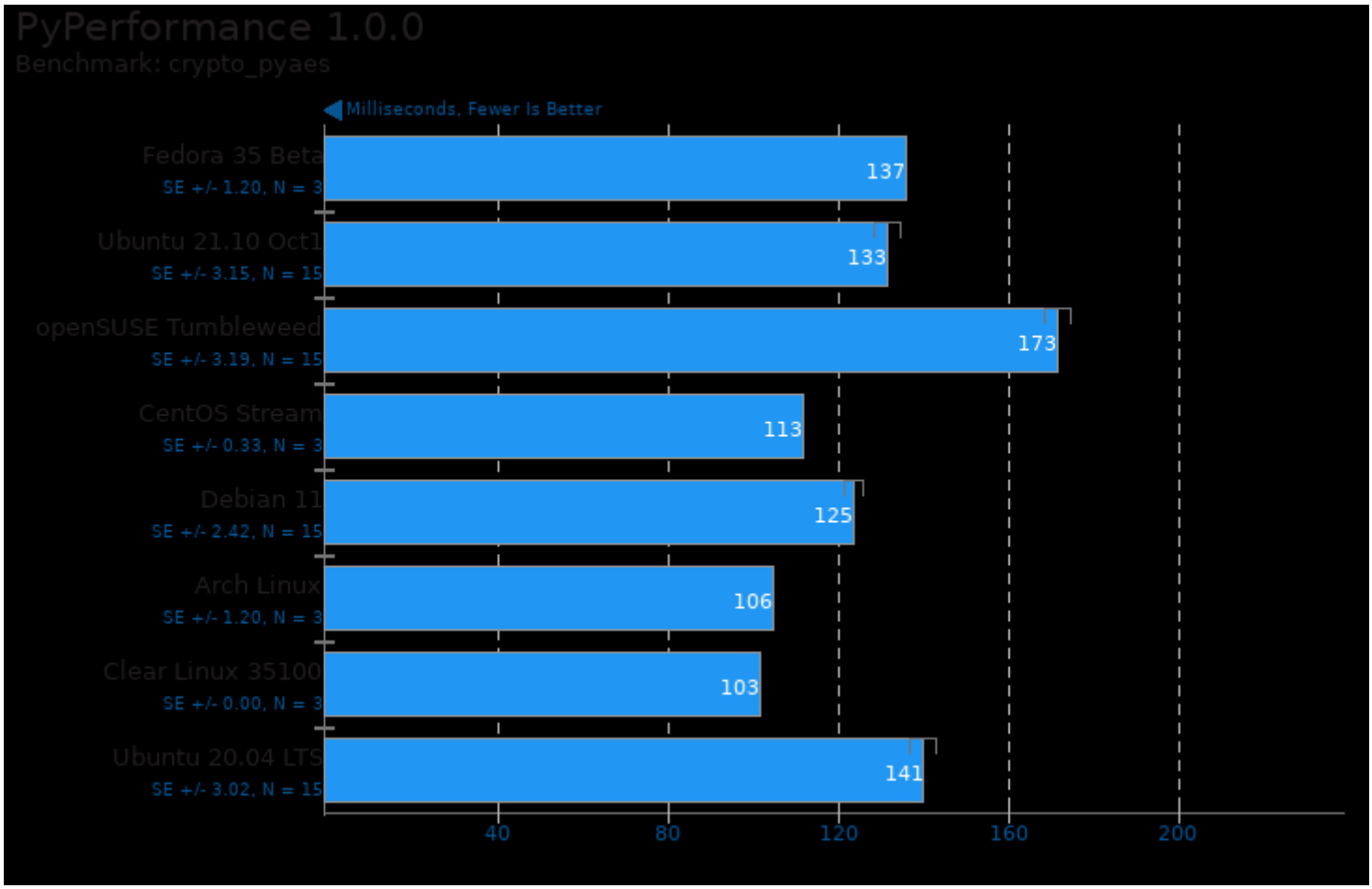
Xeon Platinum 8380 Linux Distro Performance



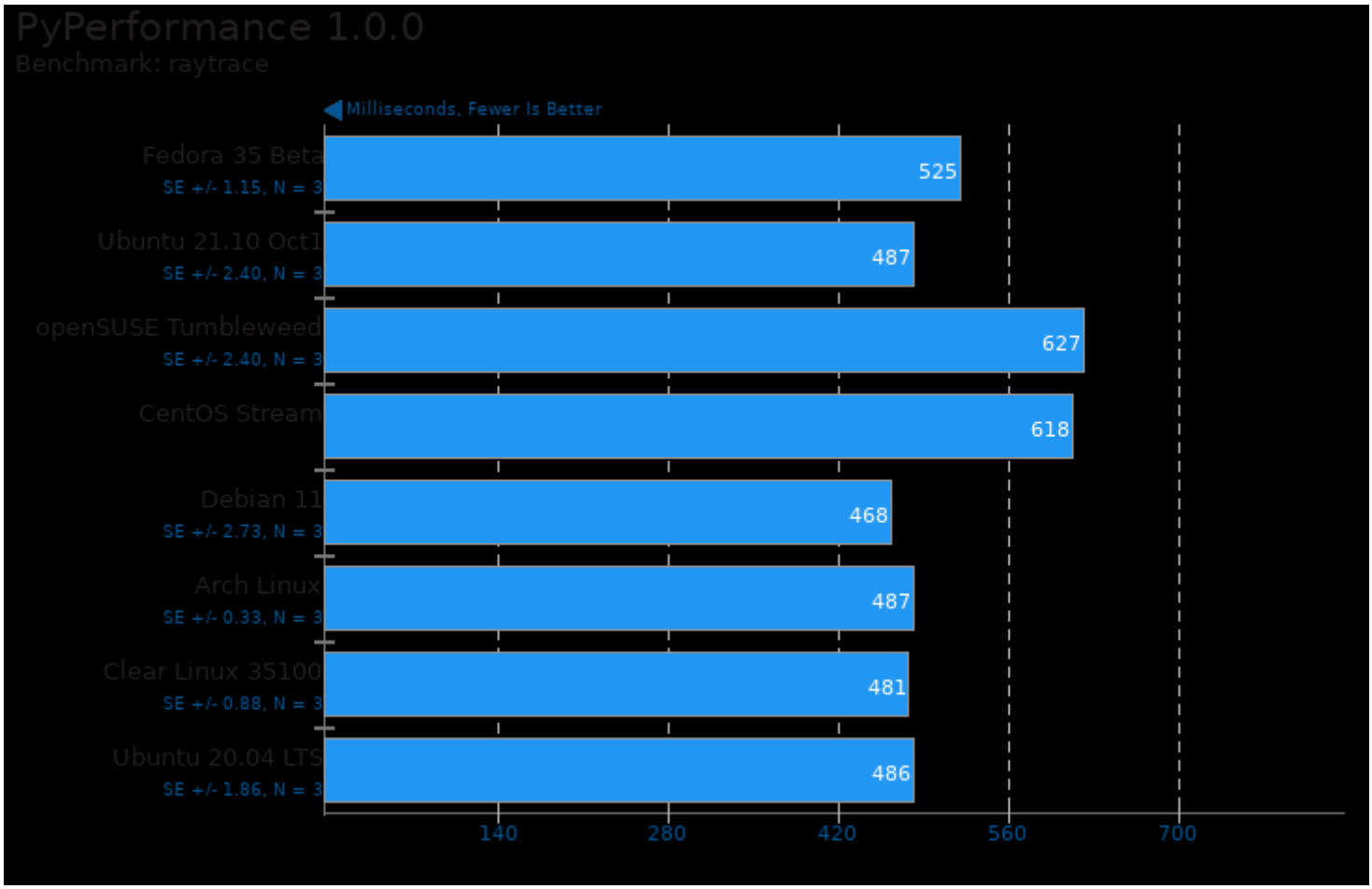
Xeon Platinum 8380 Linux Distro Performance



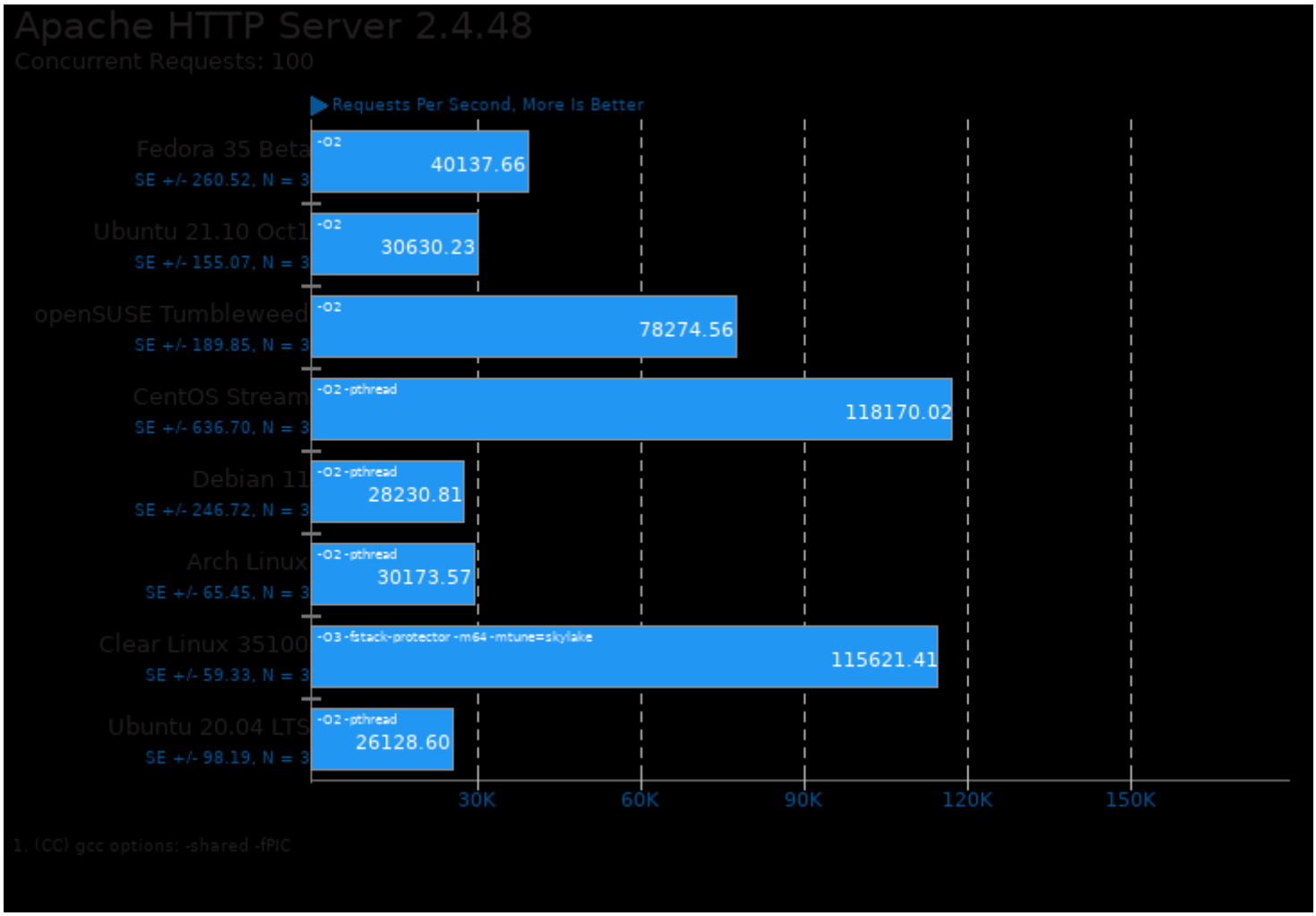
Xeon Platinum 8380 Linux Distro Performance



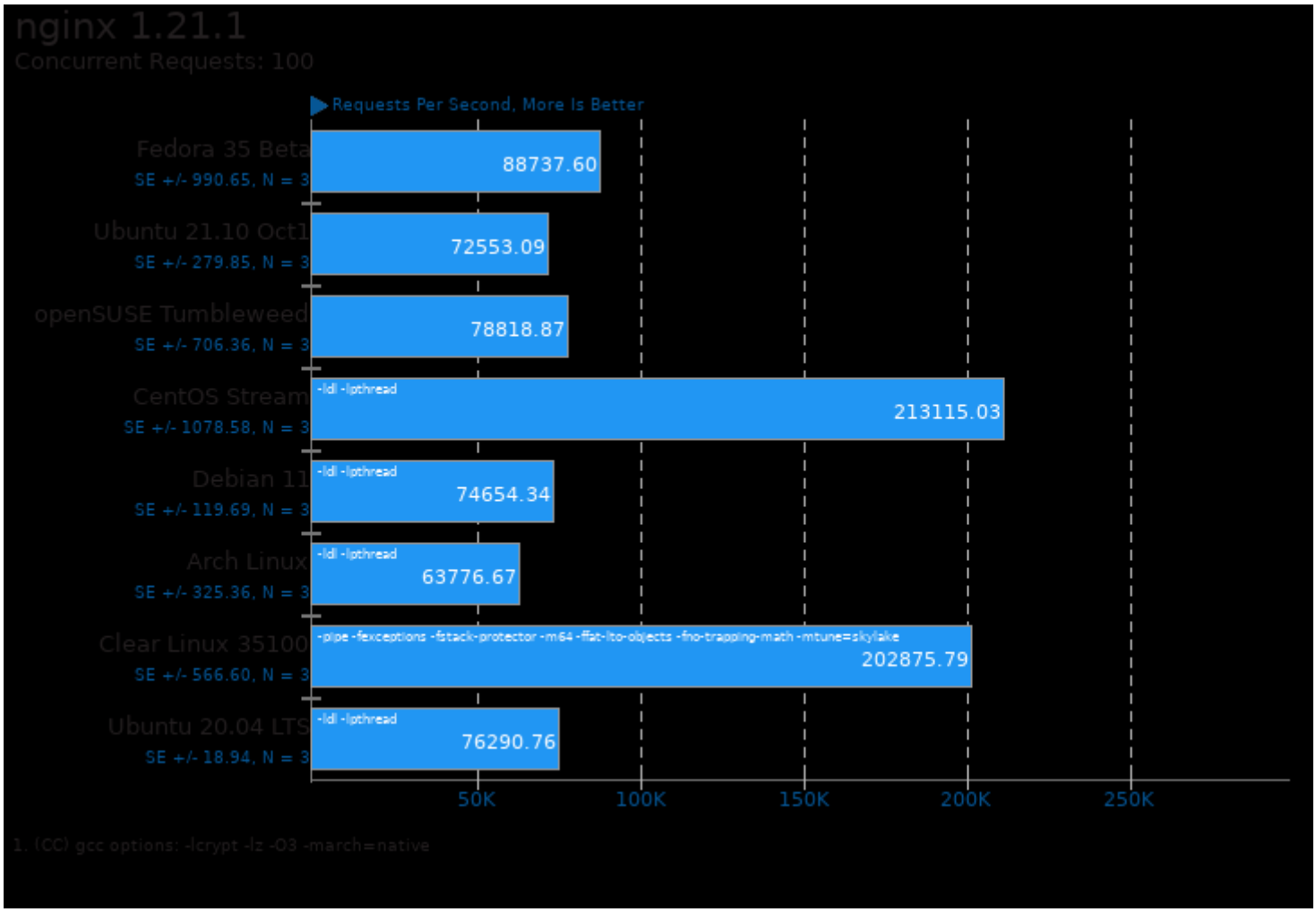
Xeon Platinum 8380 Linux Distro Performance



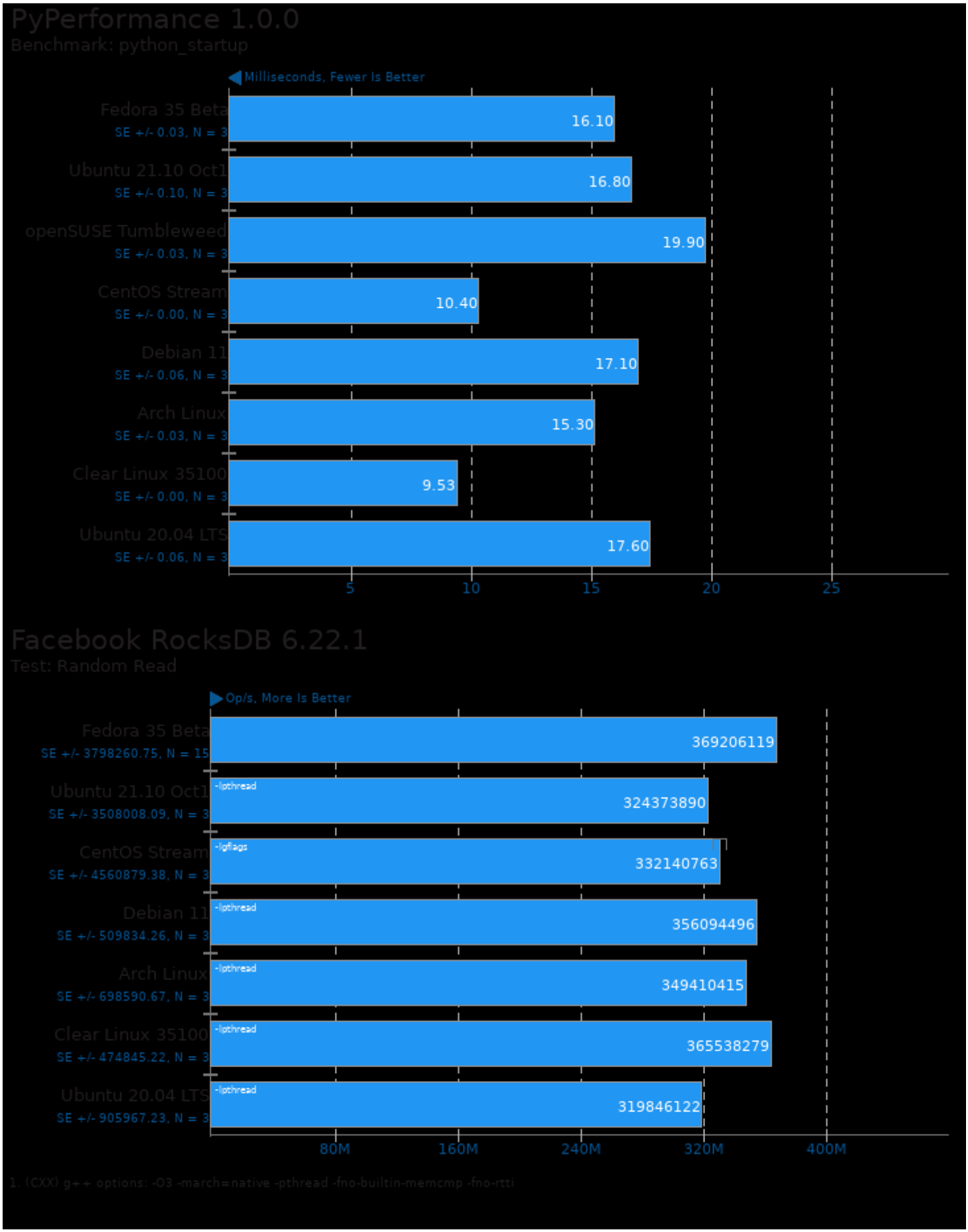
Xeon Platinum 8380 Linux Distro Performance



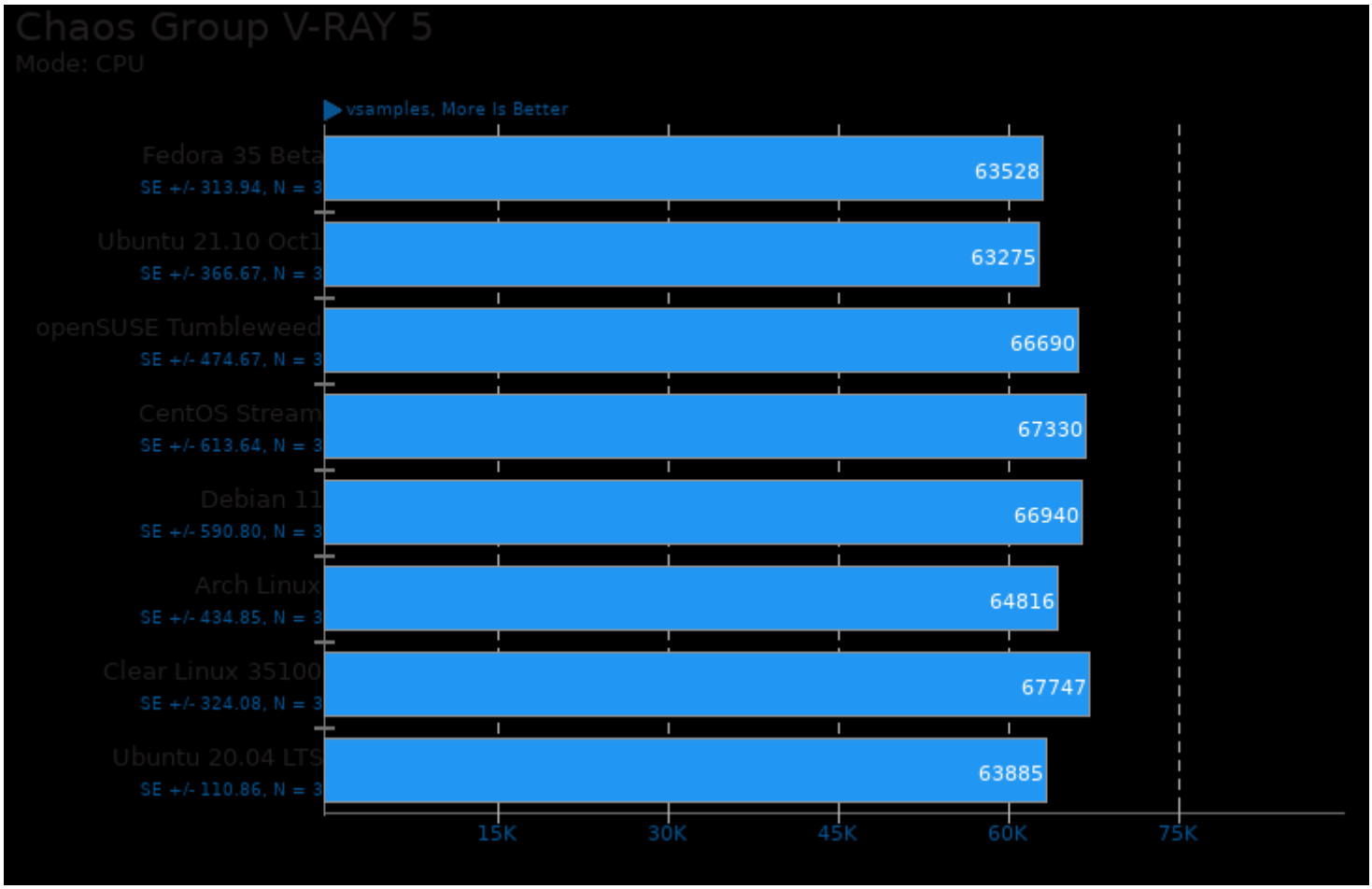
Xeon Platinum 8380 Linux Distro Performance



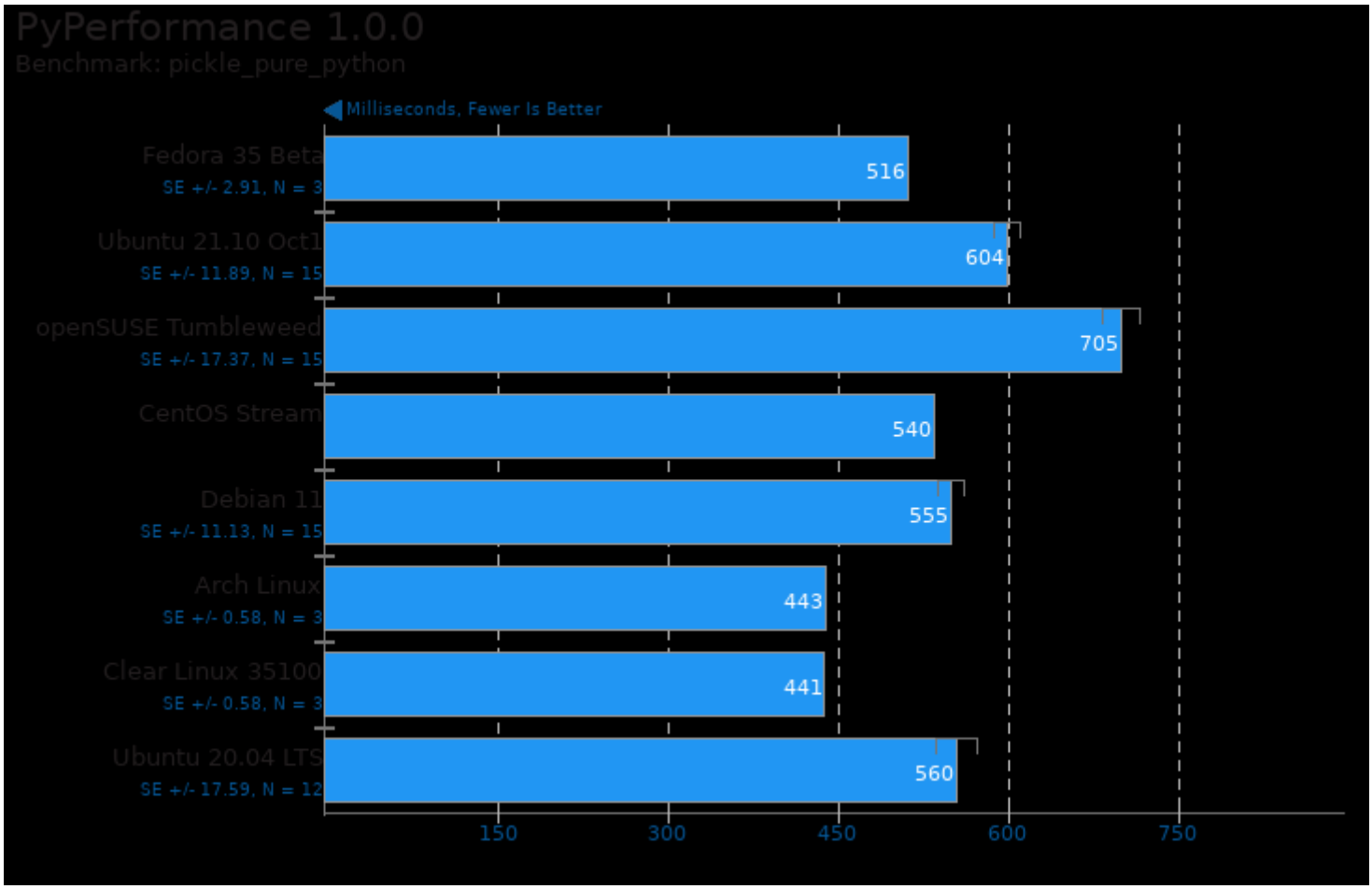
Xeon Platinum 8380 Linux Distro Performance



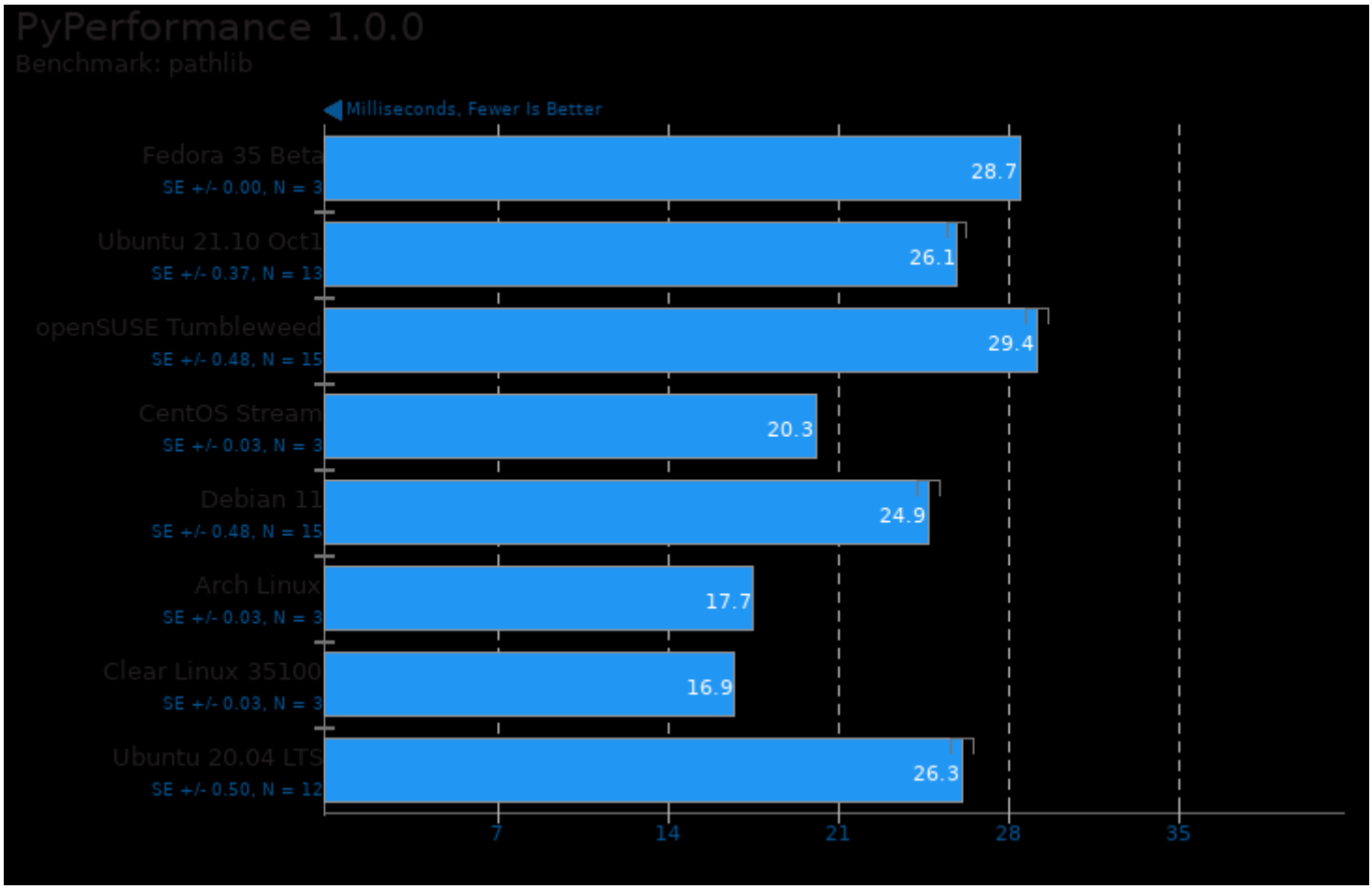
Xeon Platinum 8380 Linux Distro Performance



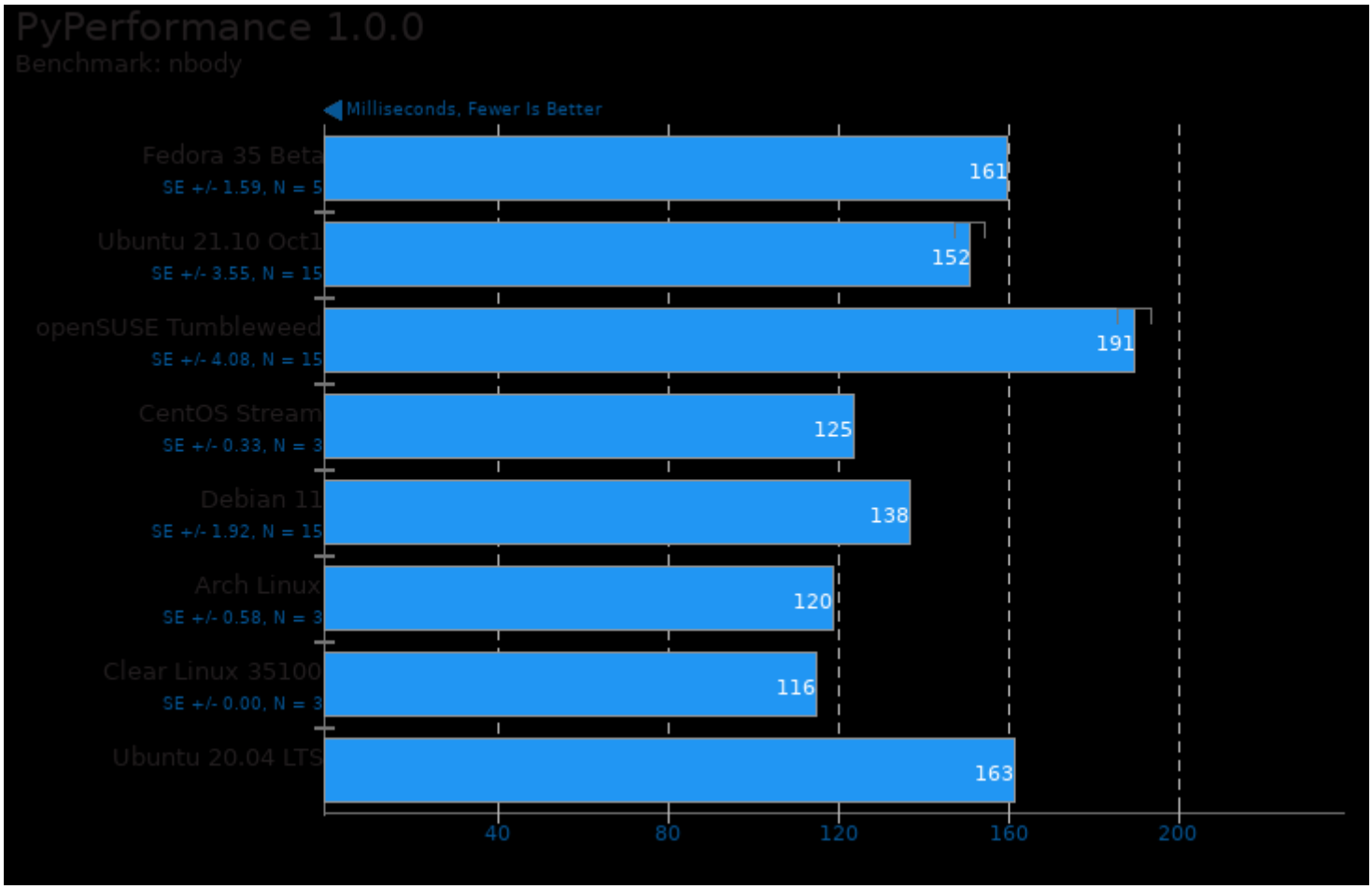
Xeon Platinum 8380 Linux Distro Performance



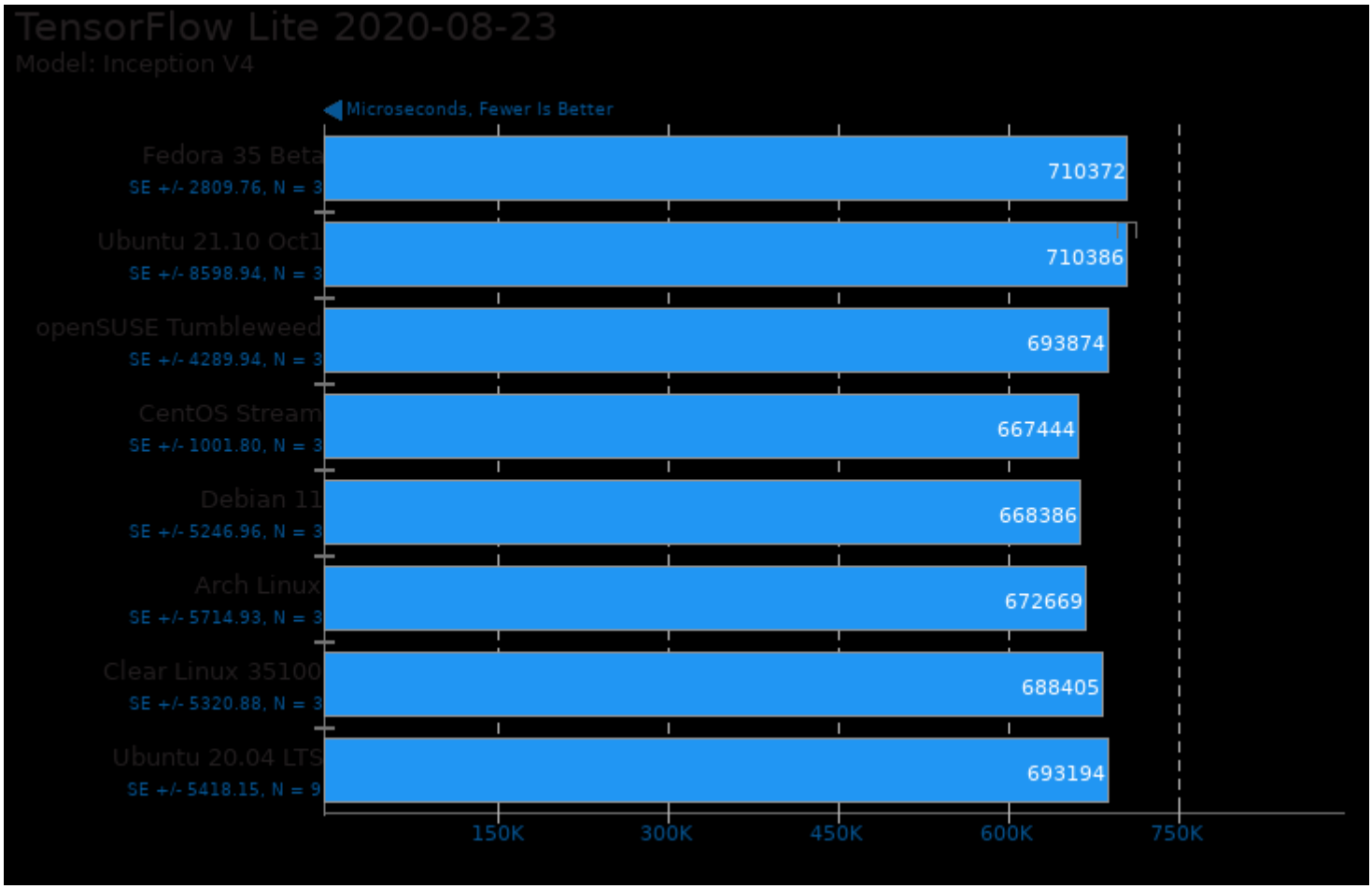
Xeon Platinum 8380 Linux Distro Performance



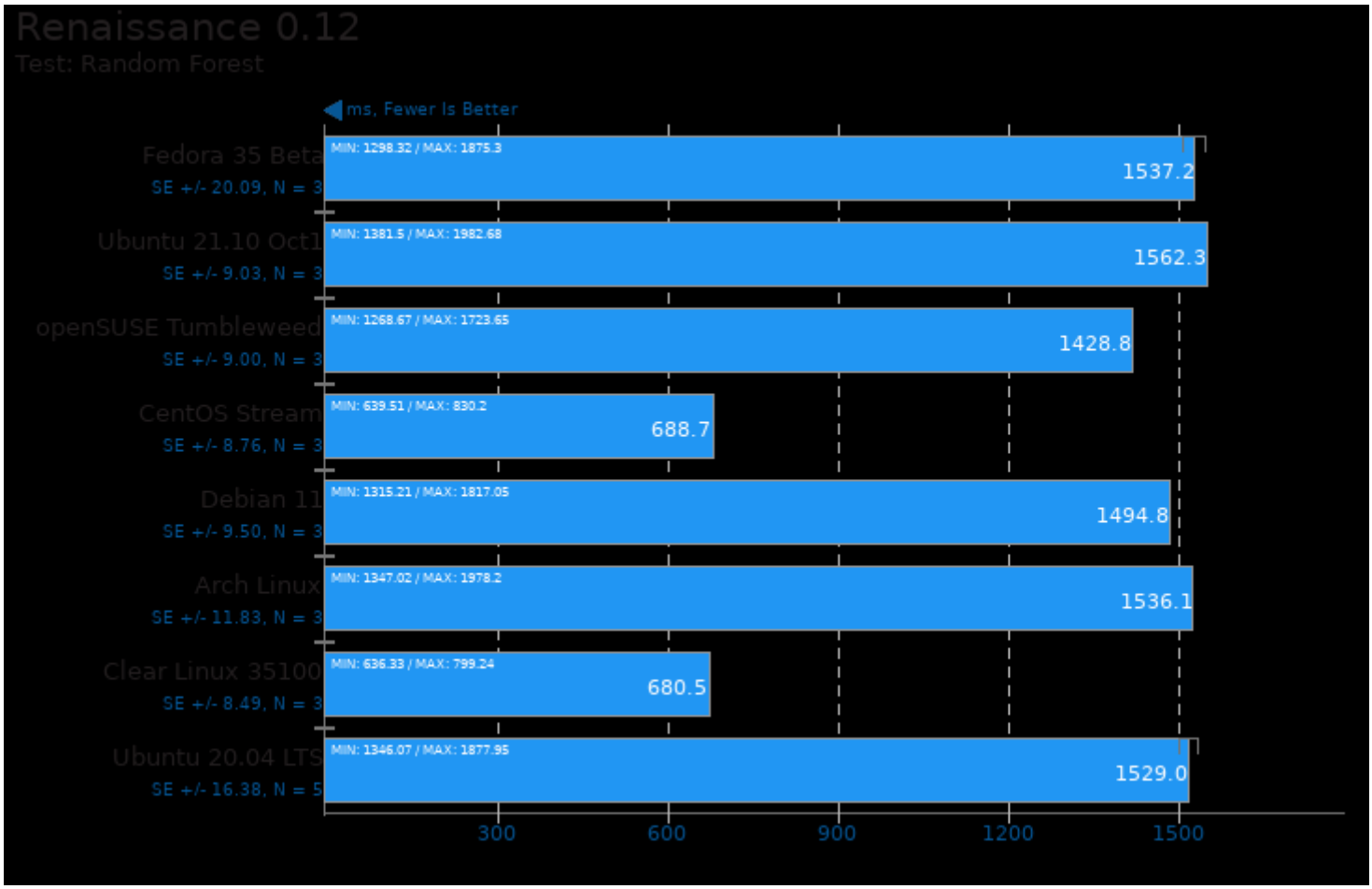
Xeon Platinum 8380 Linux Distro Performance



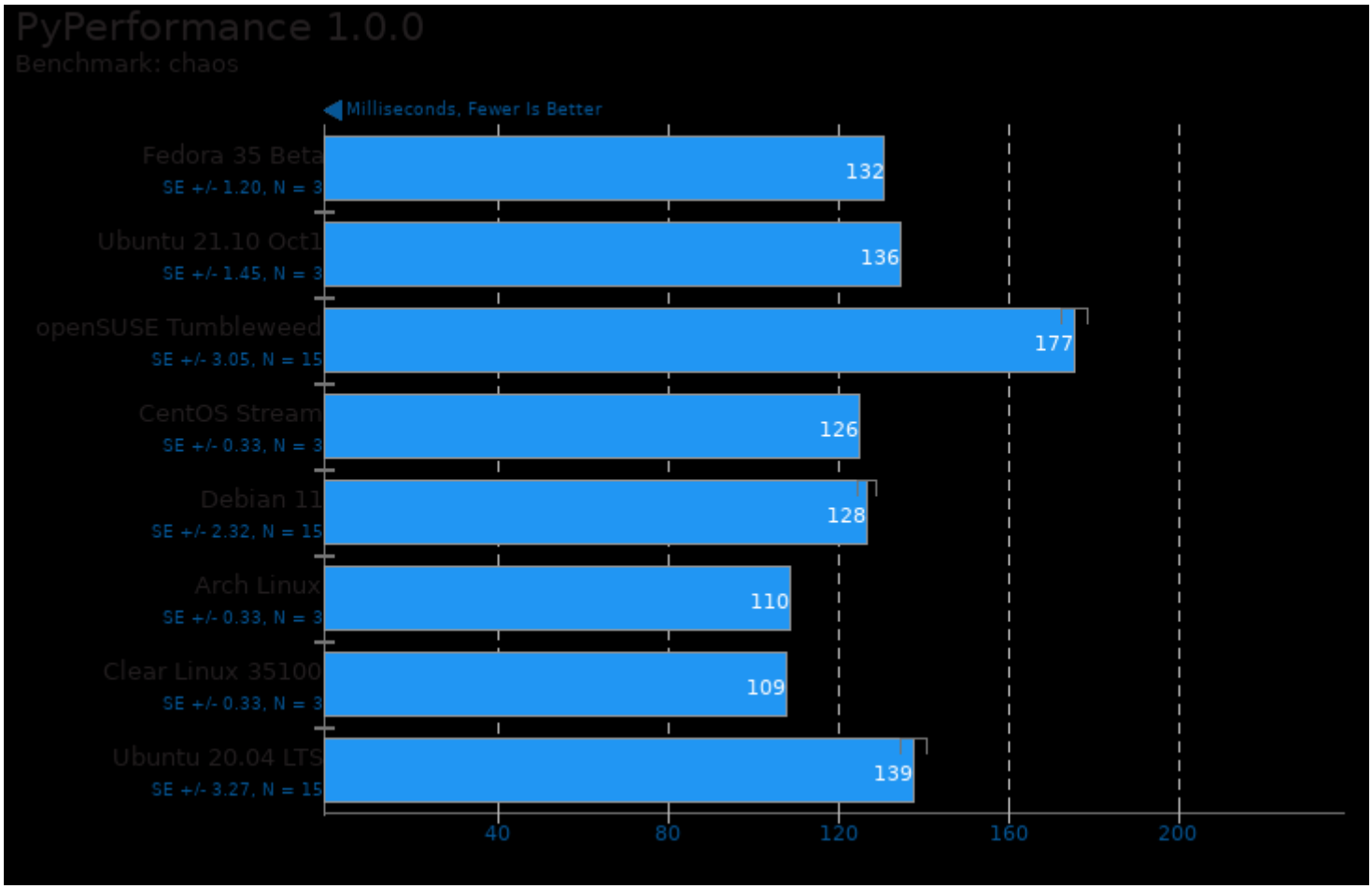
Xeon Platinum 8380 Linux Distro Performance



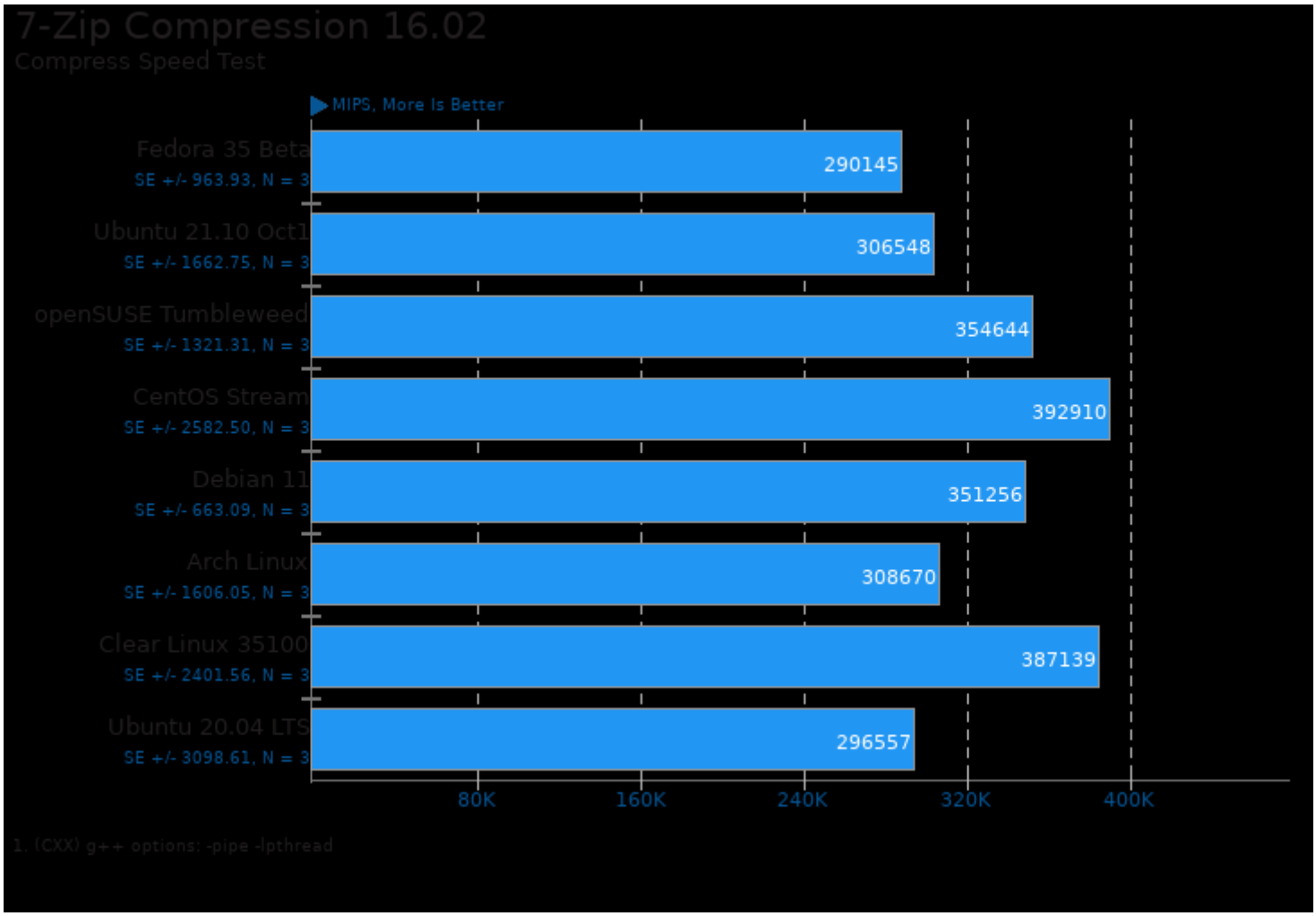
Xeon Platinum 8380 Linux Distro Performance



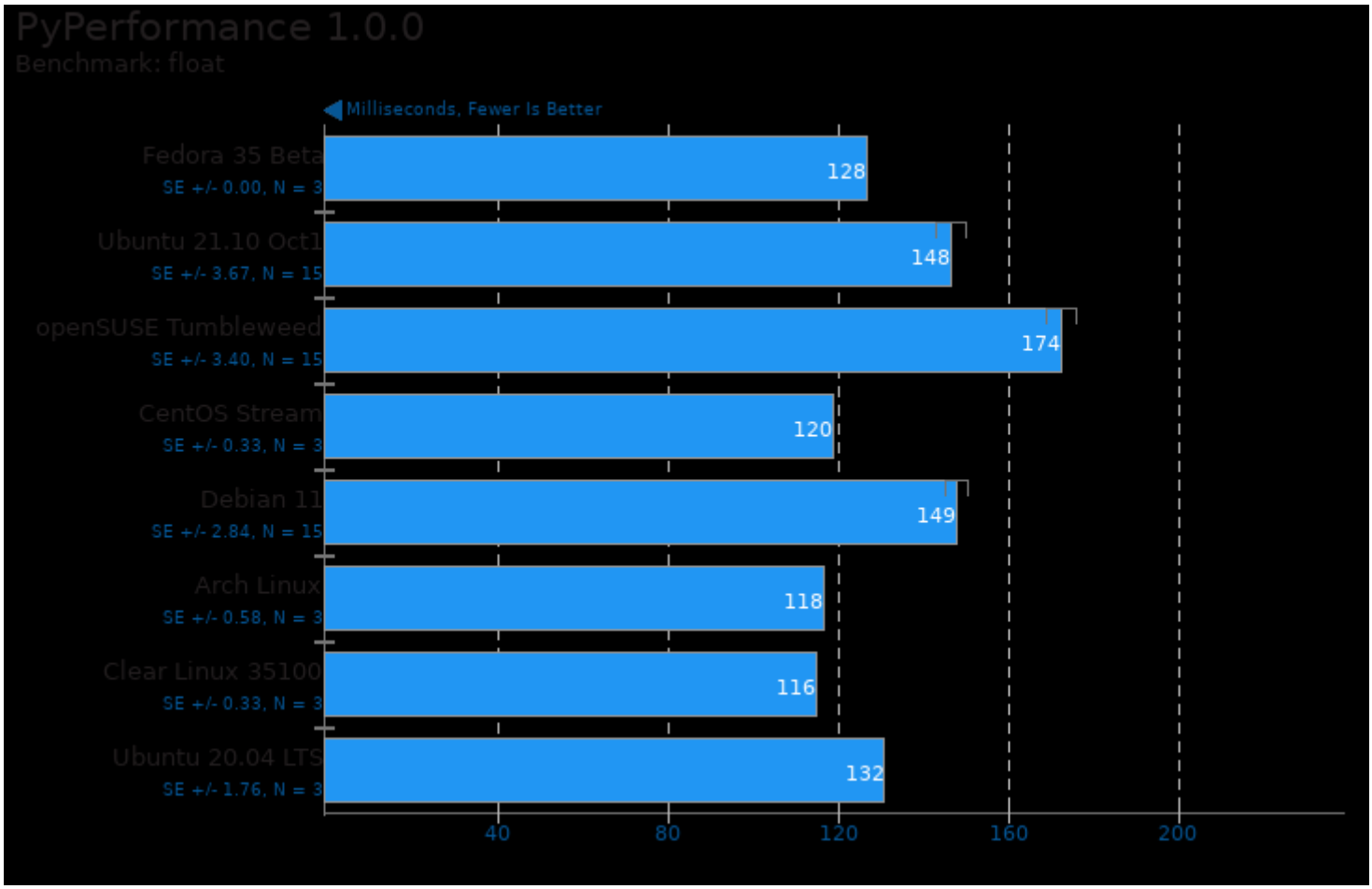
Xeon Platinum 8380 Linux Distro Performance



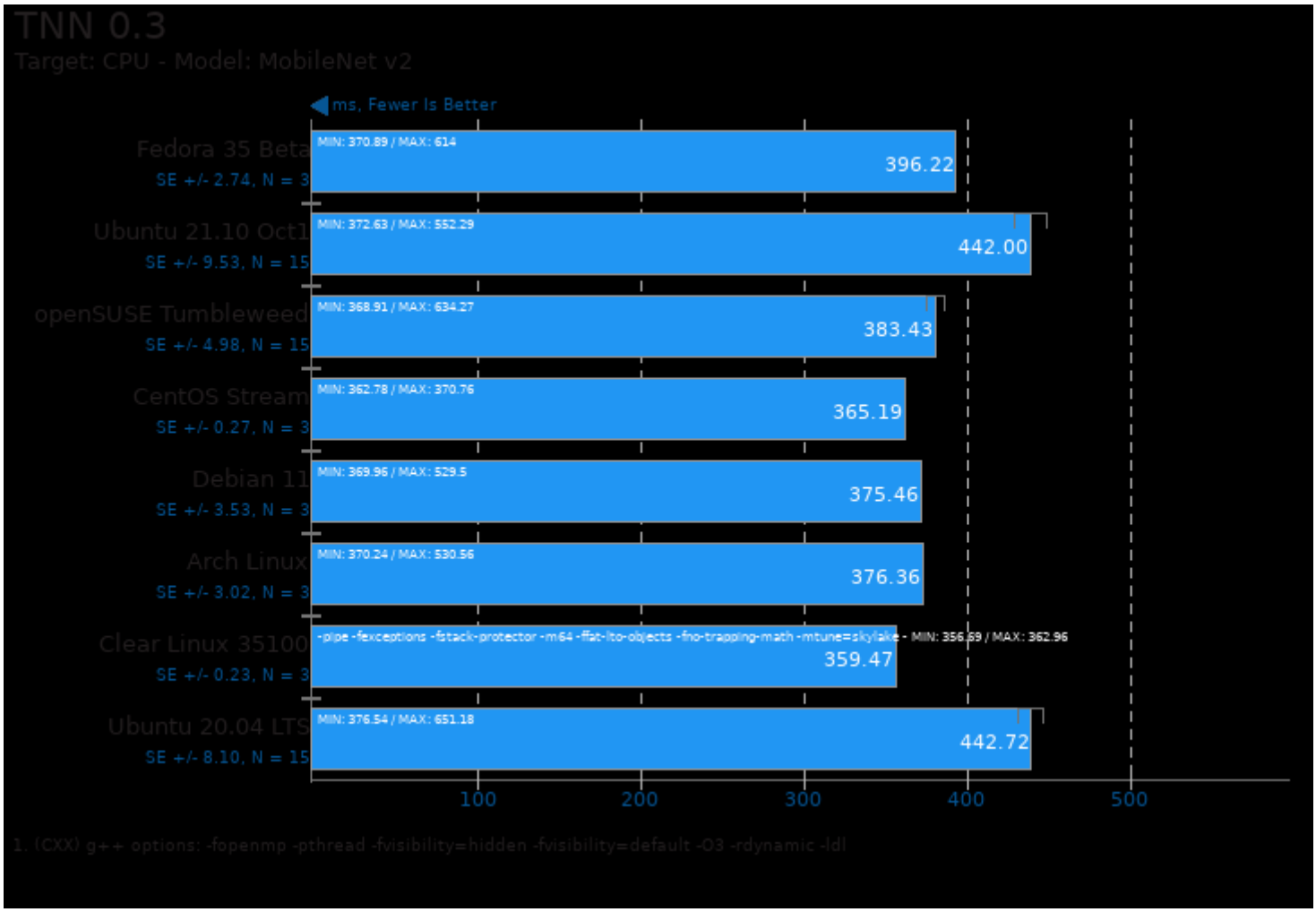
Xeon Platinum 8380 Linux Distro Performance



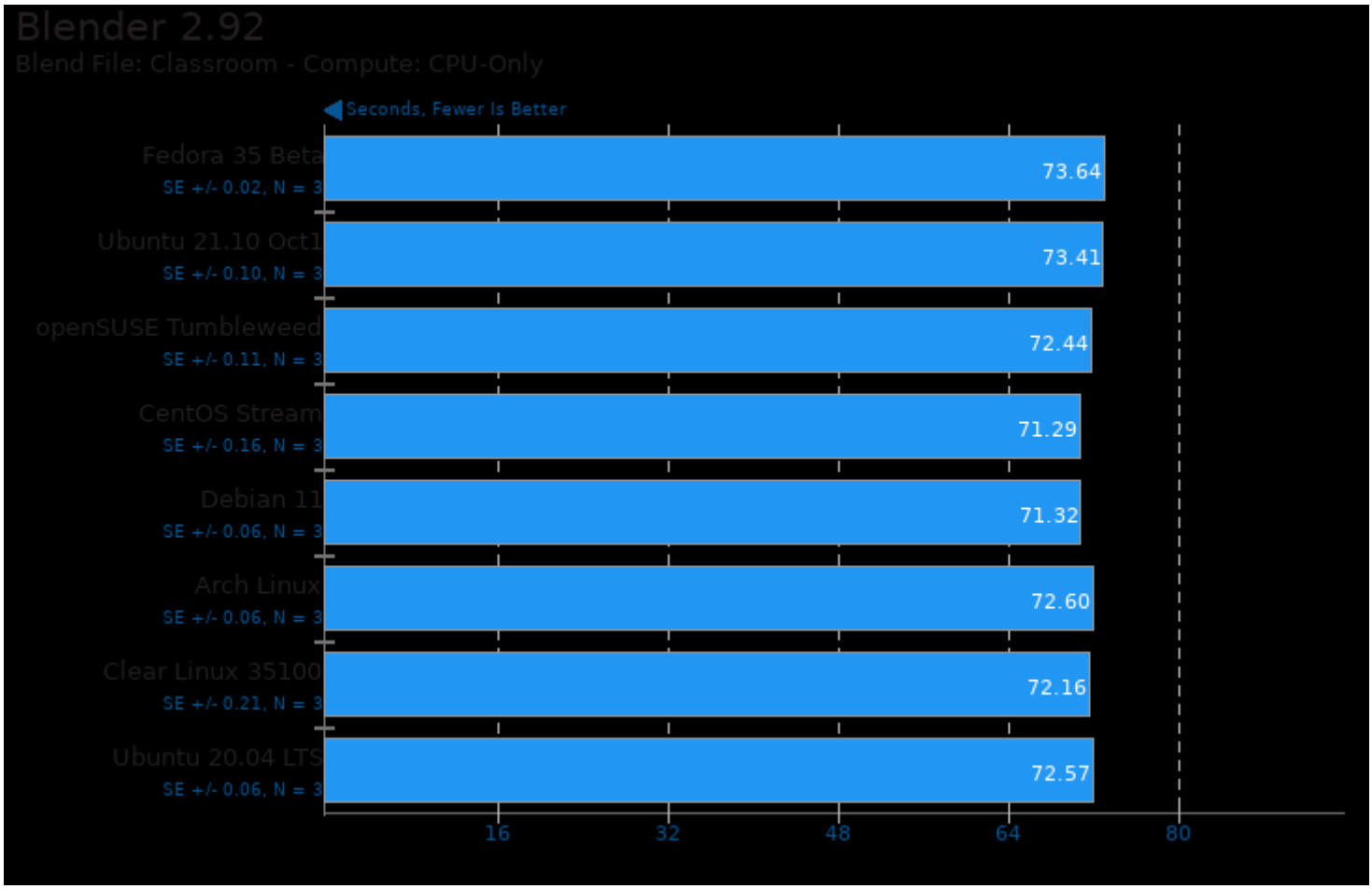
Xeon Platinum 8380 Linux Distro Performance



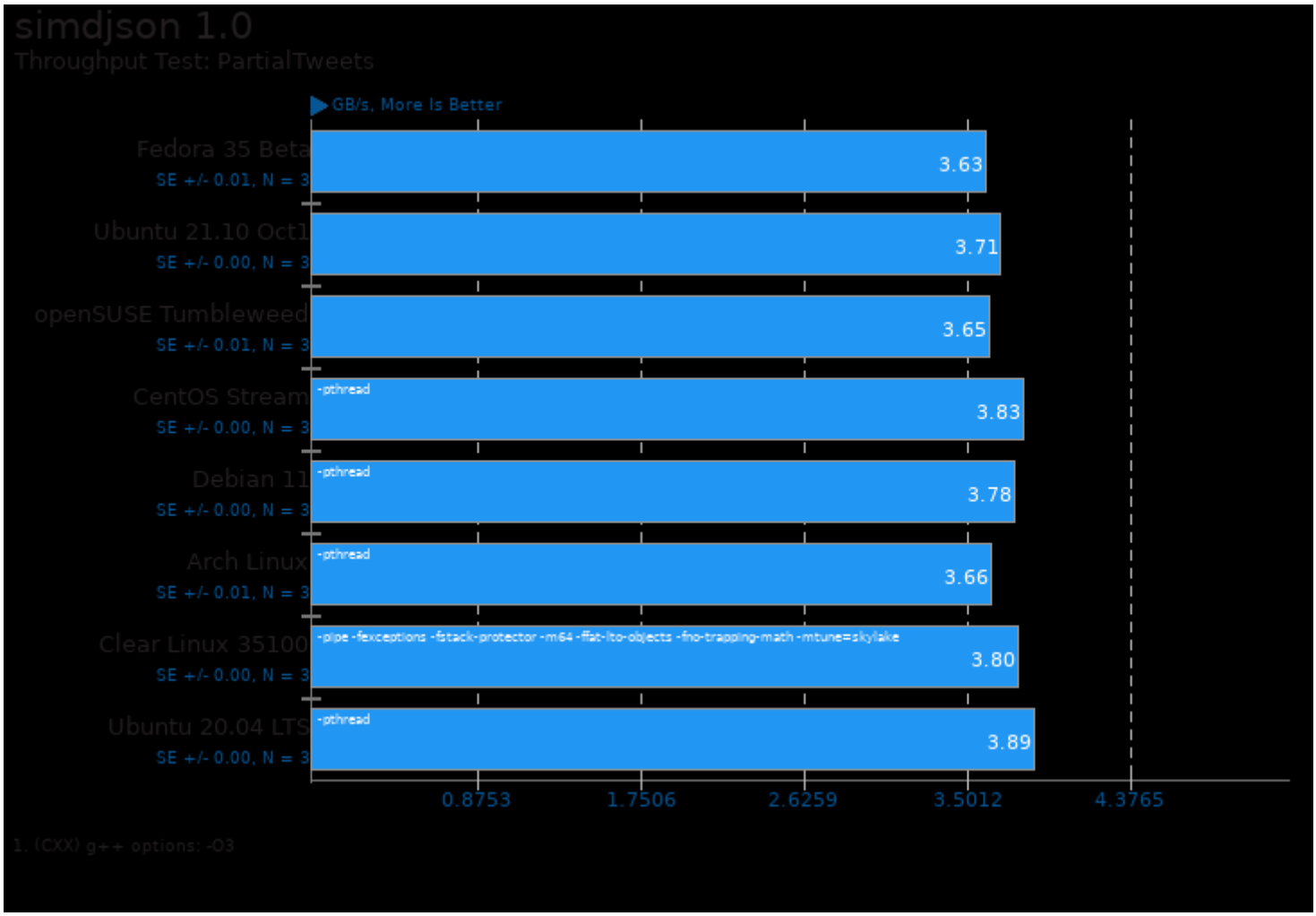
Xeon Platinum 8380 Linux Distro Performance



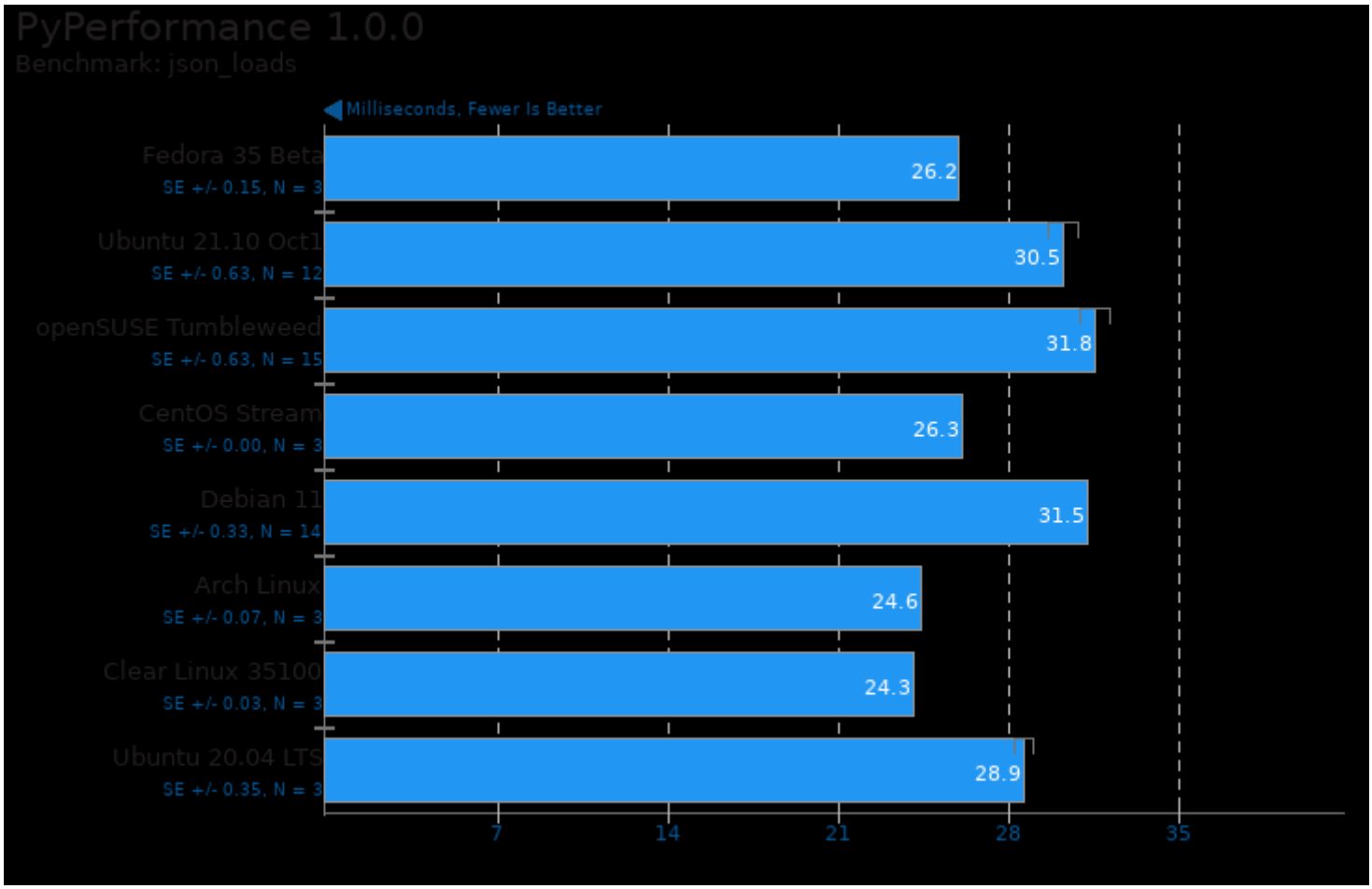
Xeon Platinum 8380 Linux Distro Performance



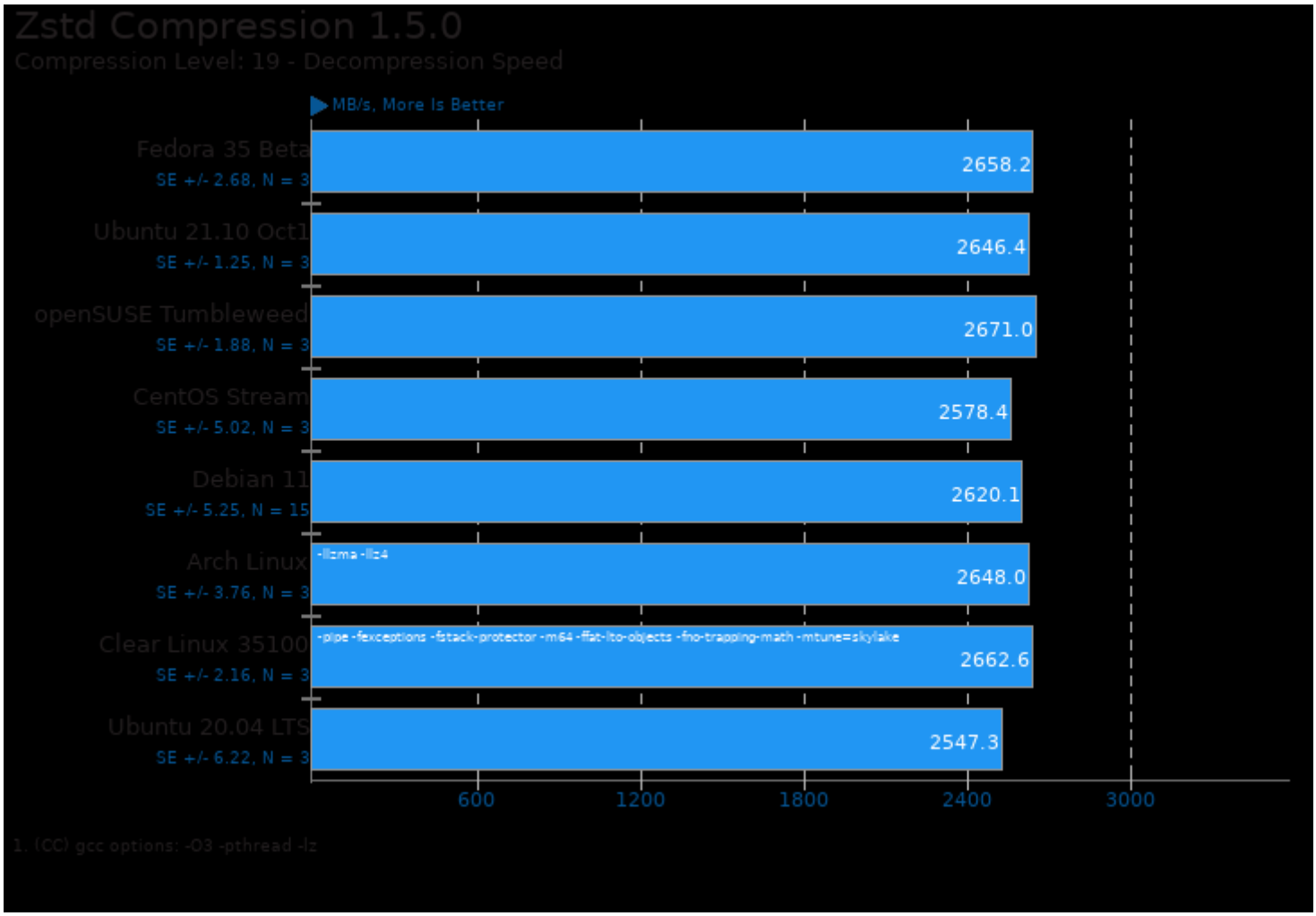
Xeon Platinum 8380 Linux Distro Performance



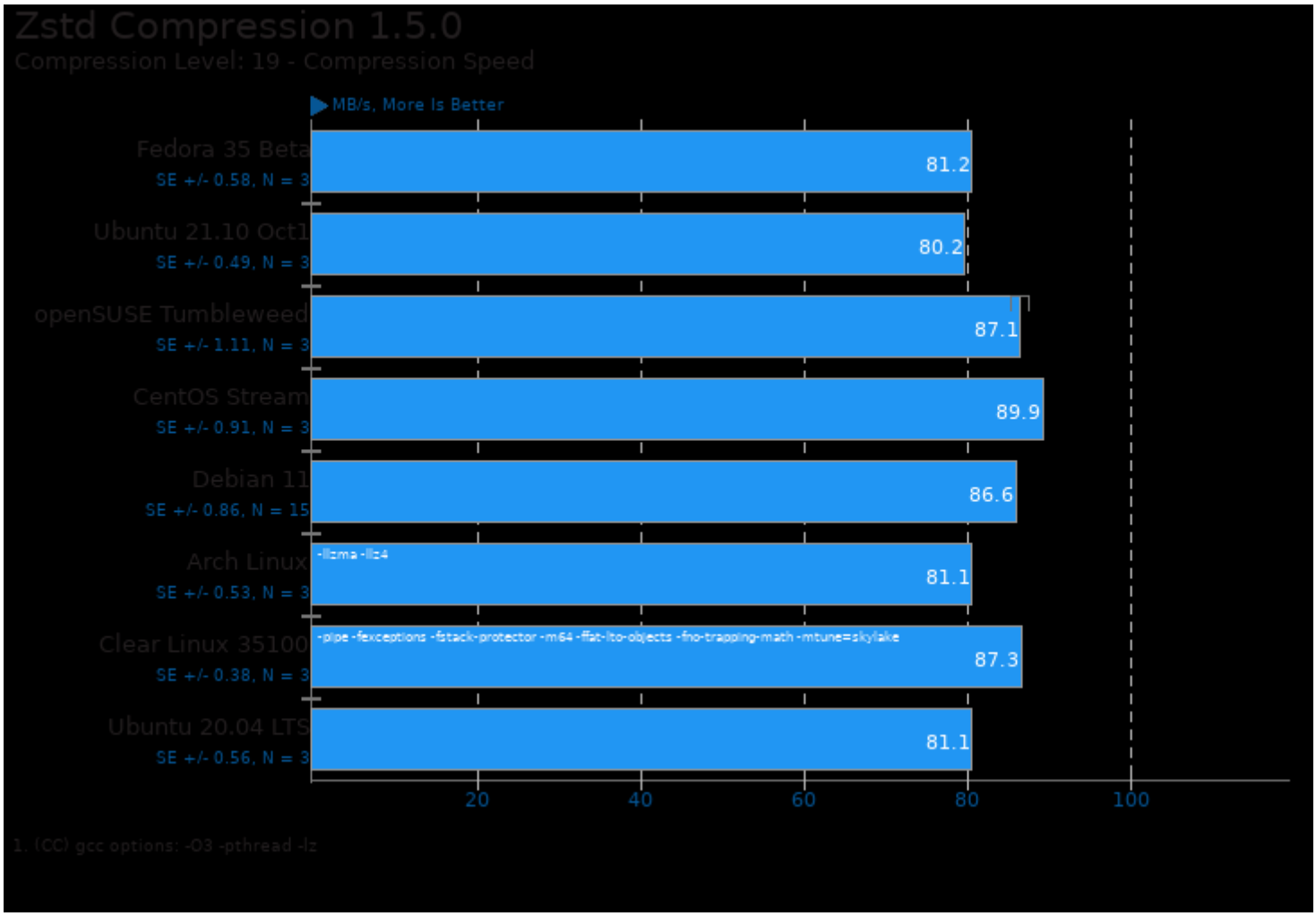
Xeon Platinum 8380 Linux Distro Performance



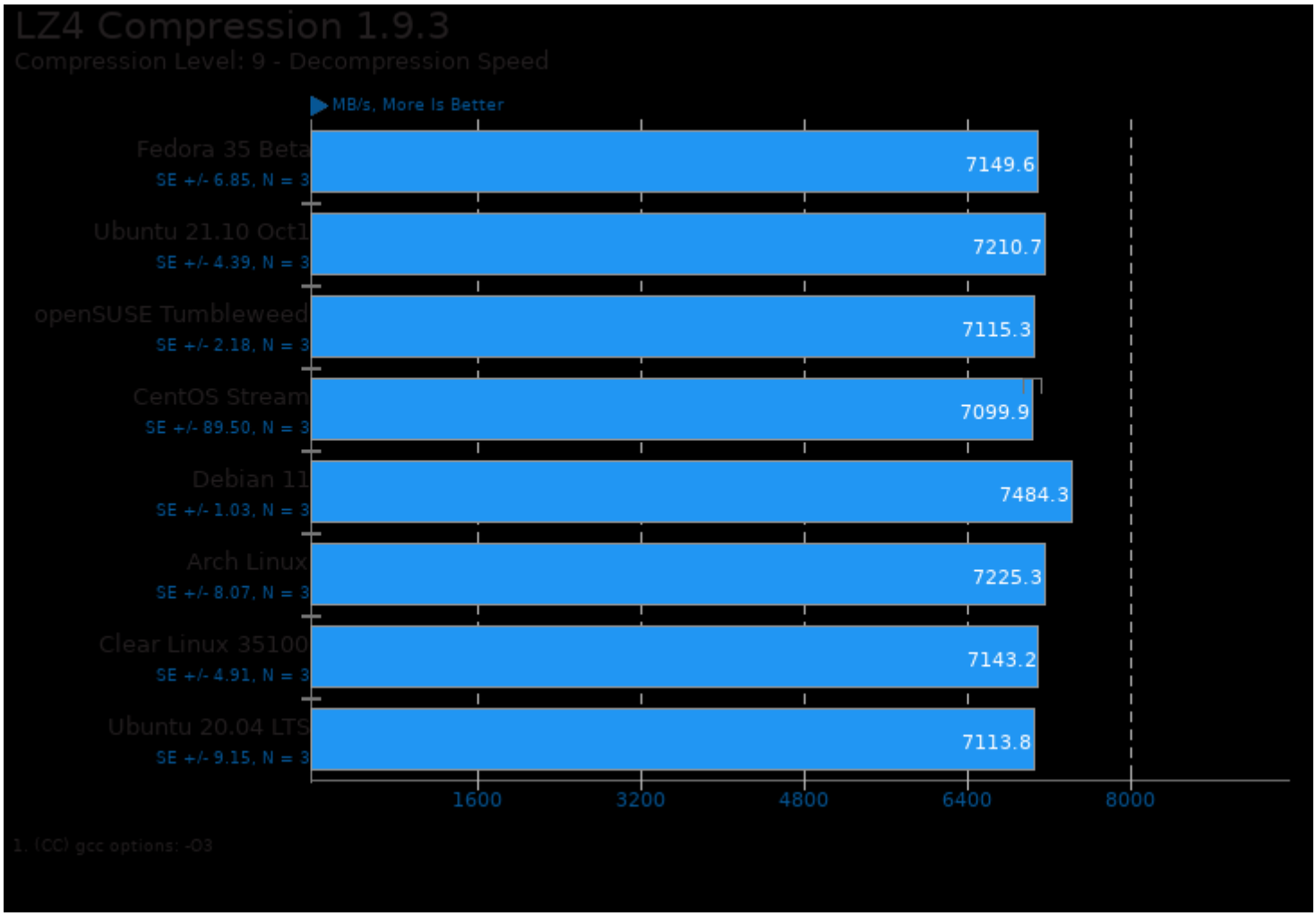
Xeon Platinum 8380 Linux Distro Performance



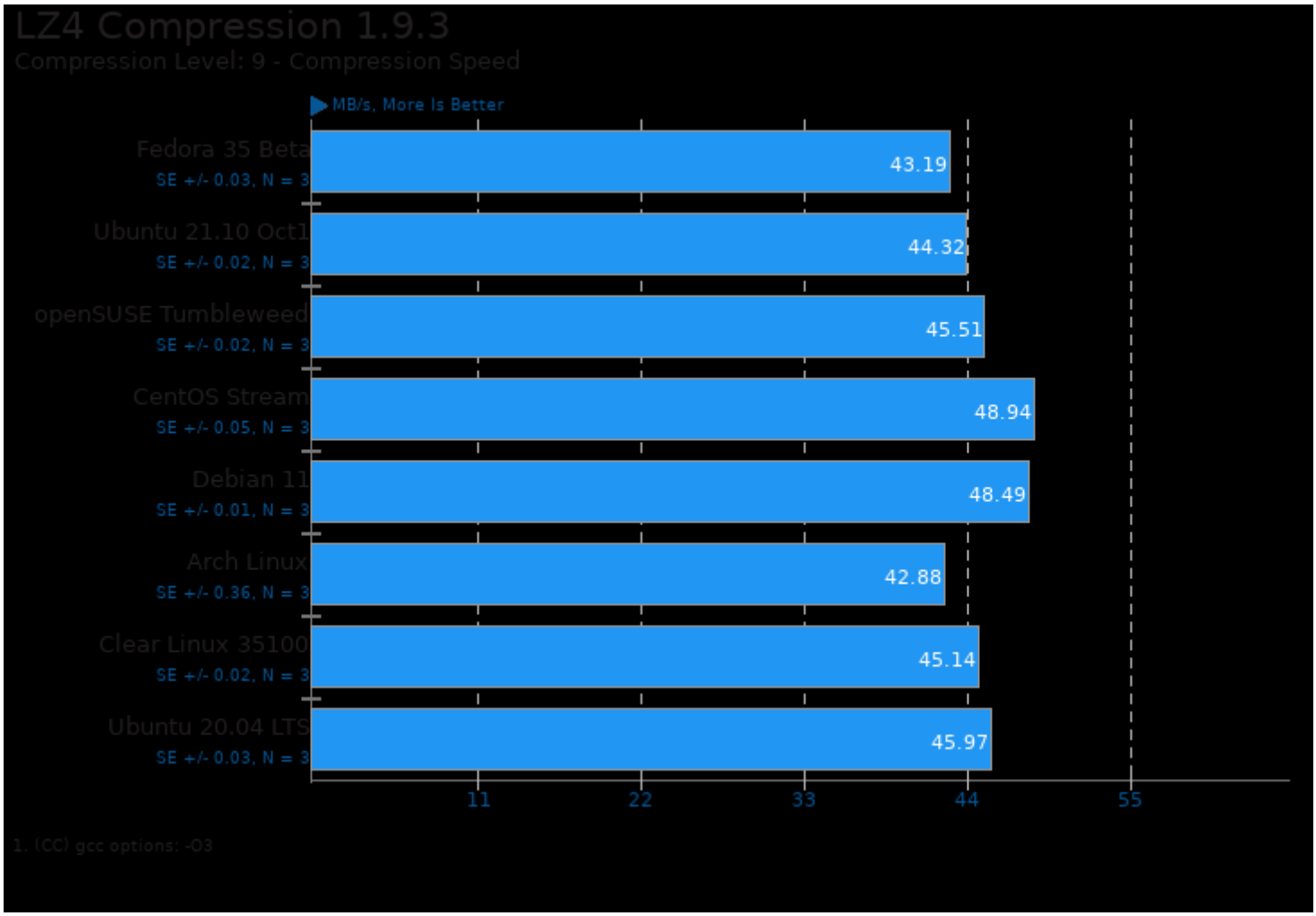
Xeon Platinum 8380 Linux Distro Performance



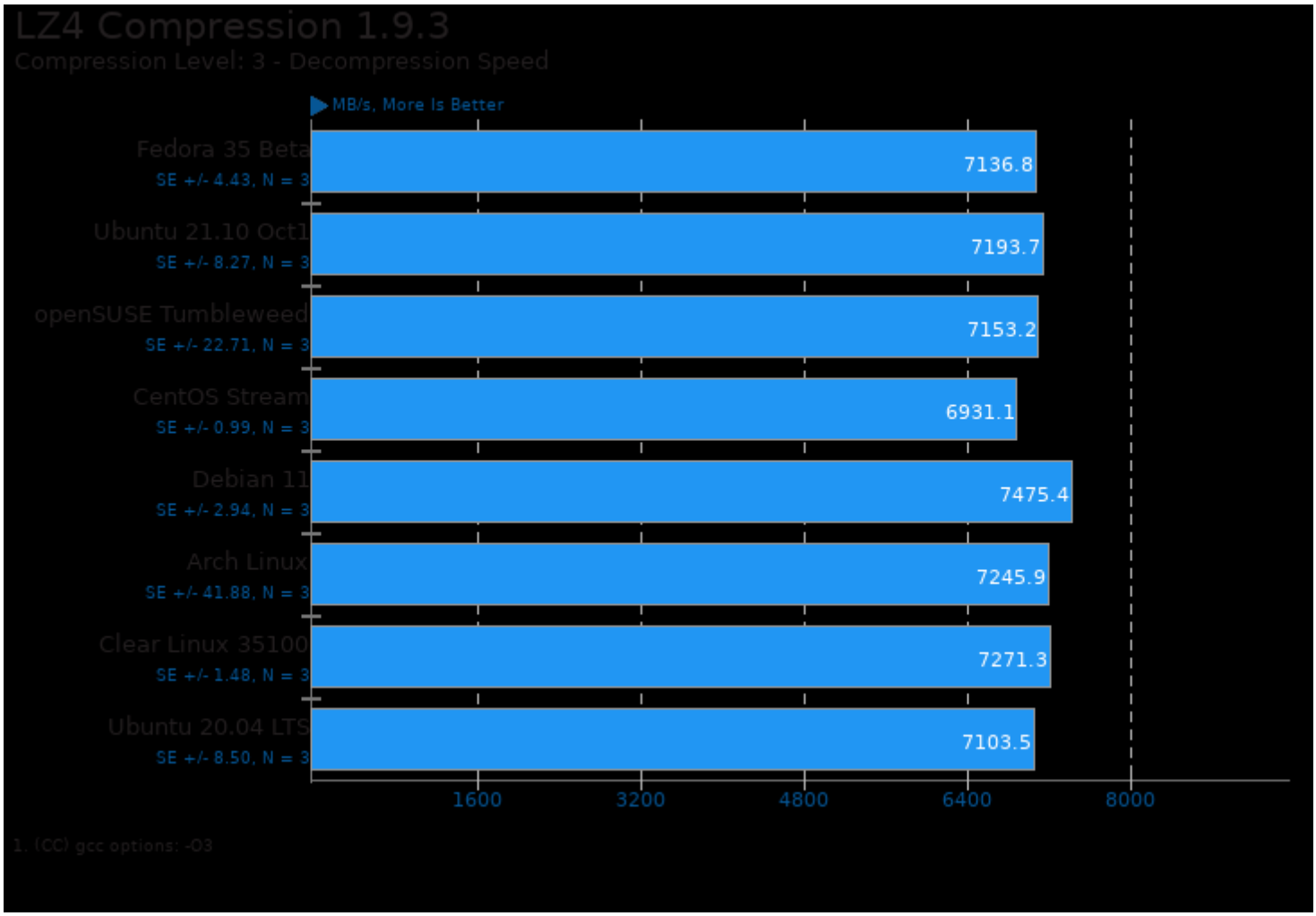
Xeon Platinum 8380 Linux Distro Performance



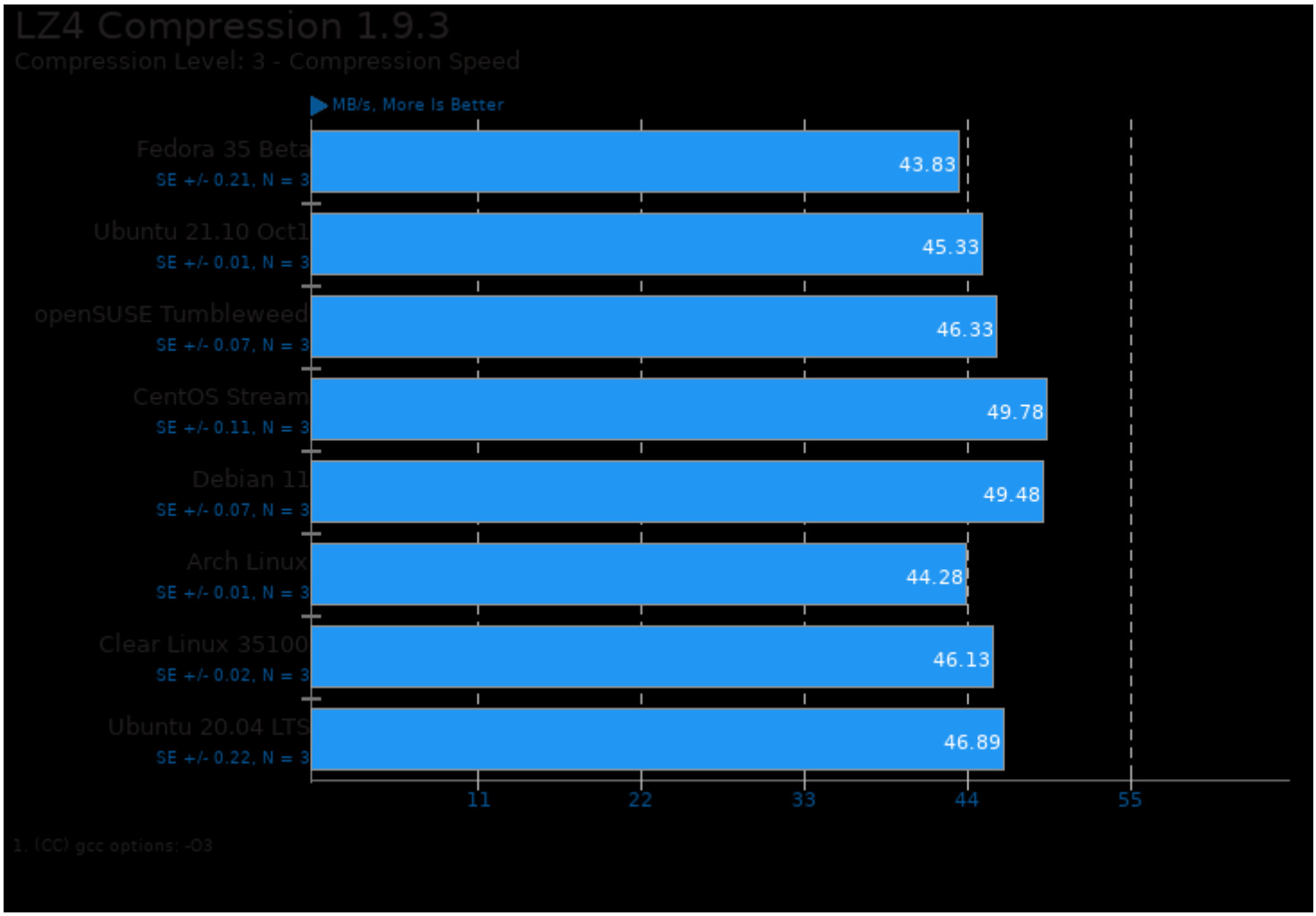
Xeon Platinum 8380 Linux Distro Performance



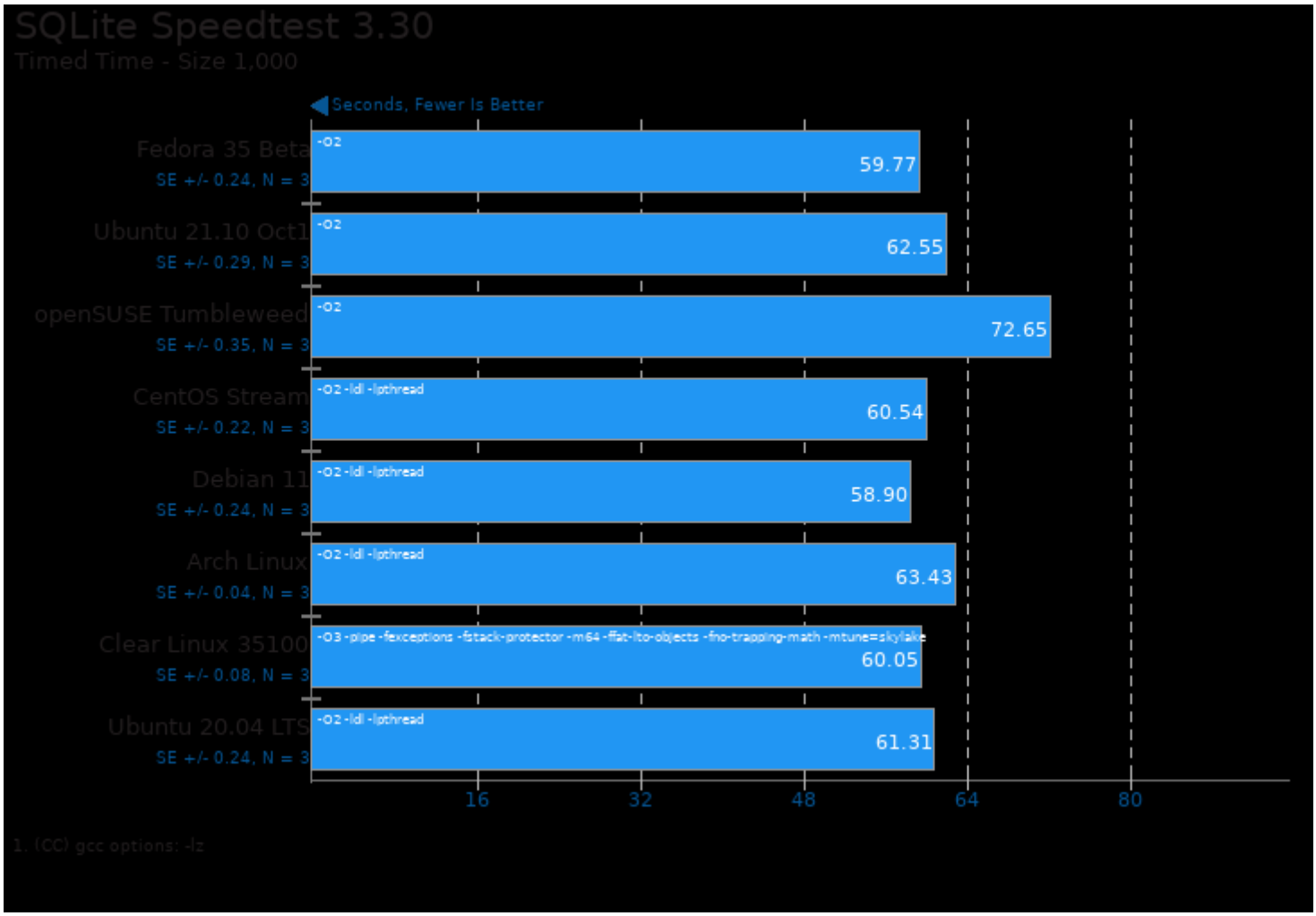
Xeon Platinum 8380 Linux Distro Performance



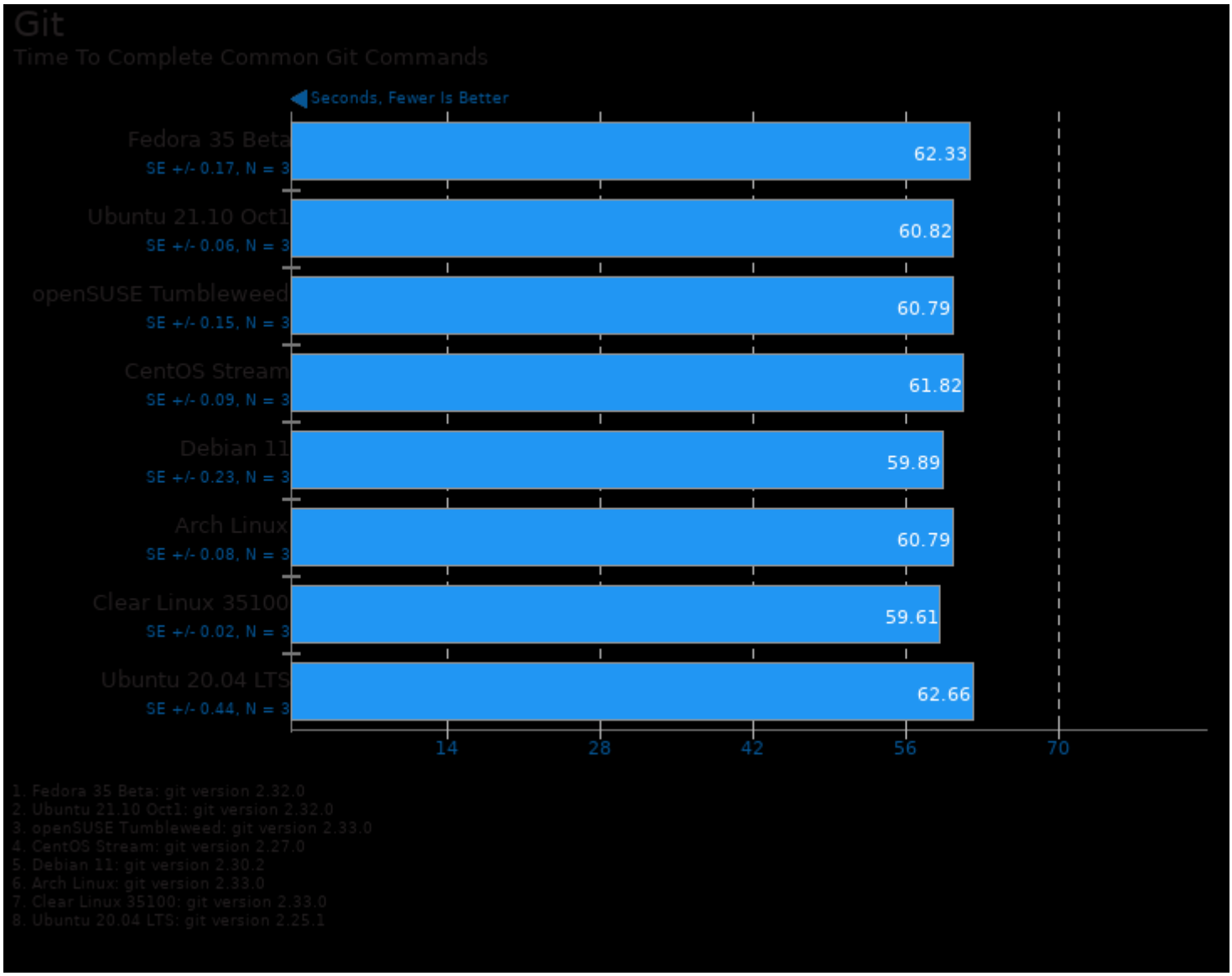
Xeon Platinum 8380 Linux Distro Performance



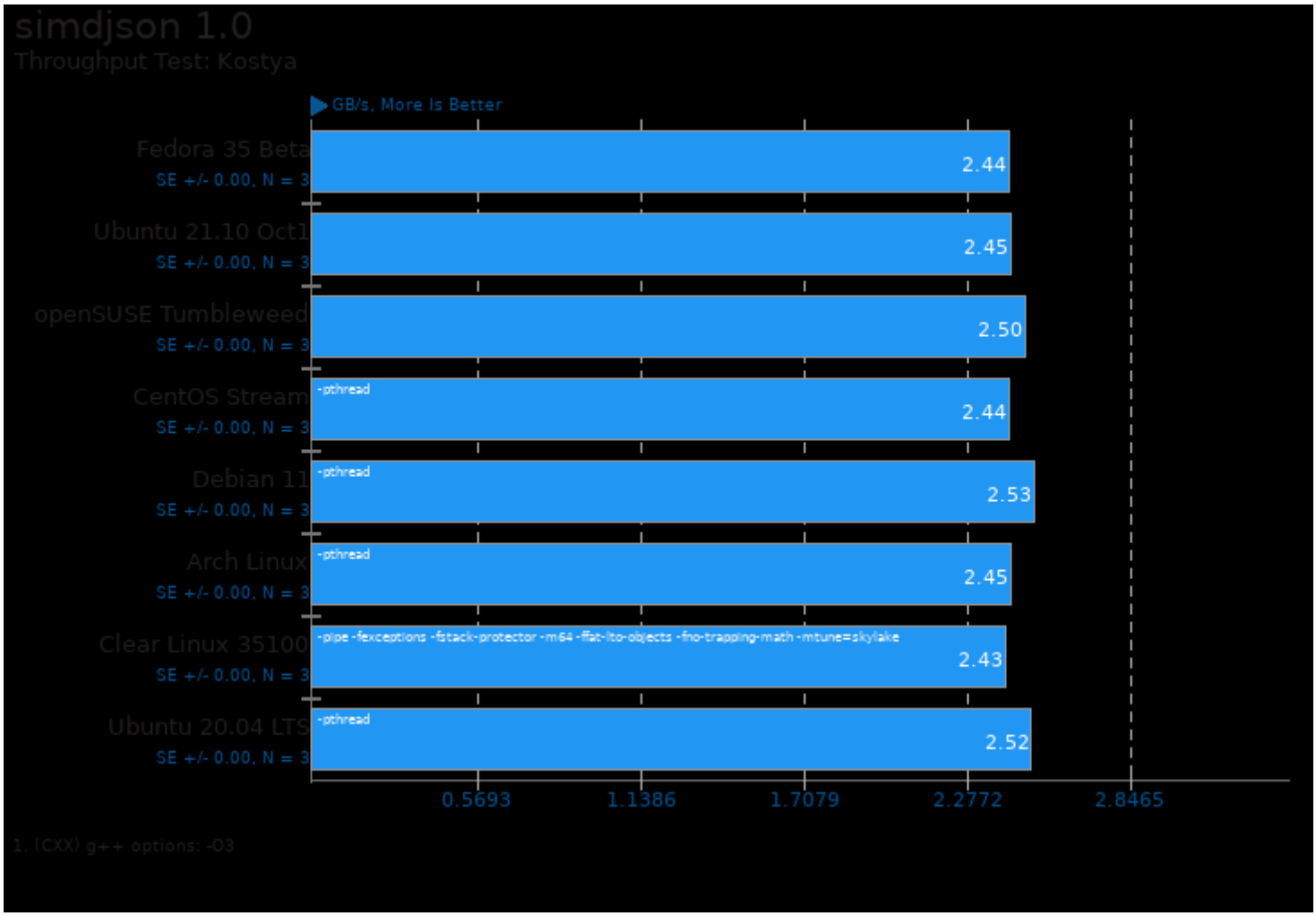
Xeon Platinum 8380 Linux Distro Performance



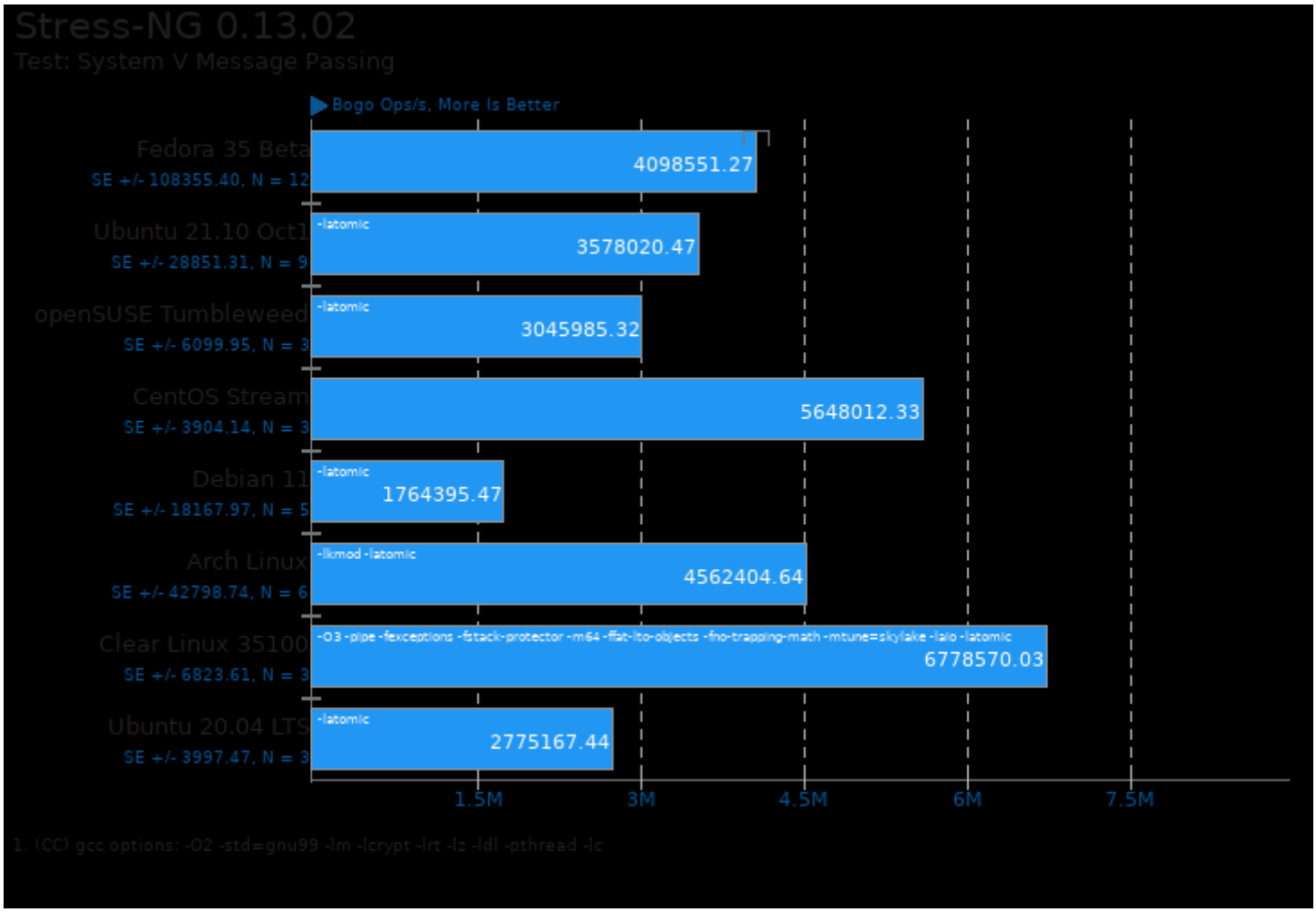
Xeon Platinum 8380 Linux Distro Performance



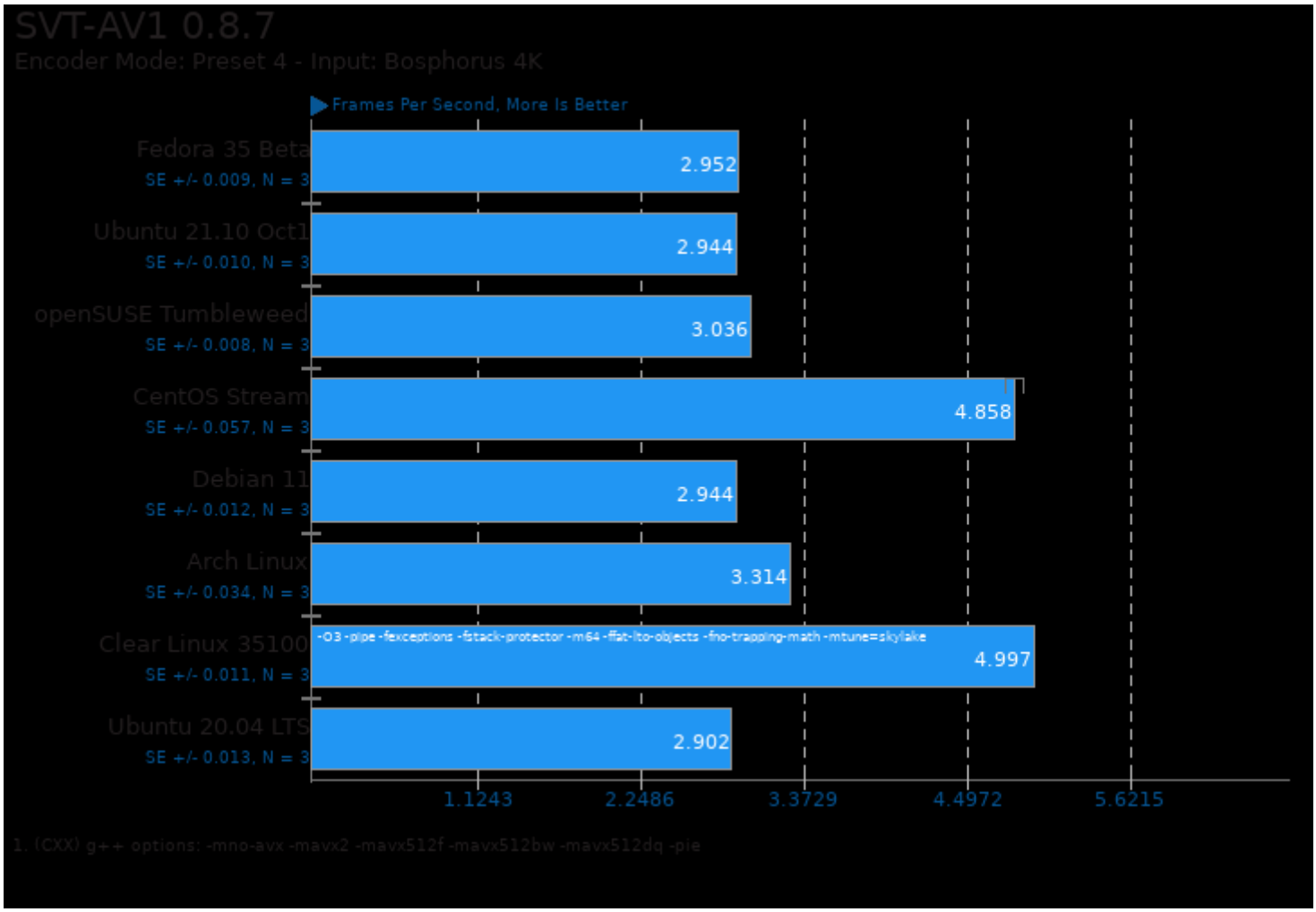
Xeon Platinum 8380 Linux Distro Performance



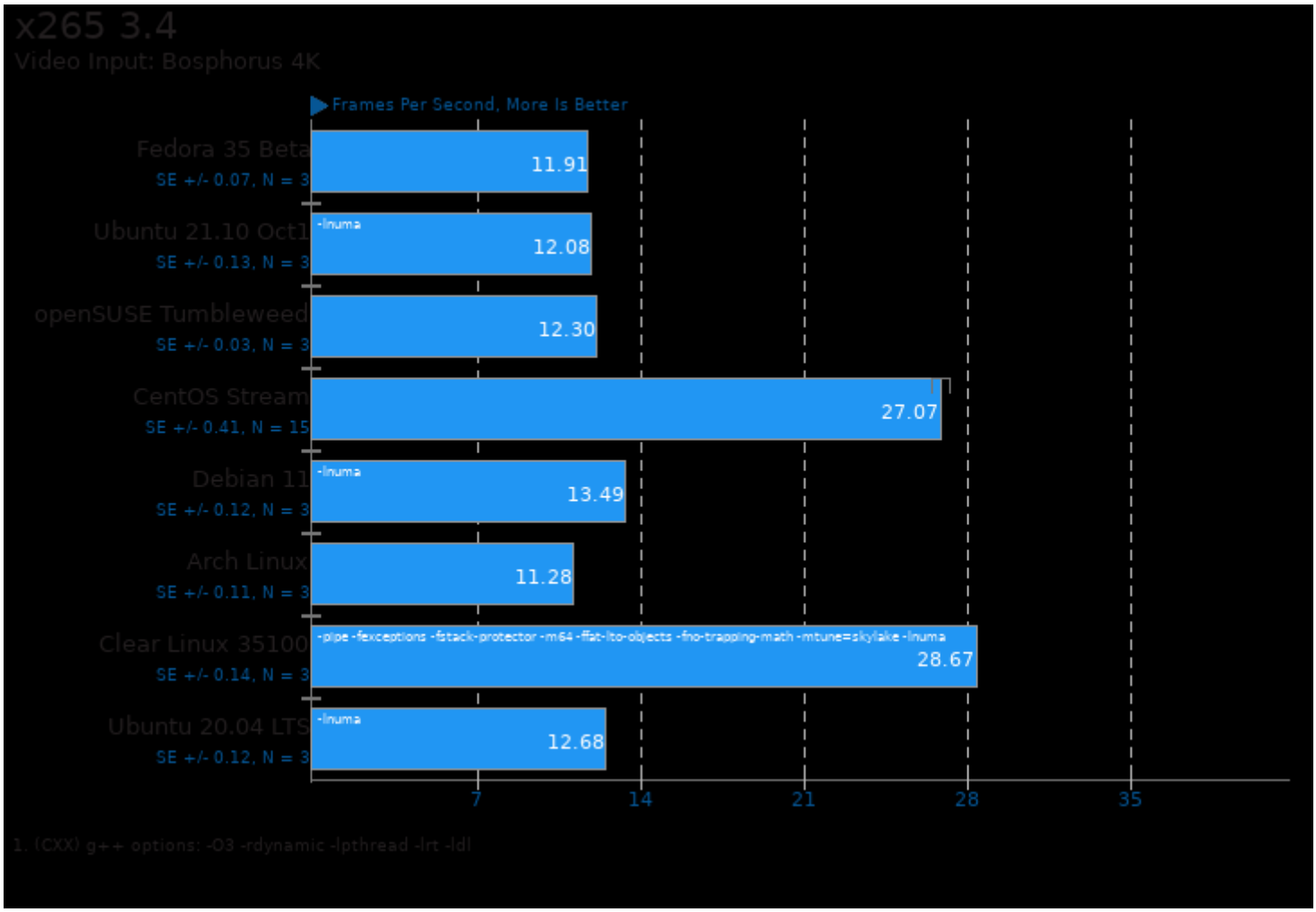
Xeon Platinum 8380 Linux Distro Performance



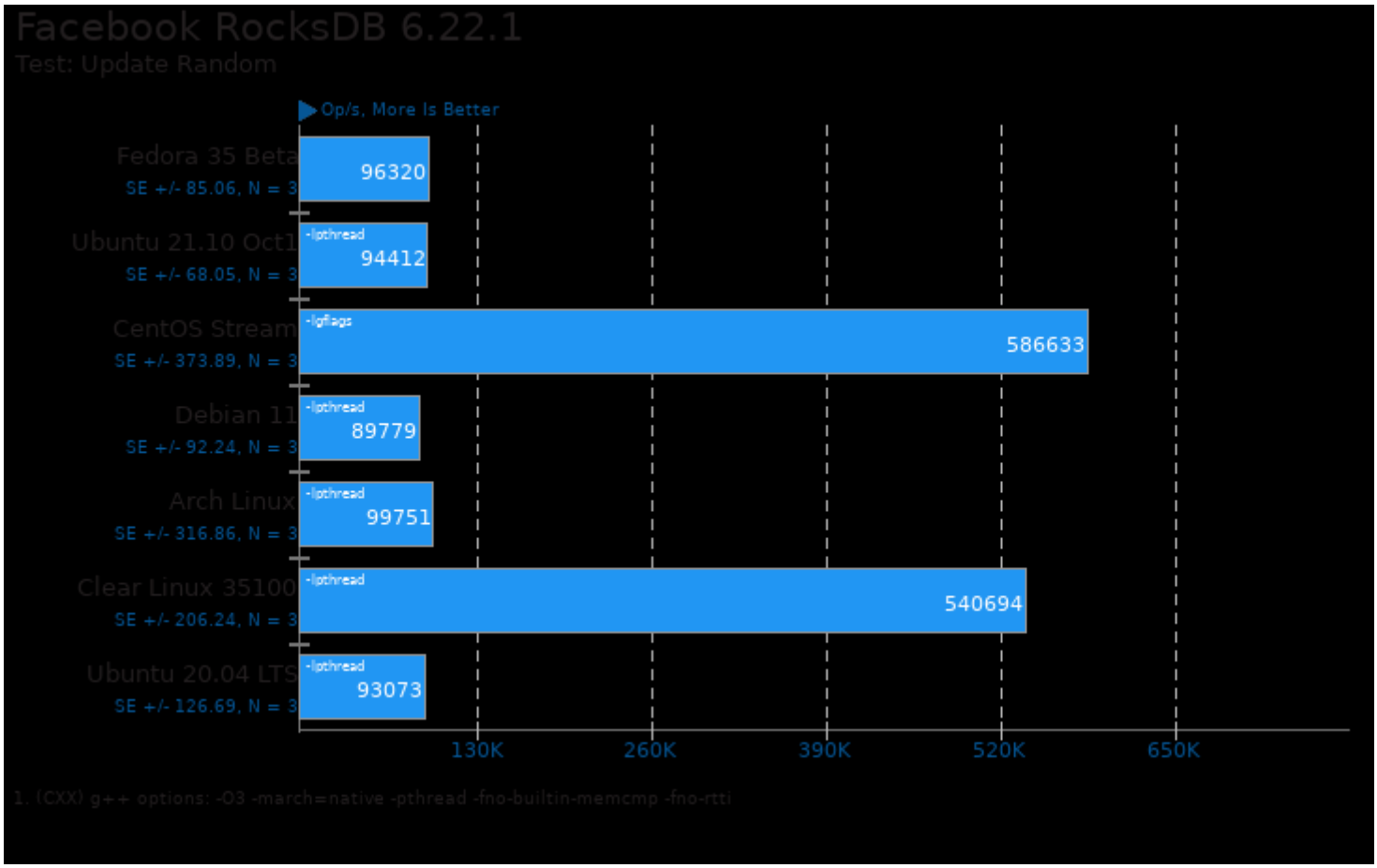
Xeon Platinum 8380 Linux Distro Performance



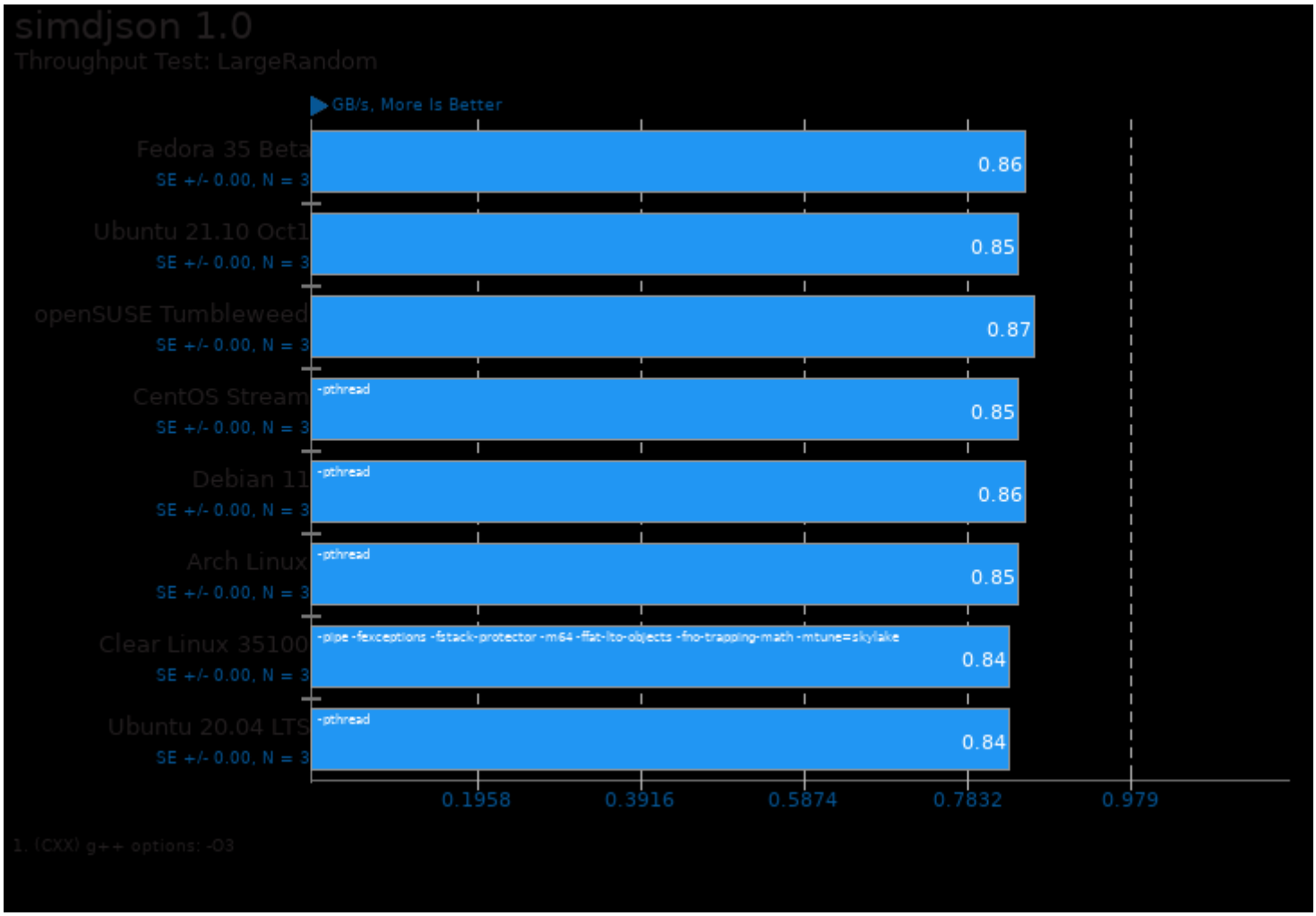
Xeon Platinum 8380 Linux Distro Performance

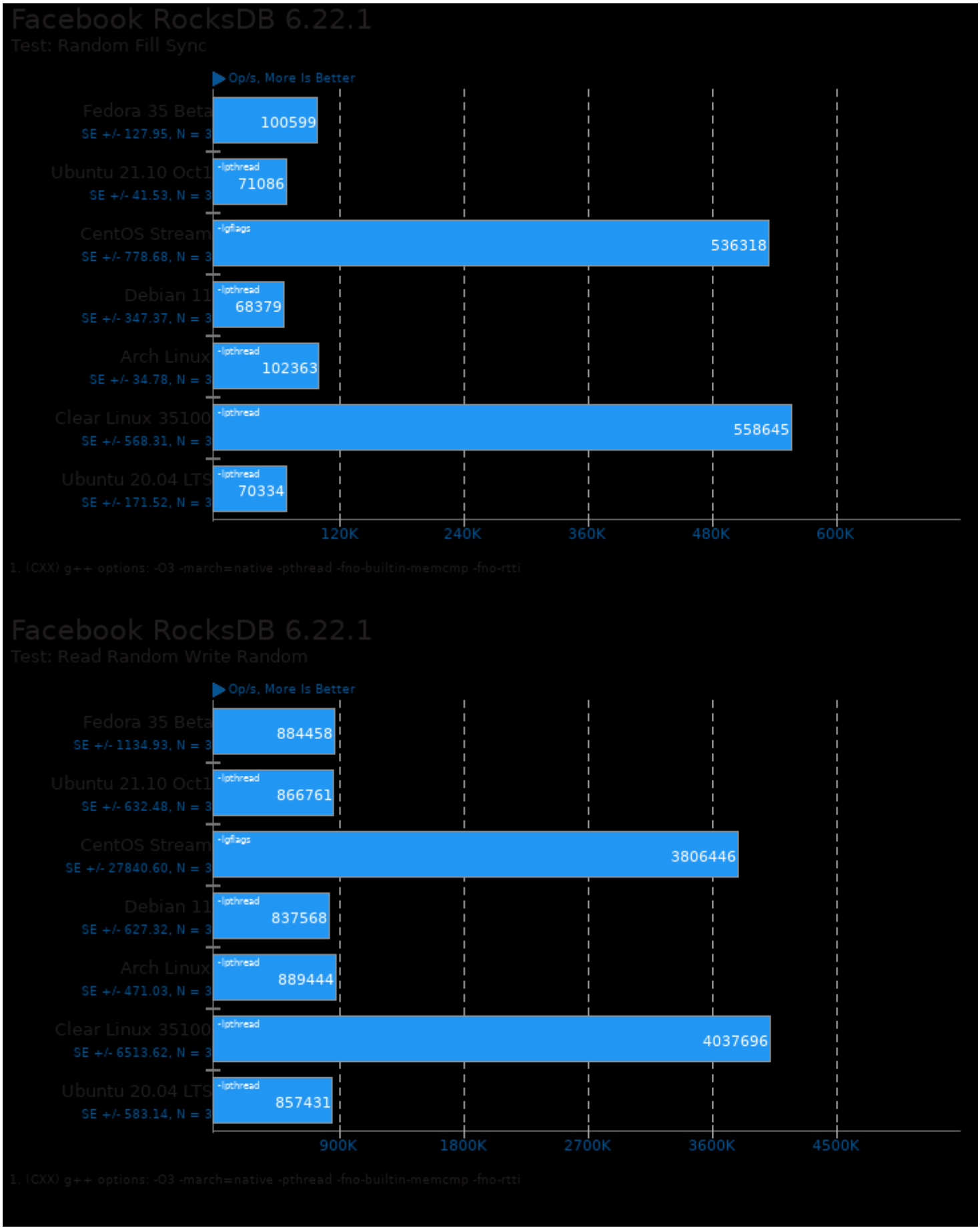


Xeon Platinum 8380 Linux Distro Performance



Xeon Platinum 8380 Linux Distro Performance

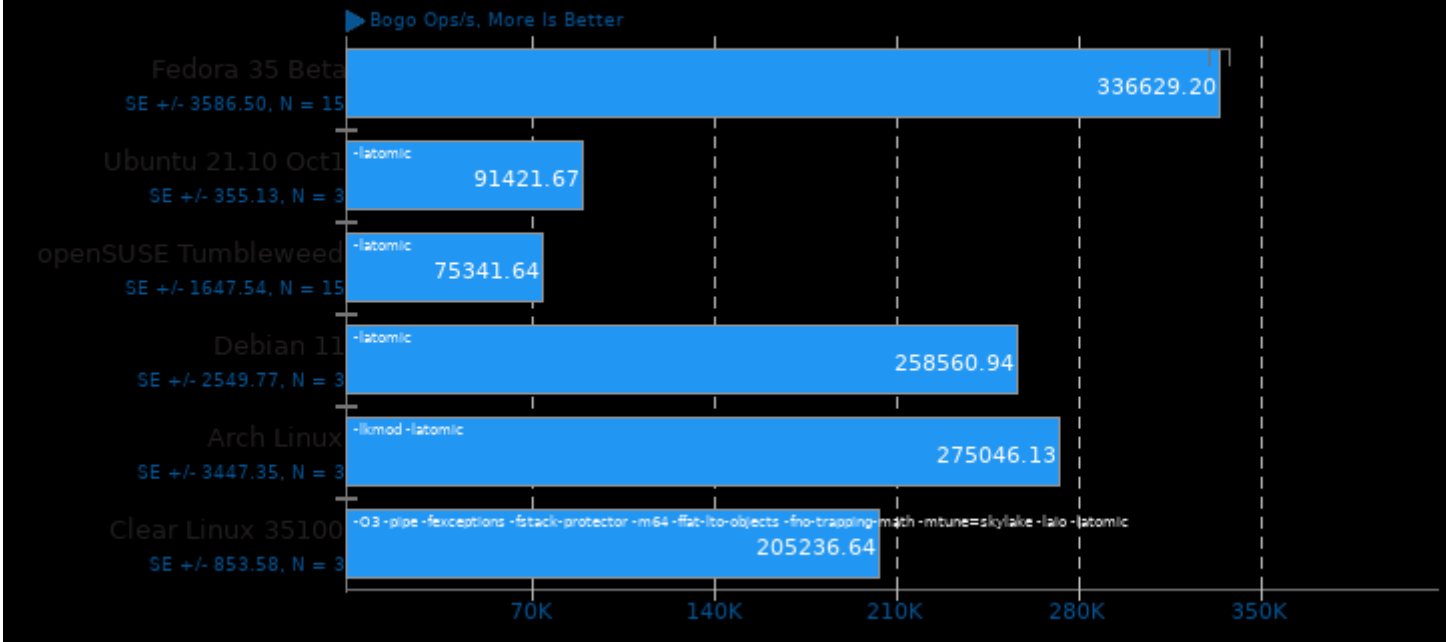



Facebook RocksDB 6.22.1
Test: Random Fill Sync
Op/s, More Is Better
Fedora 35 Beta
SE +/- 127.95, N = 3
100599
Ubuntu 21.10 Oct1
SE +/- 41.53, N = 3
-lpthread
71086
CentOS Stream
SE +/- 778.68, N = 3
-lgflags
536318
Debian 11
SE +/- 347.37, N = 3
-lpthread
68379
Arch Linux
SE +/- 34.78, N = 3
-lpthread
102363
Clear Linux 35100
SE +/- 568.31, N = 3
-lpthread
558645
Ubuntu 20.04 LTS
SE +/- 171.52, N = 3
-lpthread
70334
120K
240K
360K
480K
600K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti
Facebook RocksDB 6.22.1
Test: Read Random Write Random
Op/s, More Is Better
Fedora 35 Beta
SE +/- 1134.93, N = 3
884458
Ubuntu 21.10 Oct1
SE +/- 632.48, N = 3
-lpthread
866761
CentOS Stream
SE +/- 27840.60, N = 3
-lgflags
3806446
Debian 11
SE +/- 627.32, N = 3
-lpthread
837568
Arch Linux
SE +/- 471.03, N = 3
-lpthread
889444
Clear Linux 35100
SE +/- 6513.62, N = 3
-lpthread
4037696
Ubuntu 20.04 LTS
SE +/- 583.14, N = 3
-lpthread
857431
900K
1800K
2700K
3600K
4500K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti

Xeon Platinum 8380 Linux Distro Performance

Stress-NG 0.13.02

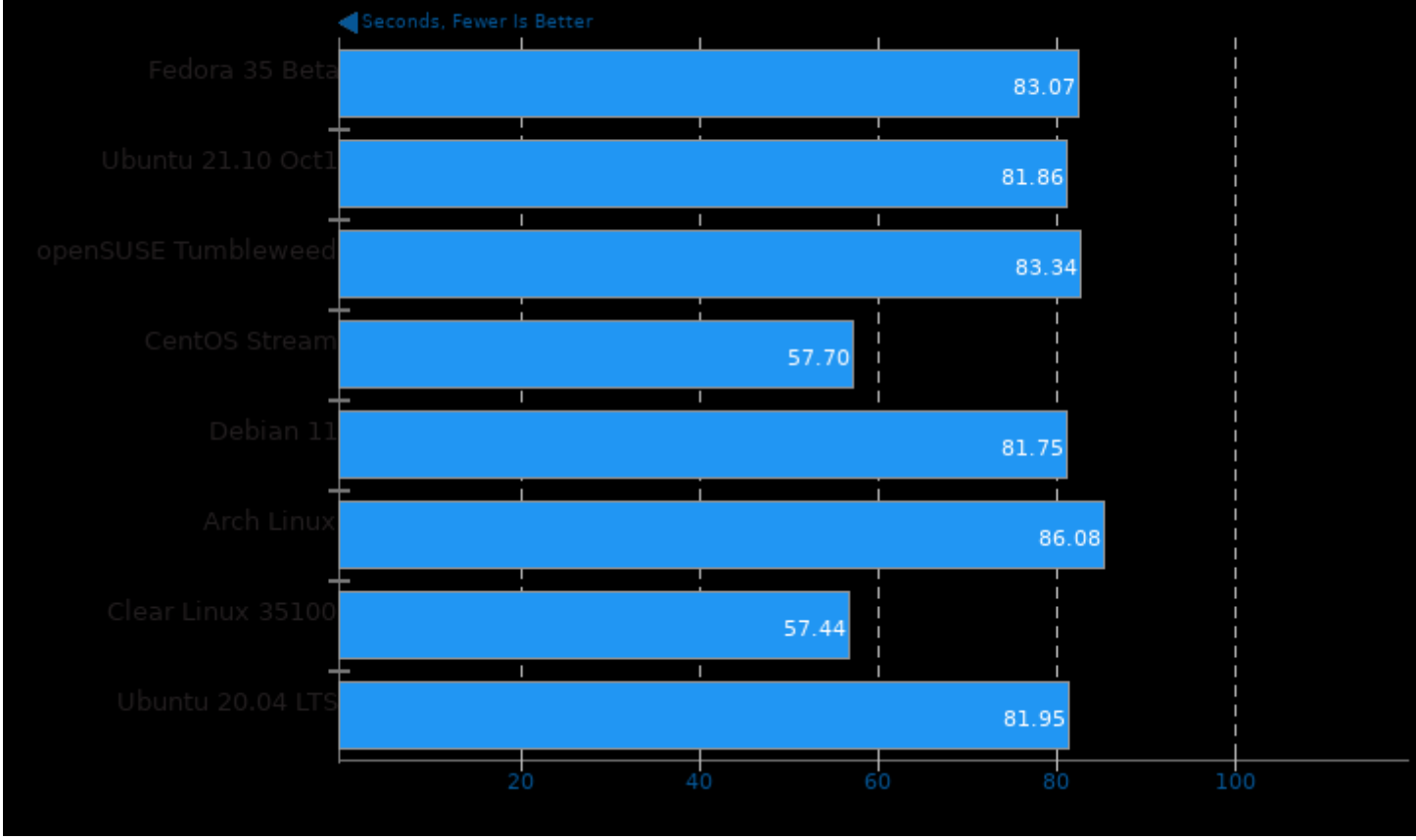
Test: IO_uring



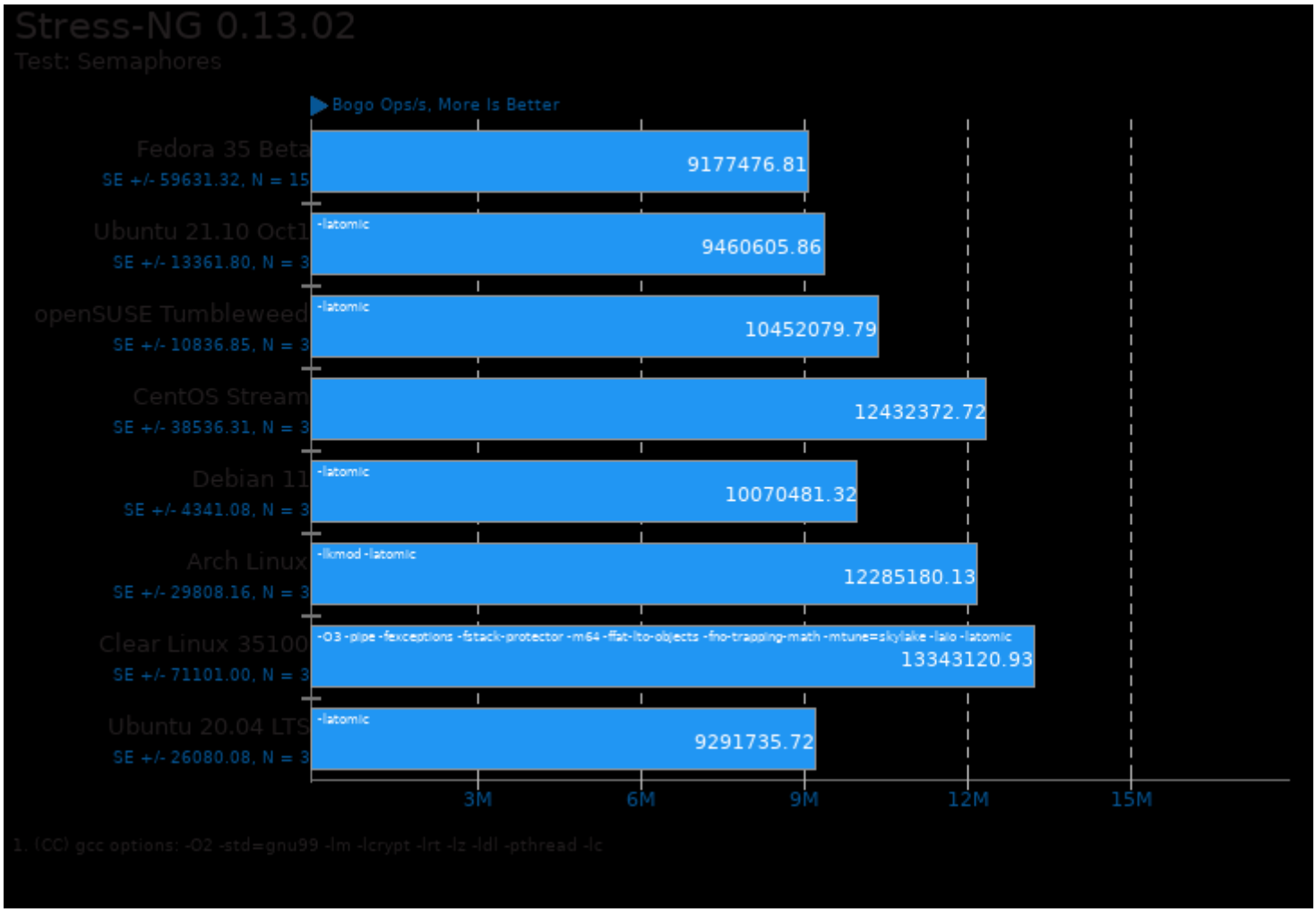
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc

Appleseed 2.0 Beta

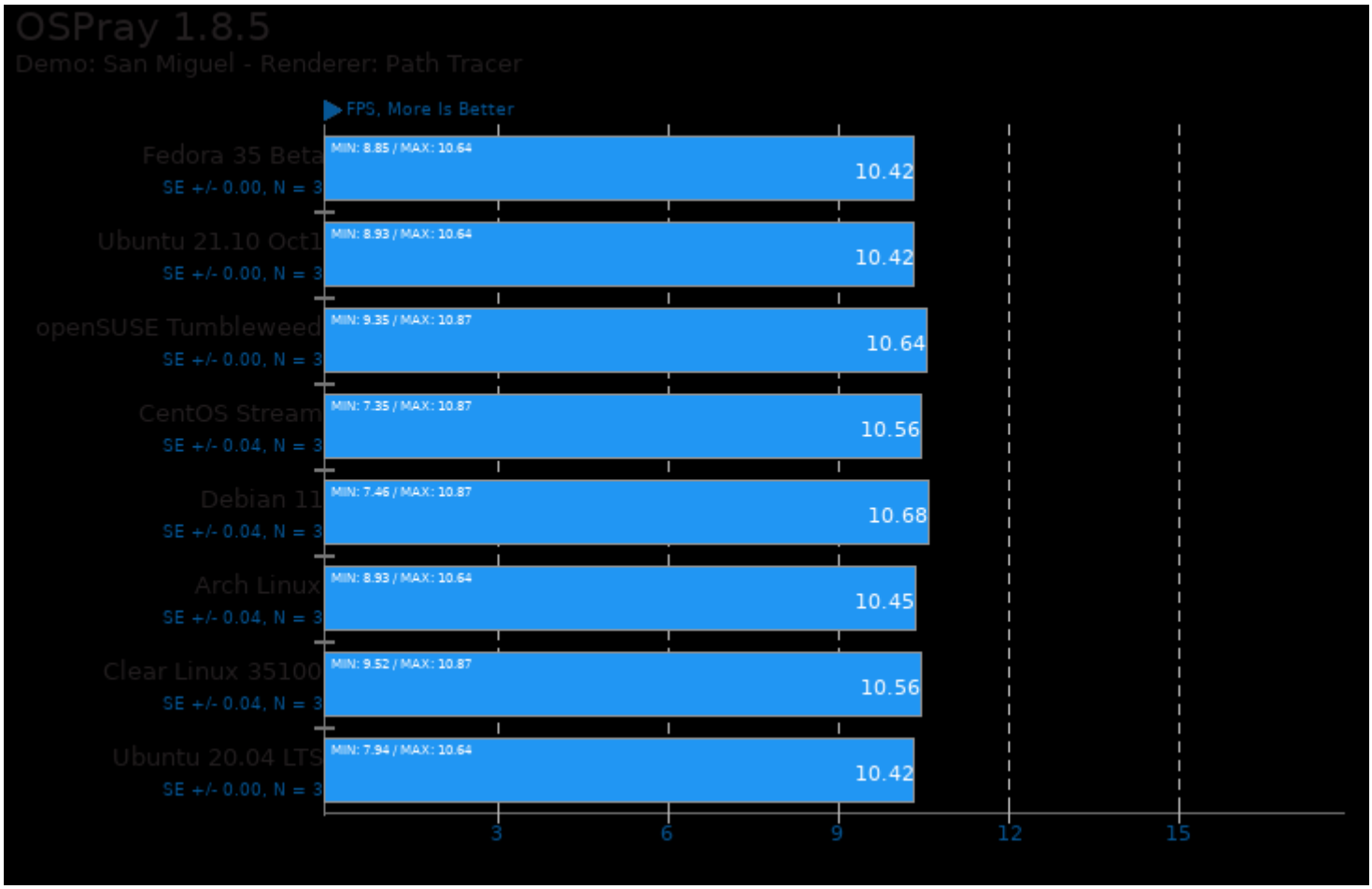
Scene: Disney Material



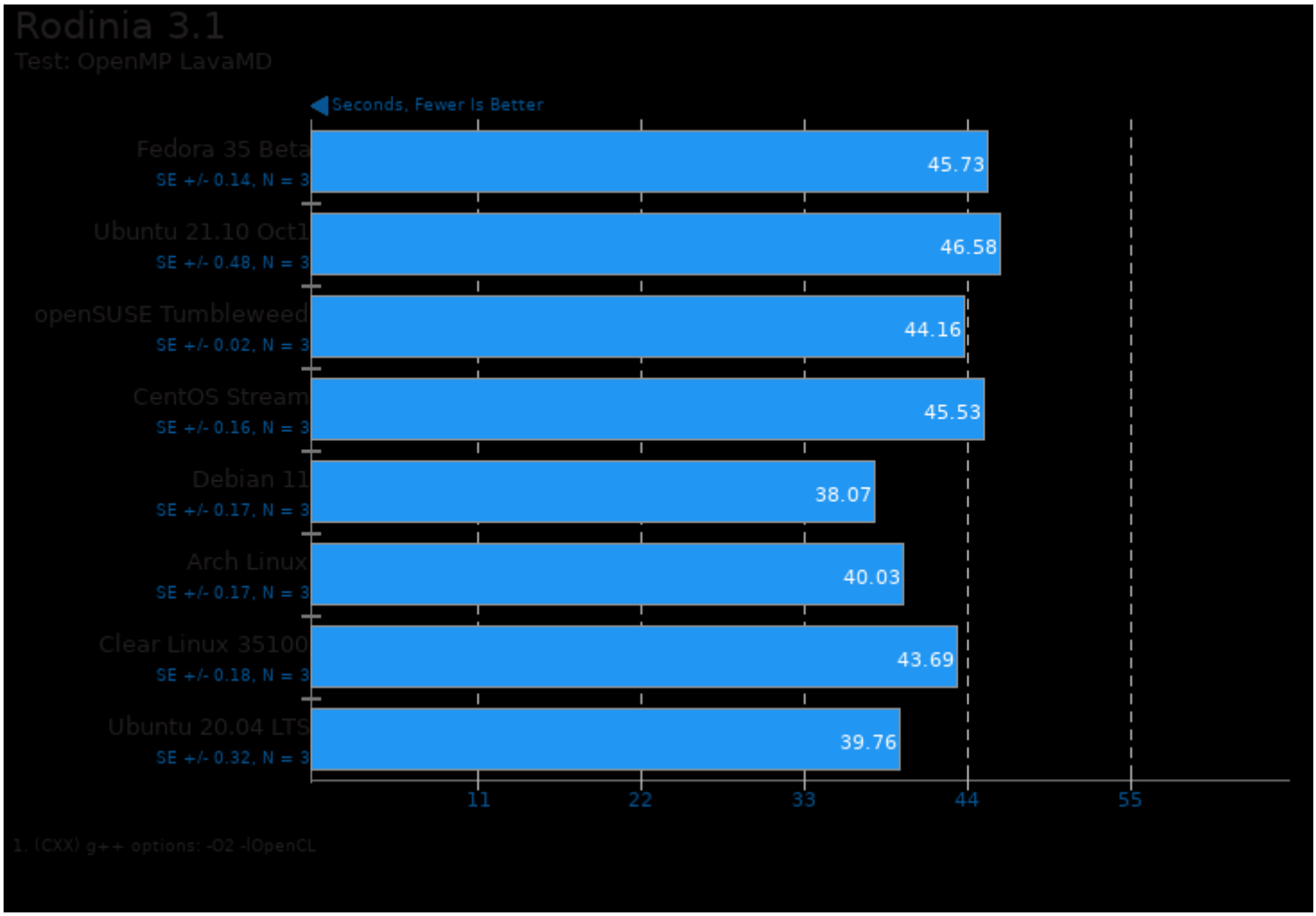
Xeon Platinum 8380 Linux Distro Performance



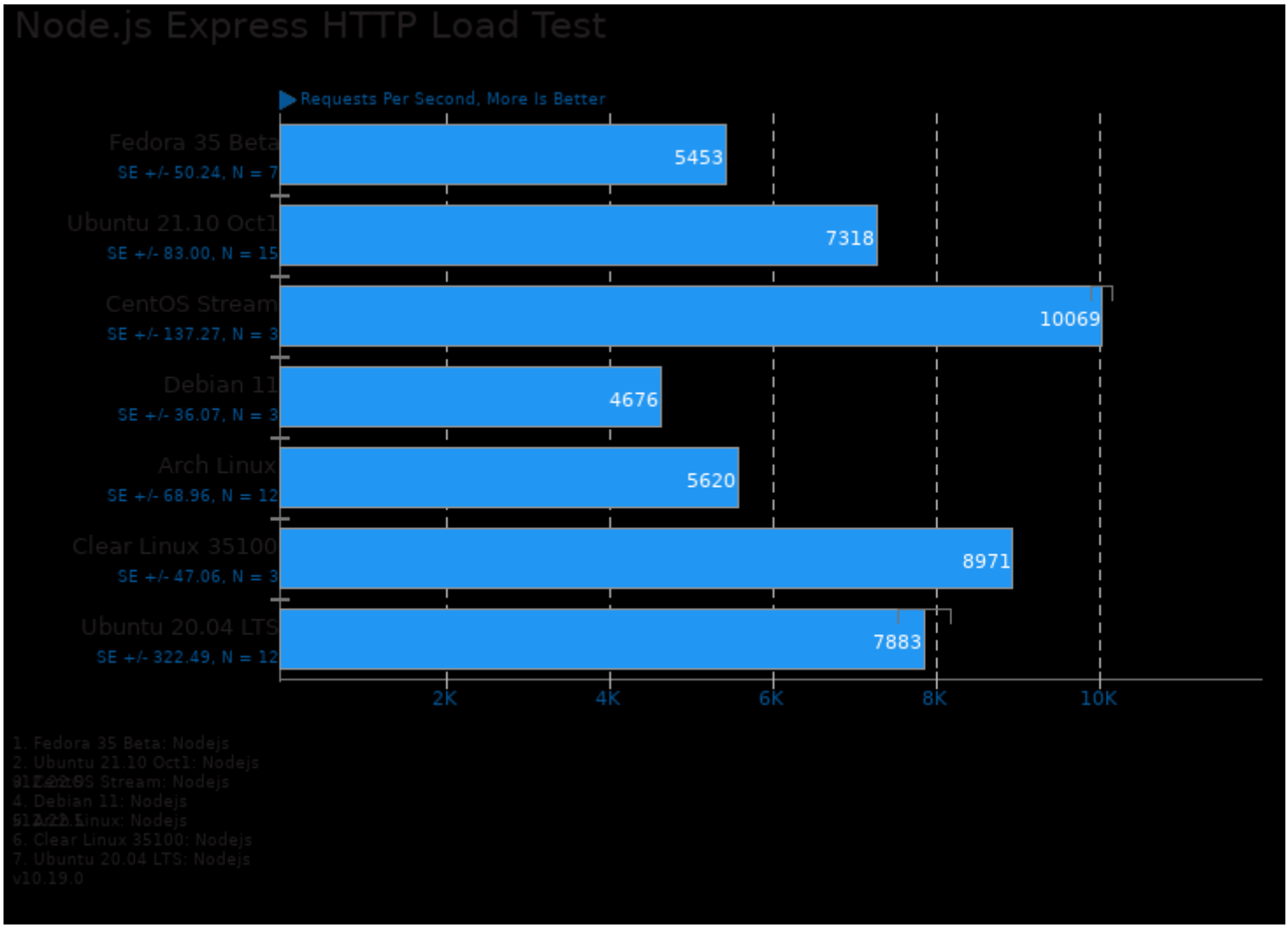
Xeon Platinum 8380 Linux Distro Performance



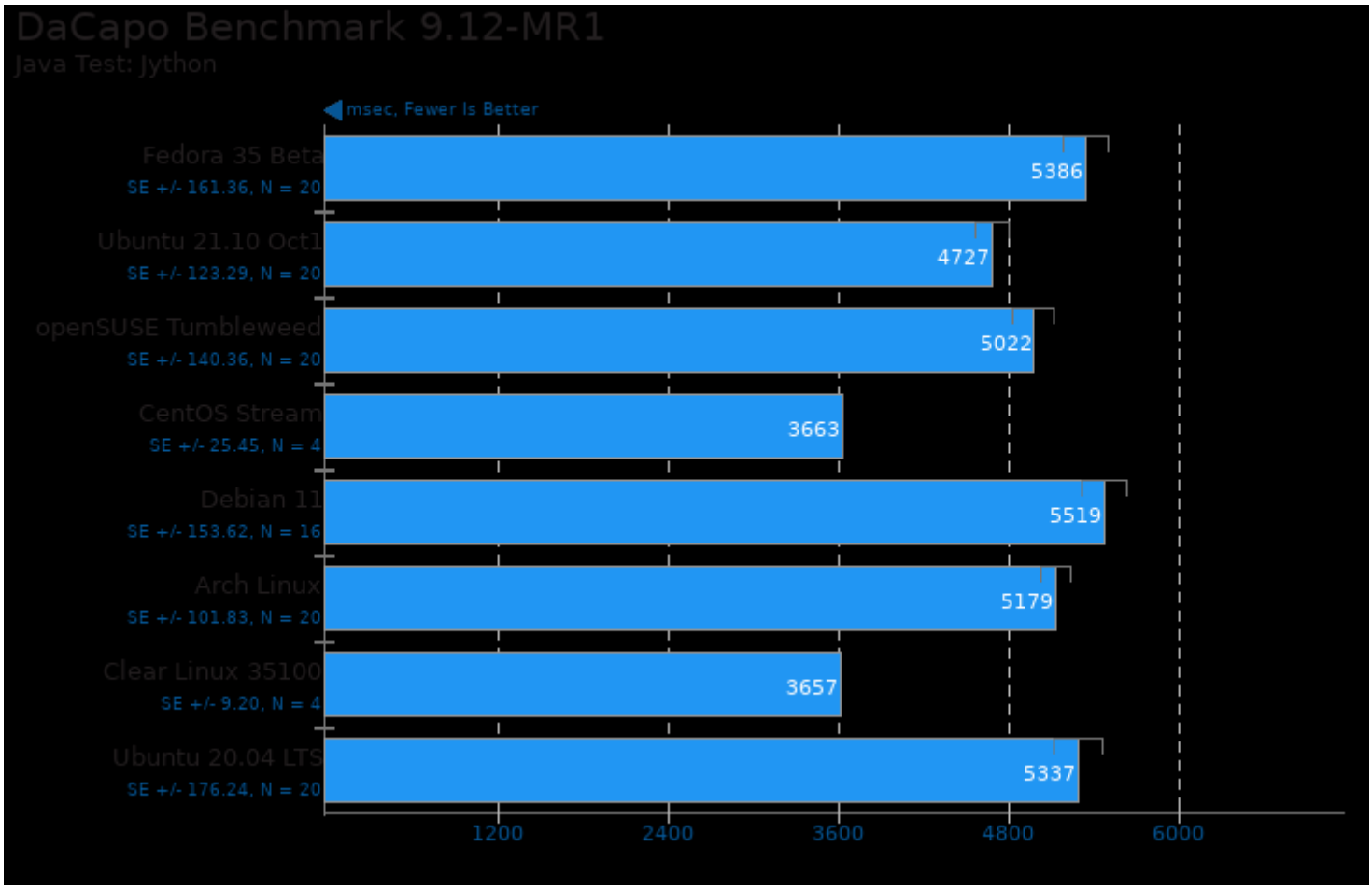
Xeon Platinum 8380 Linux Distro Performance



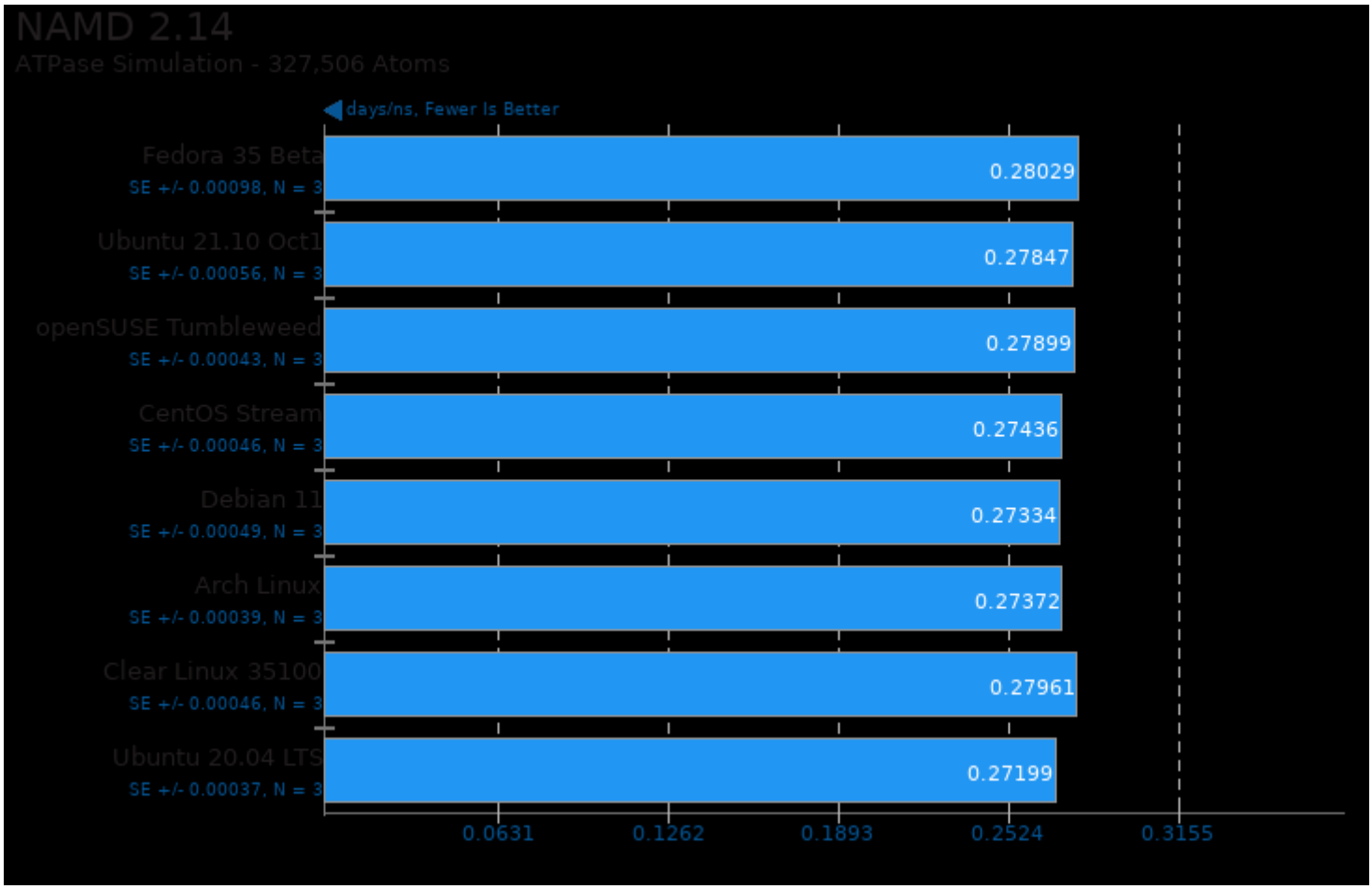
Xeon Platinum 8380 Linux Distro Performance



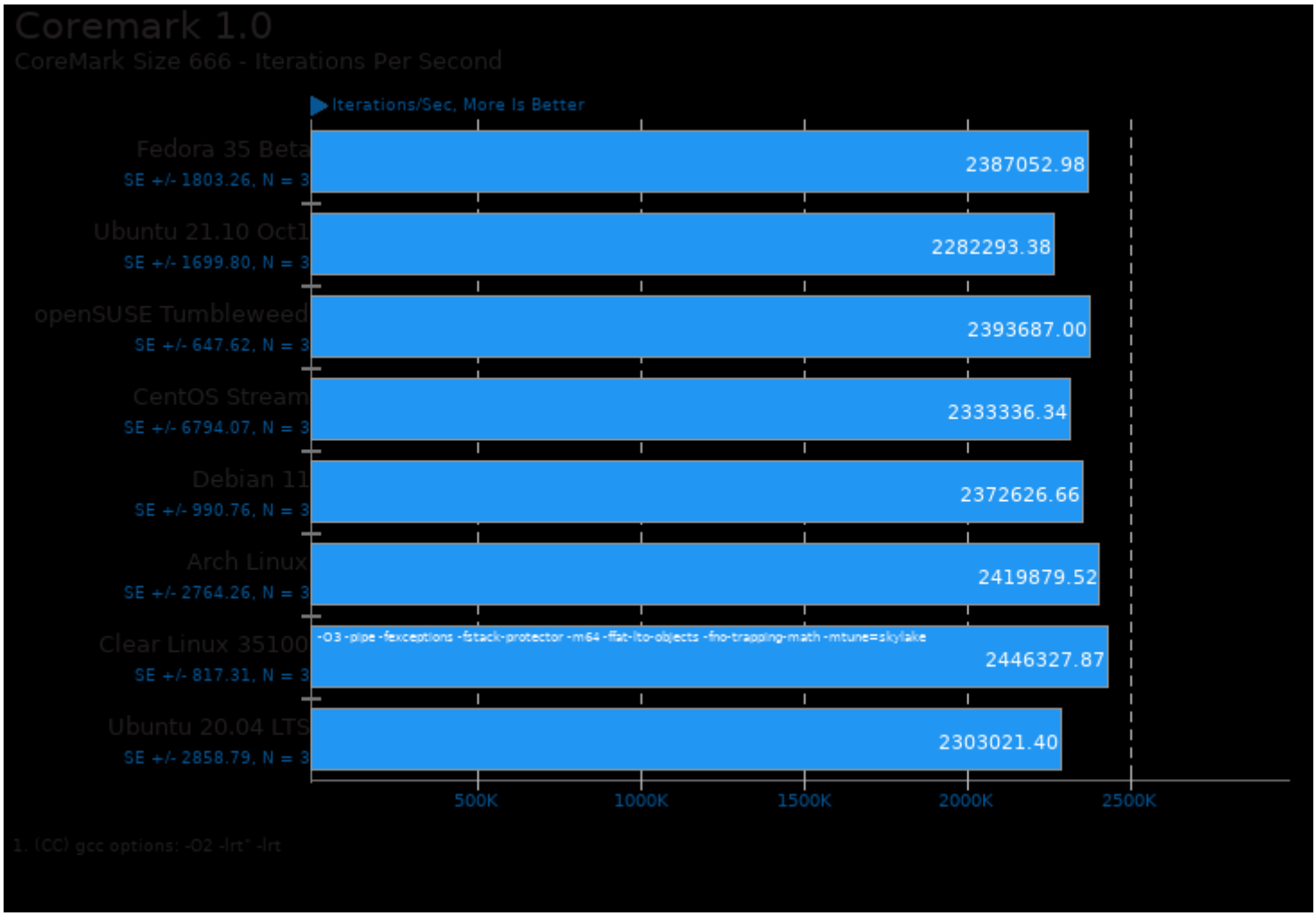
Xeon Platinum 8380 Linux Distro Performance



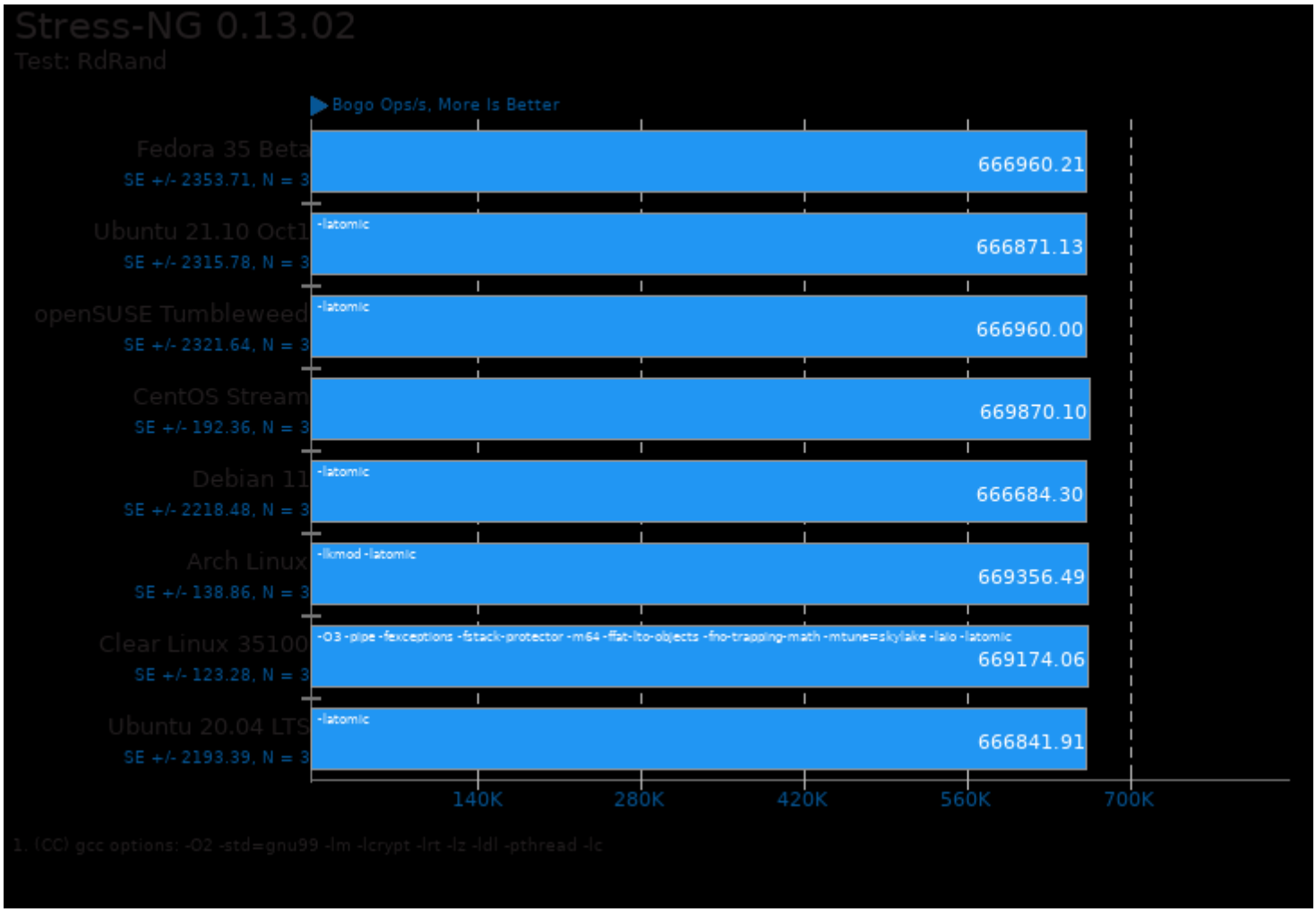
Xeon Platinum 8380 Linux Distro Performance



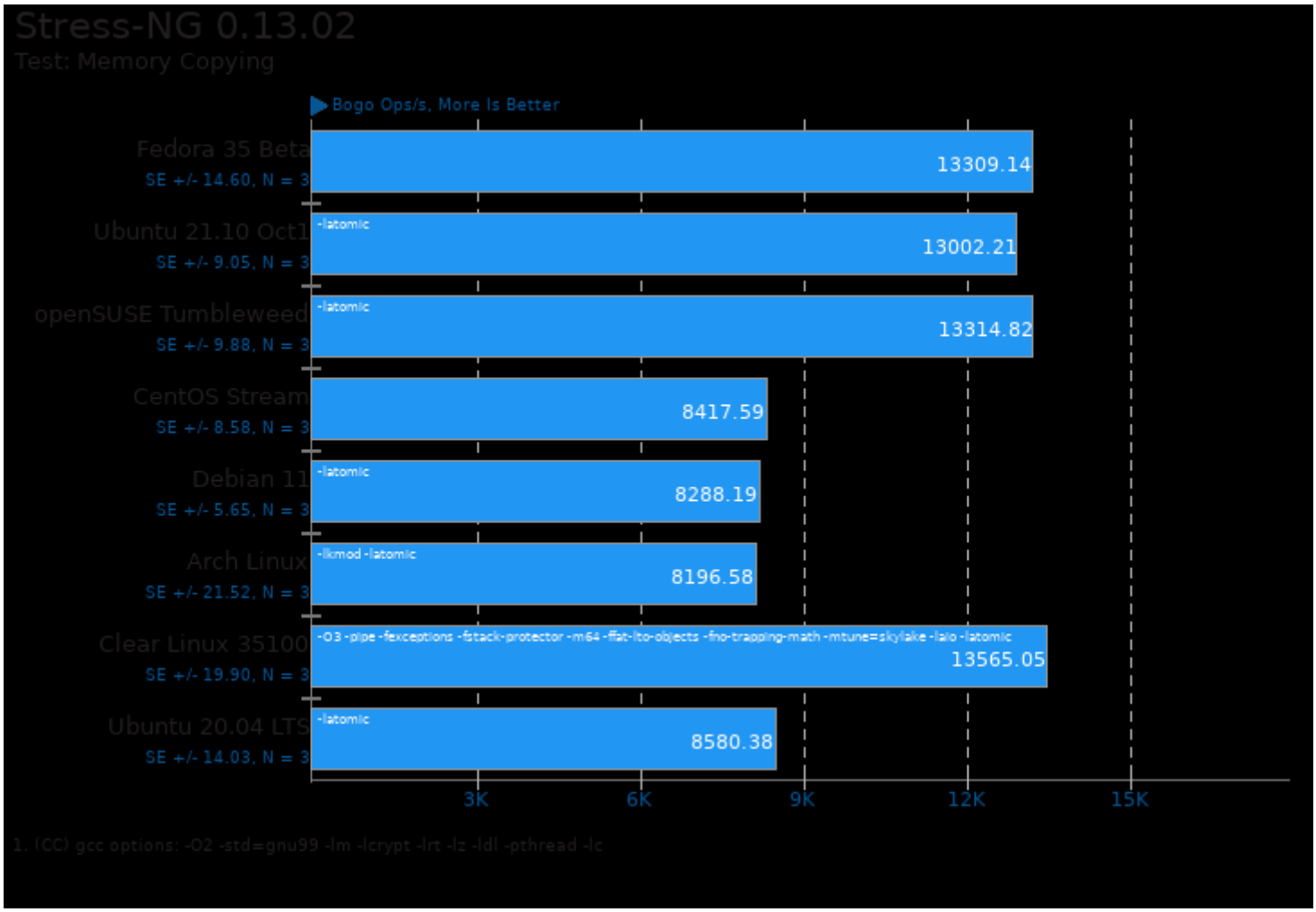
Xeon Platinum 8380 Linux Distro Performance



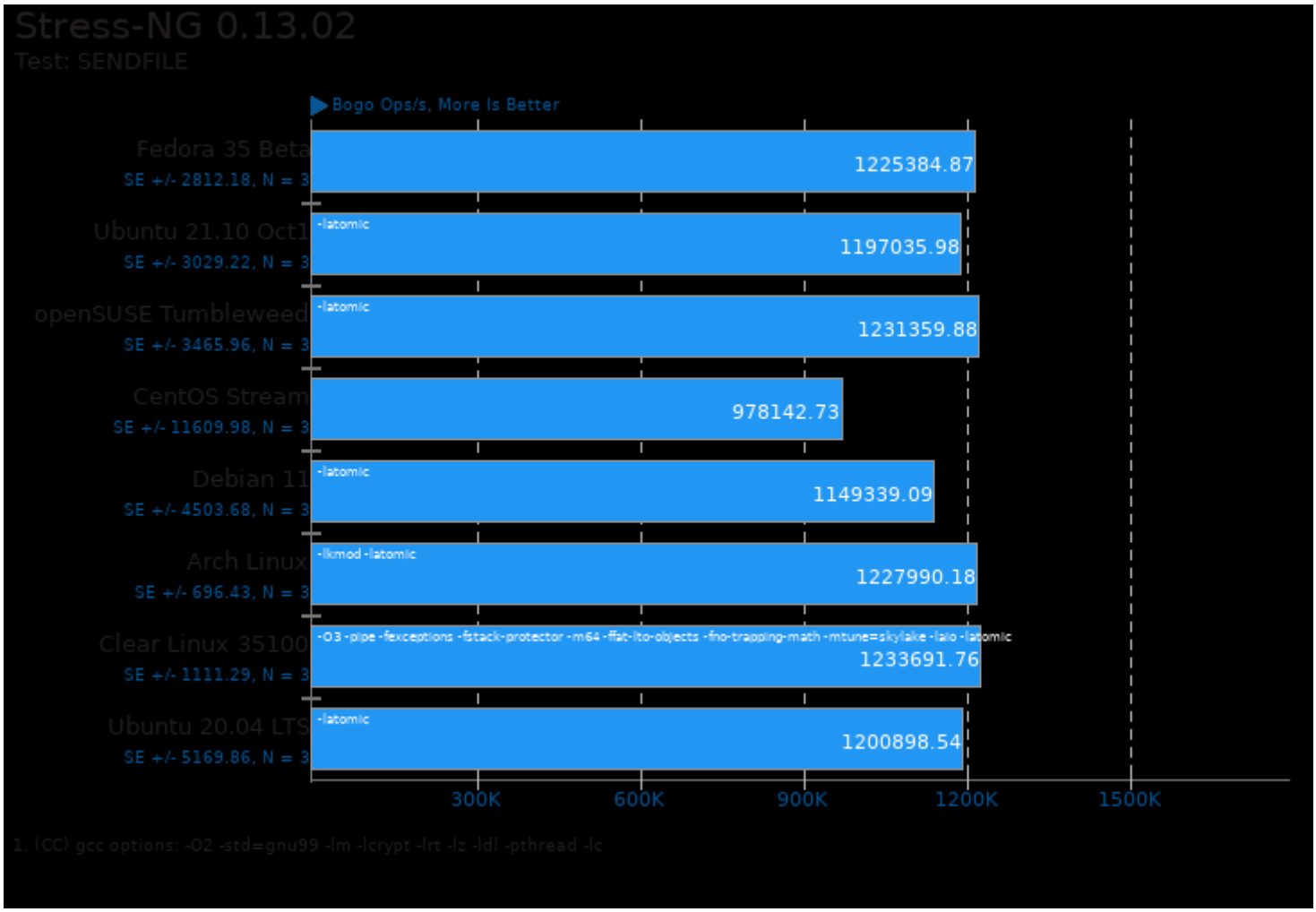
Xeon Platinum 8380 Linux Distro Performance



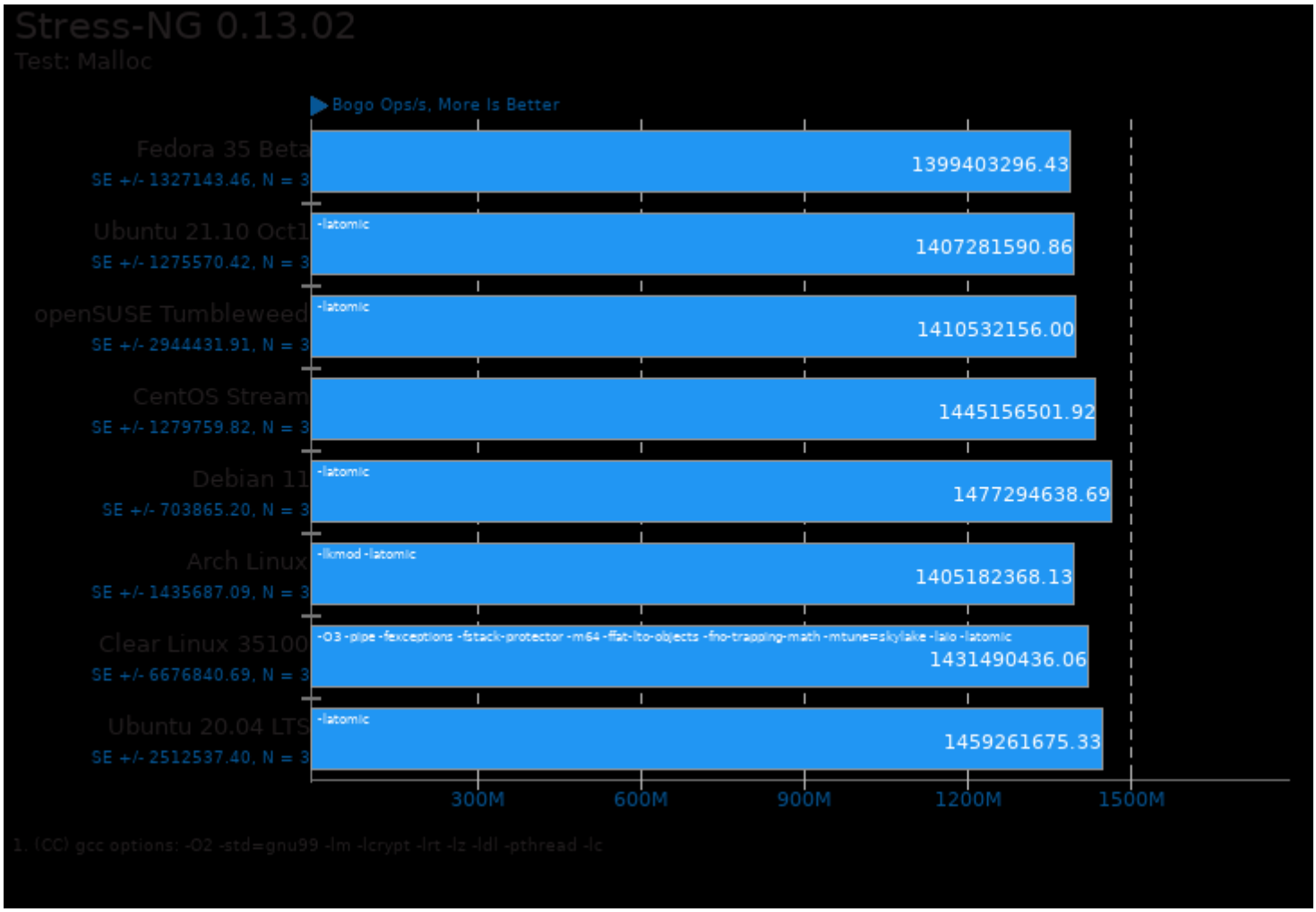
Xeon Platinum 8380 Linux Distro Performance



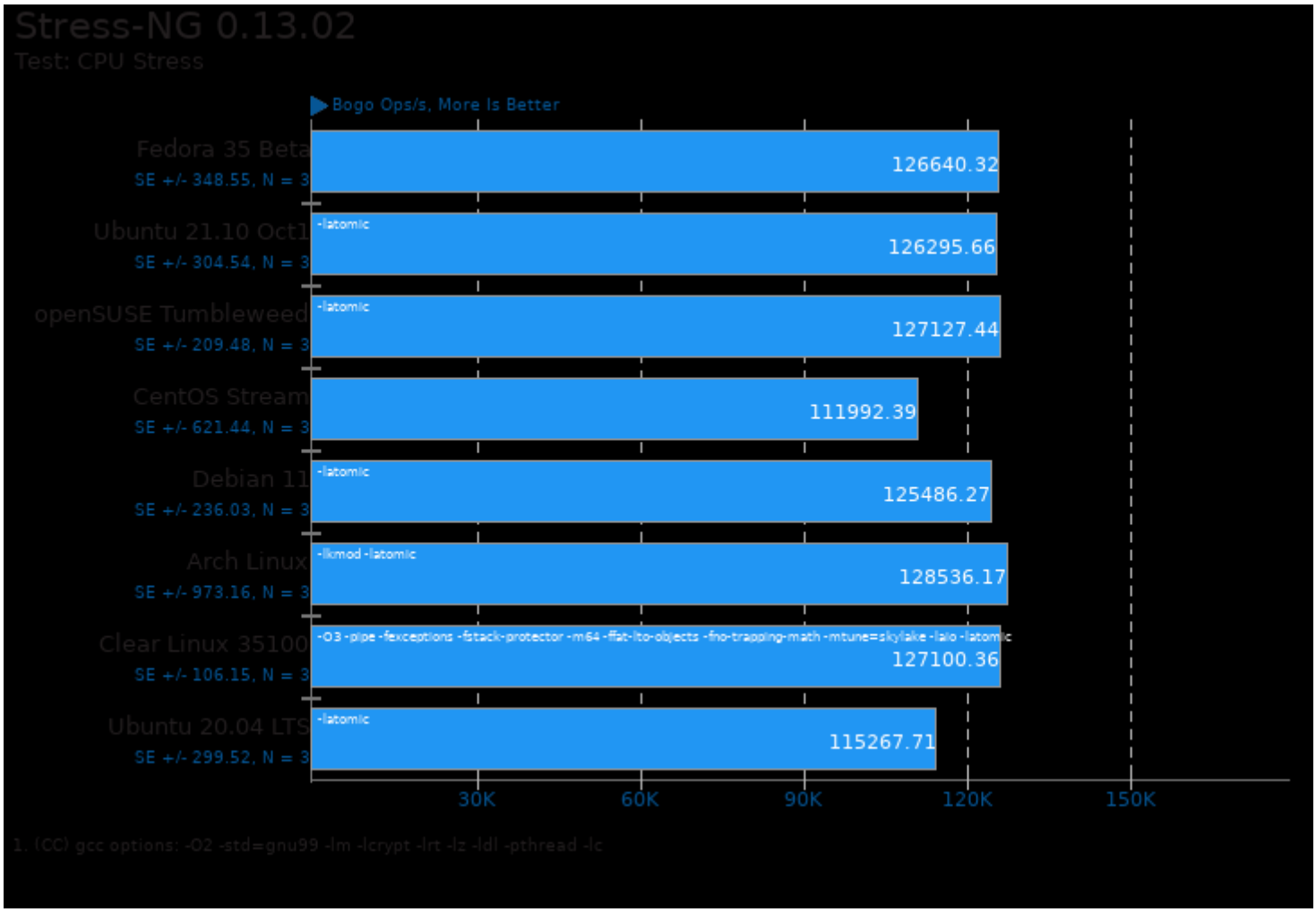
Xeon Platinum 8380 Linux Distro Performance



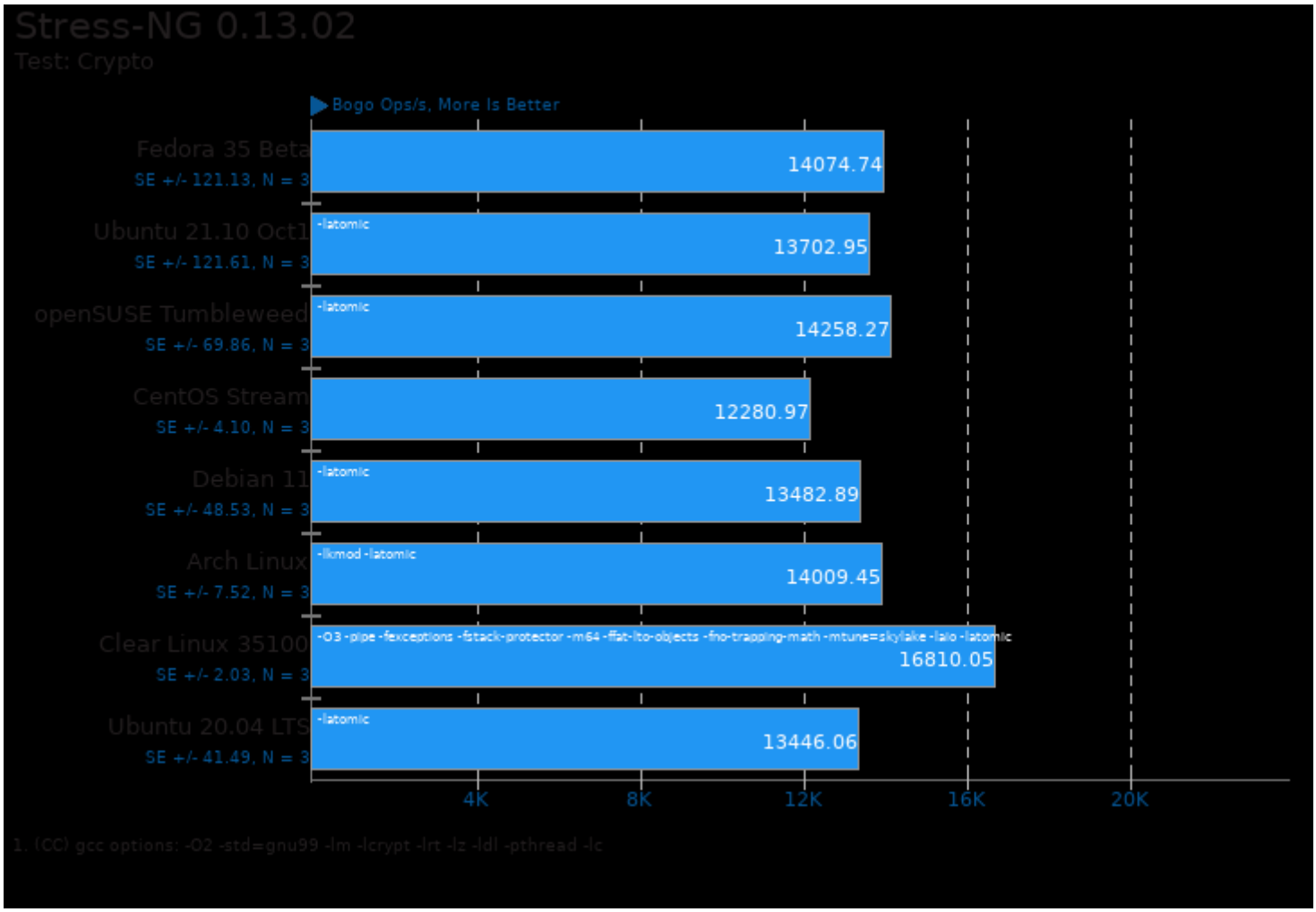
Xeon Platinum 8380 Linux Distro Performance



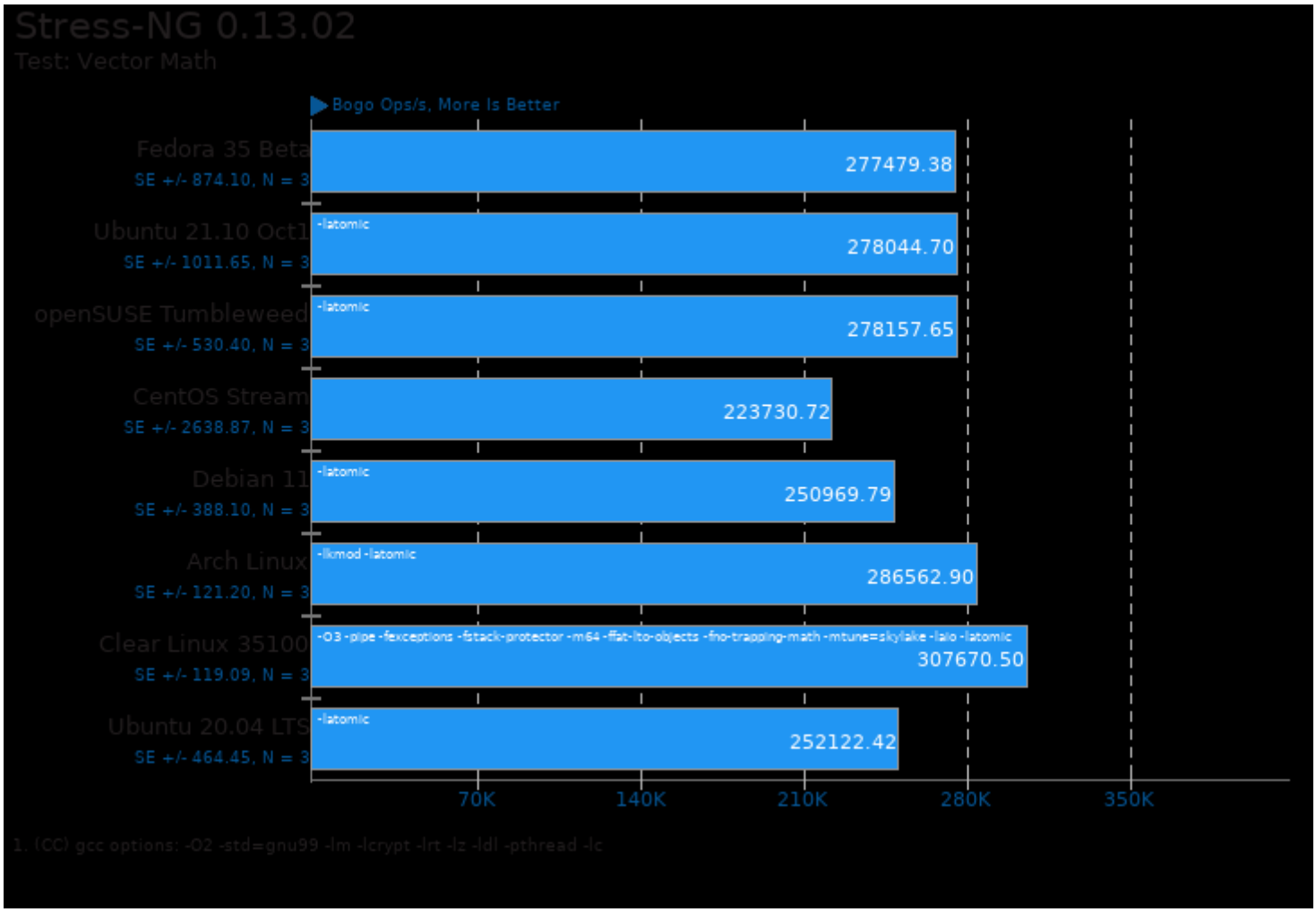
Xeon Platinum 8380 Linux Distro Performance



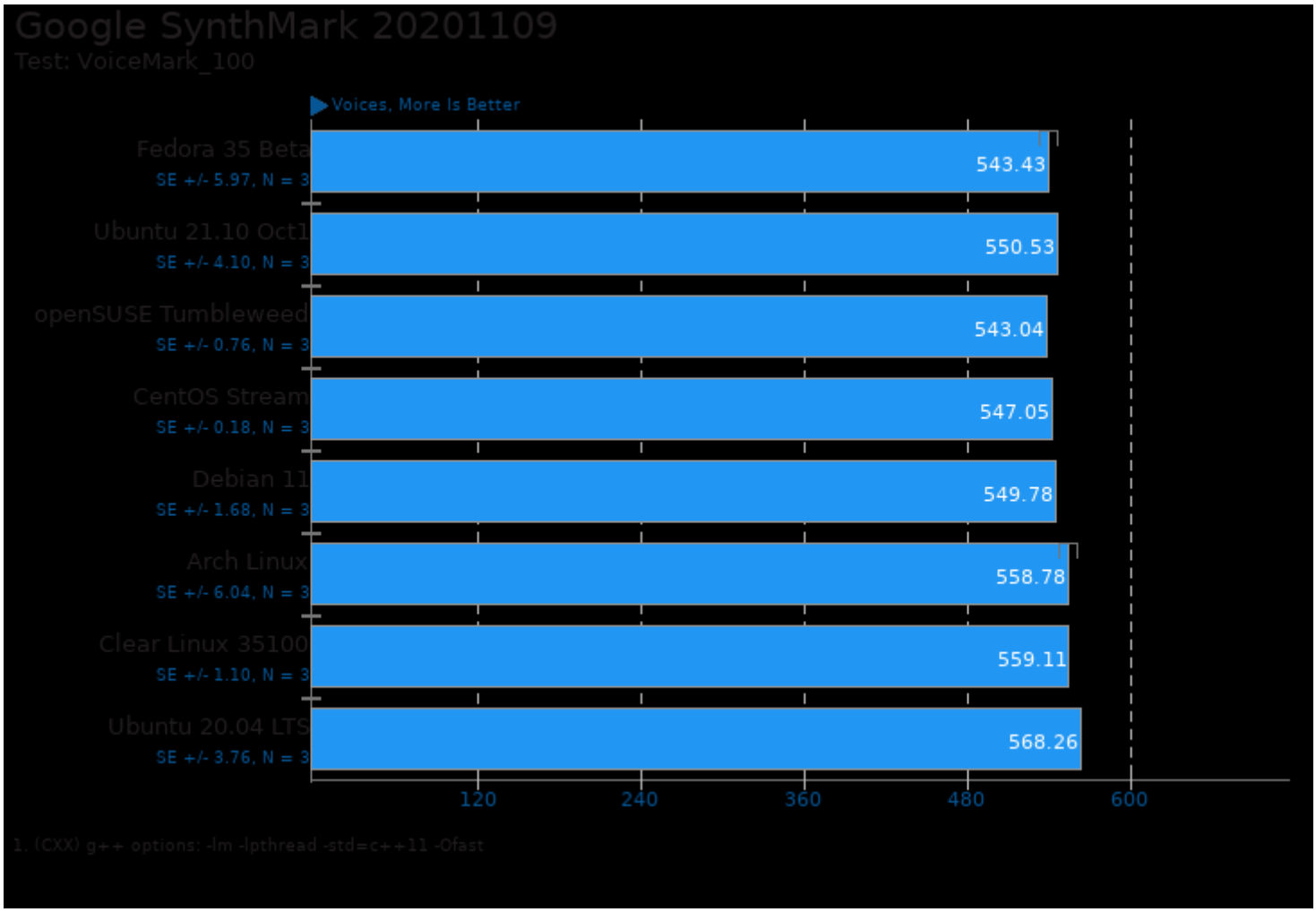
Xeon Platinum 8380 Linux Distro Performance



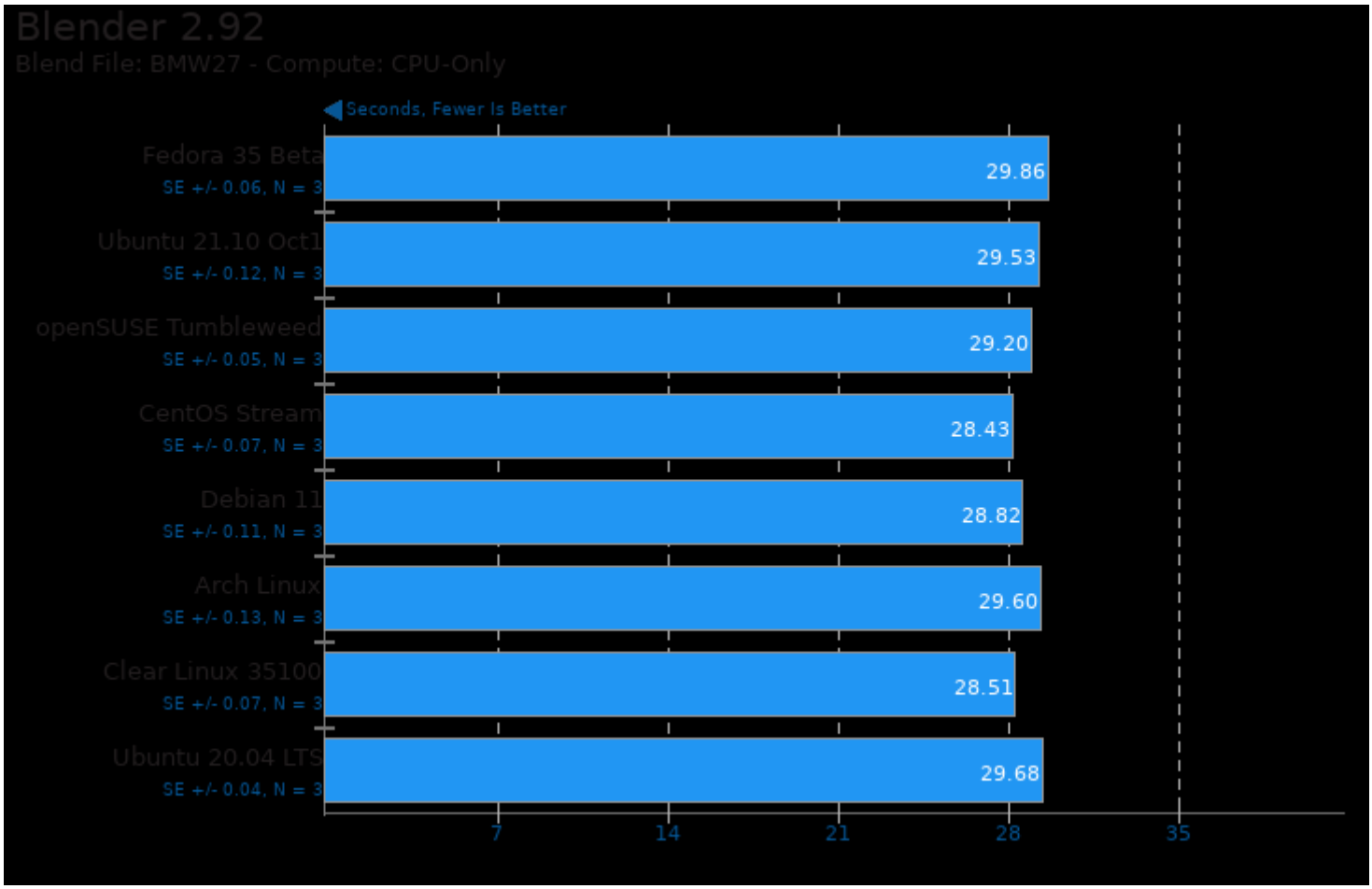
Xeon Platinum 8380 Linux Distro Performance



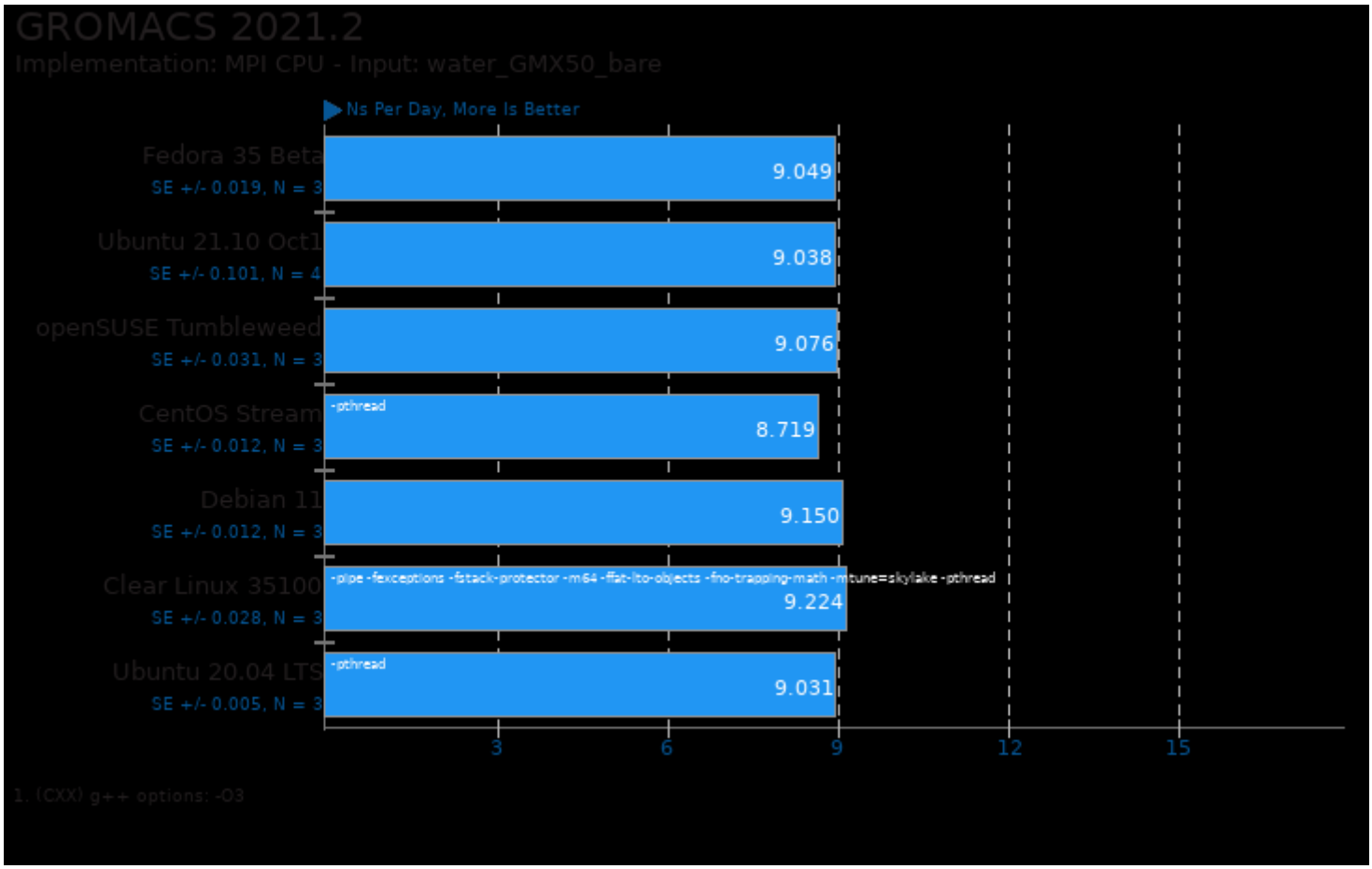
Xeon Platinum 8380 Linux Distro Performance



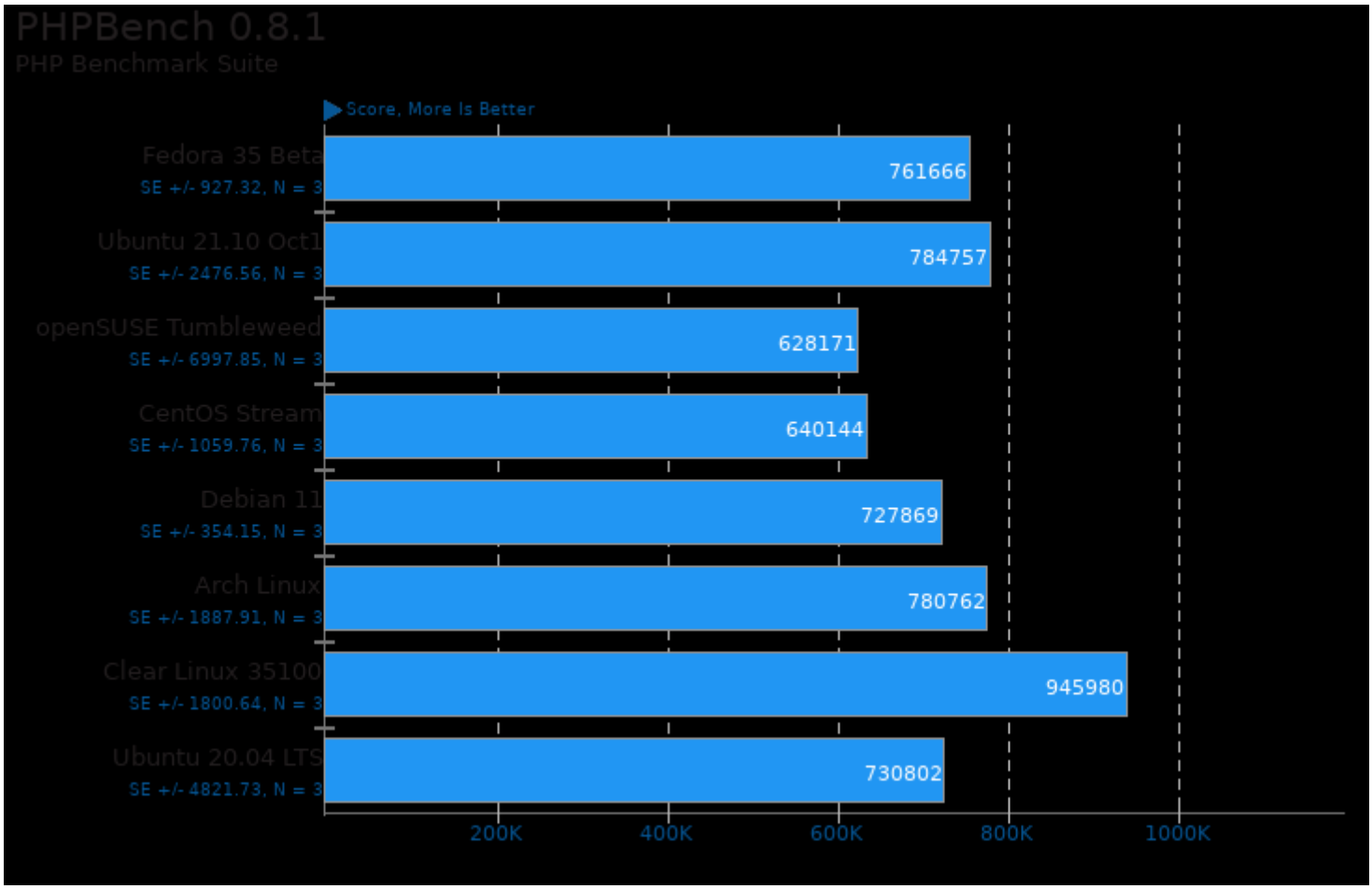
Xeon Platinum 8380 Linux Distro Performance



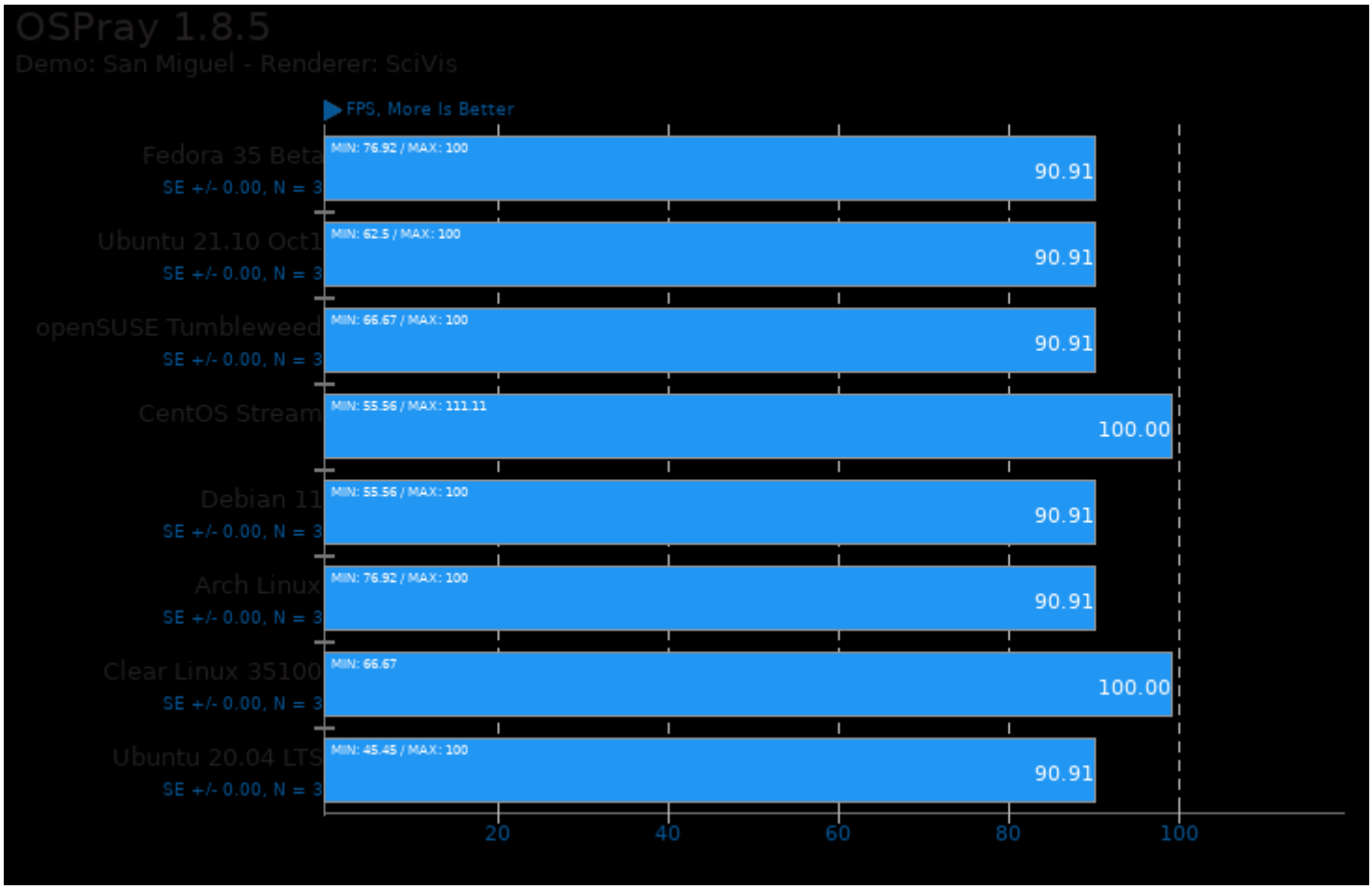
Xeon Platinum 8380 Linux Distro Performance



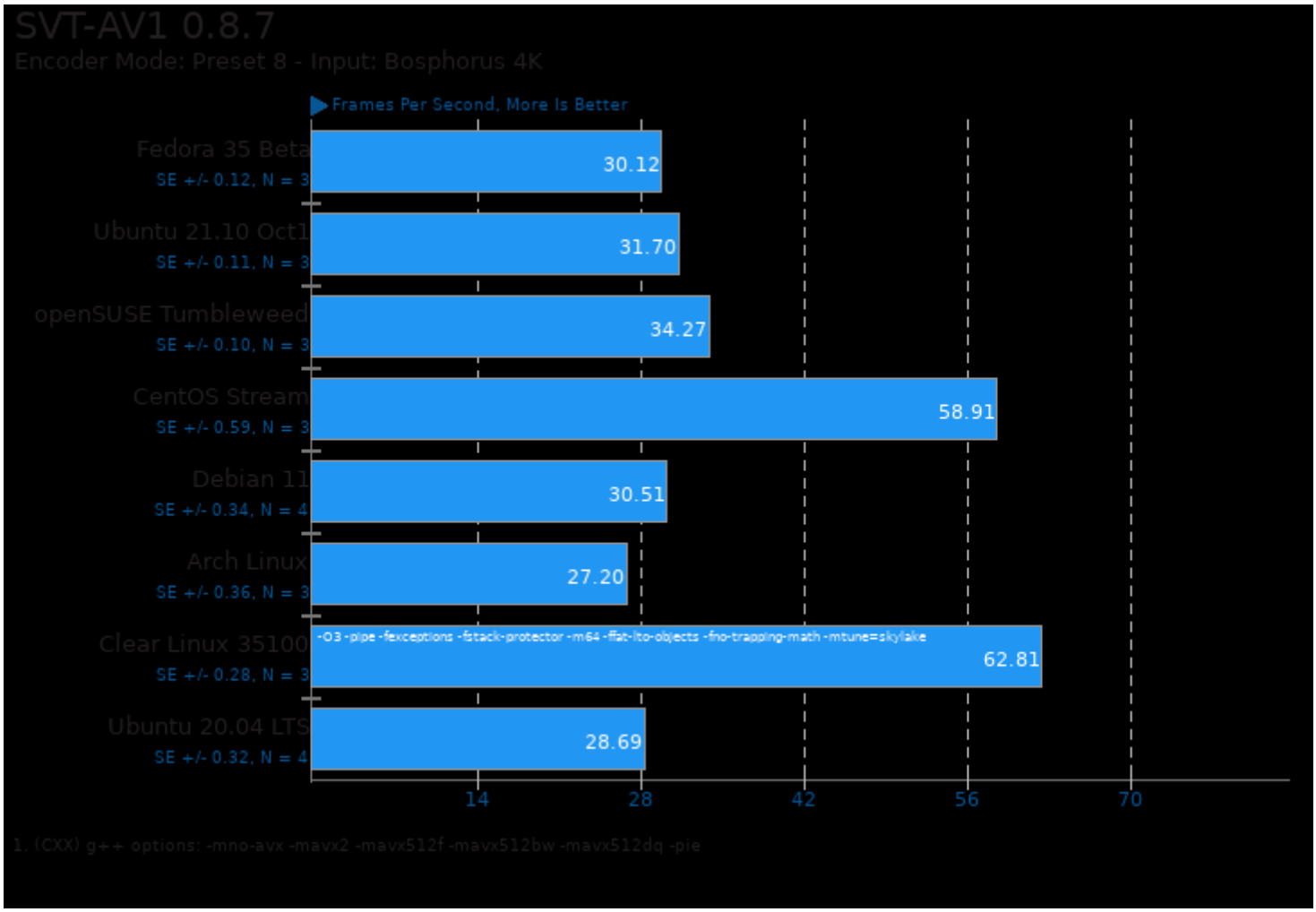
Xeon Platinum 8380 Linux Distro Performance



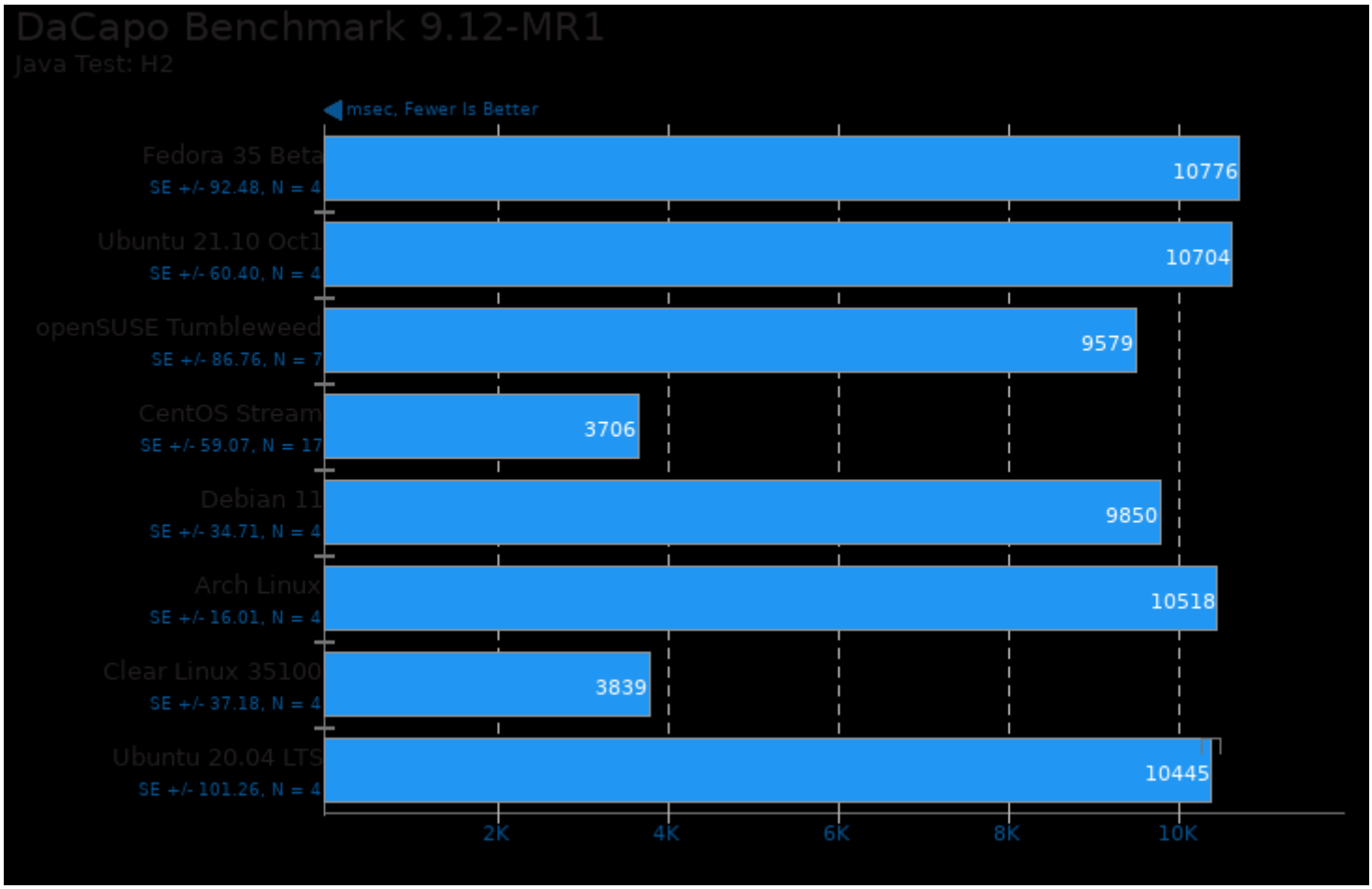
Xeon Platinum 8380 Linux Distro Performance



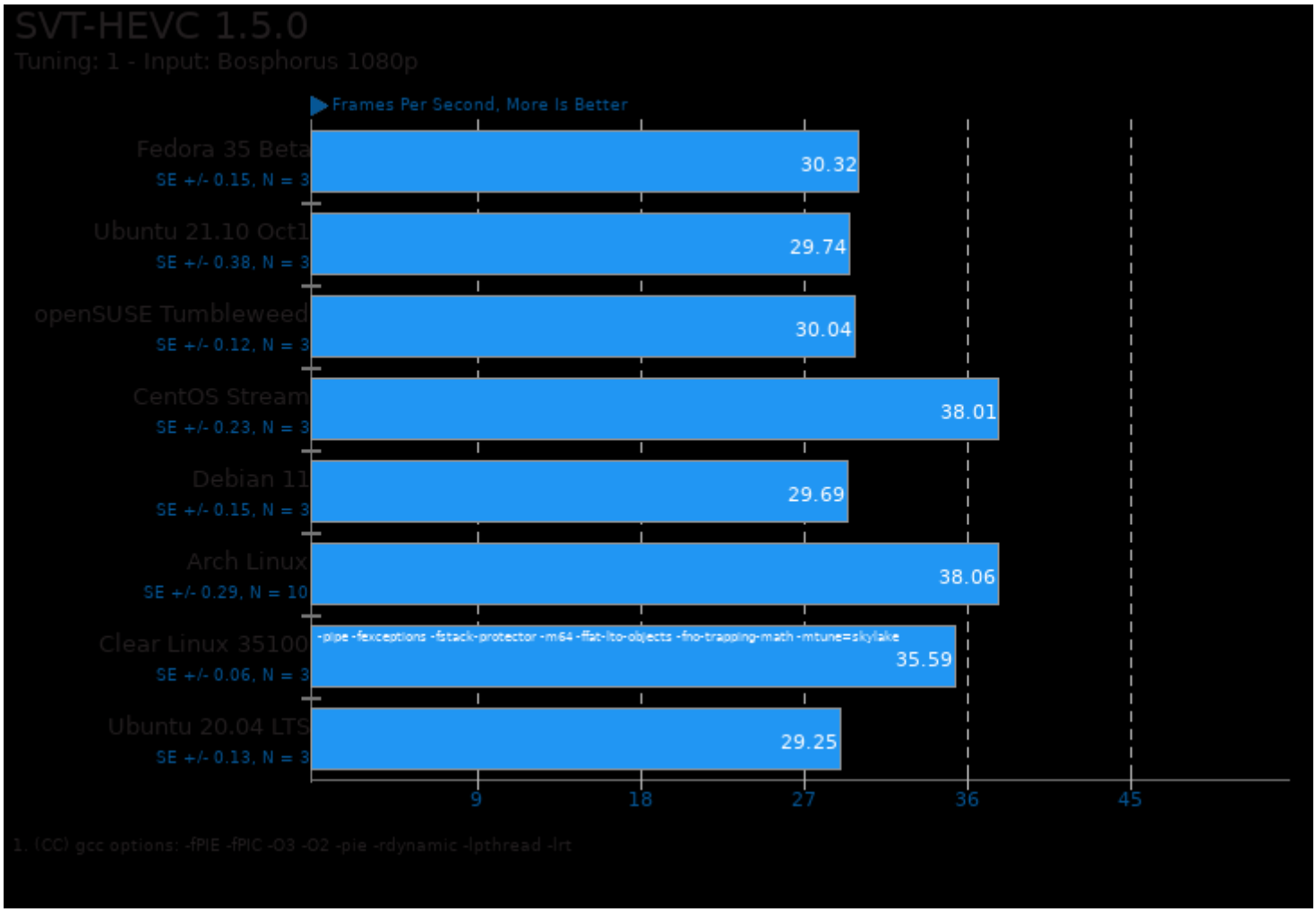
Xeon Platinum 8380 Linux Distro Performance



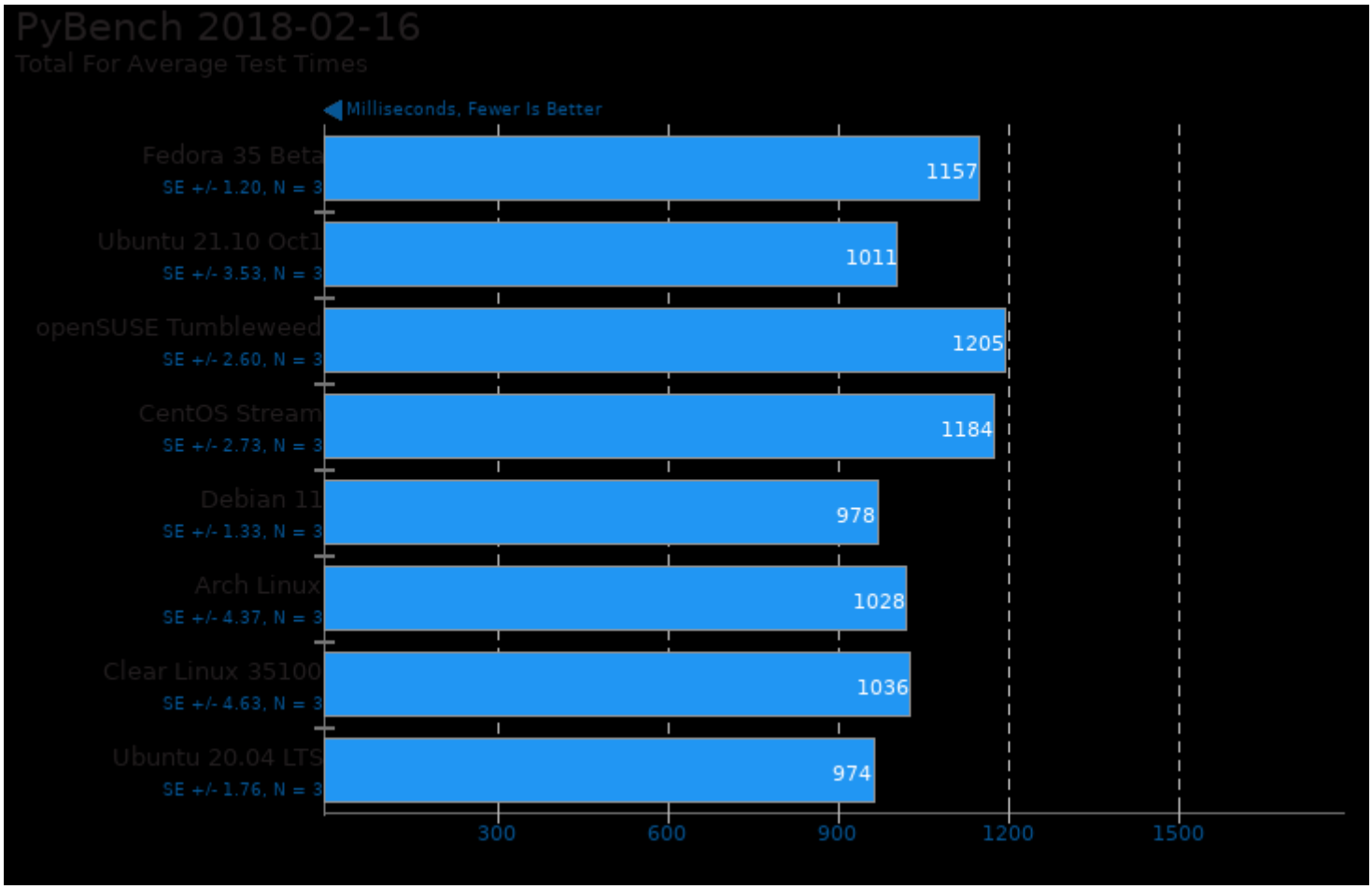
Xeon Platinum 8380 Linux Distro Performance



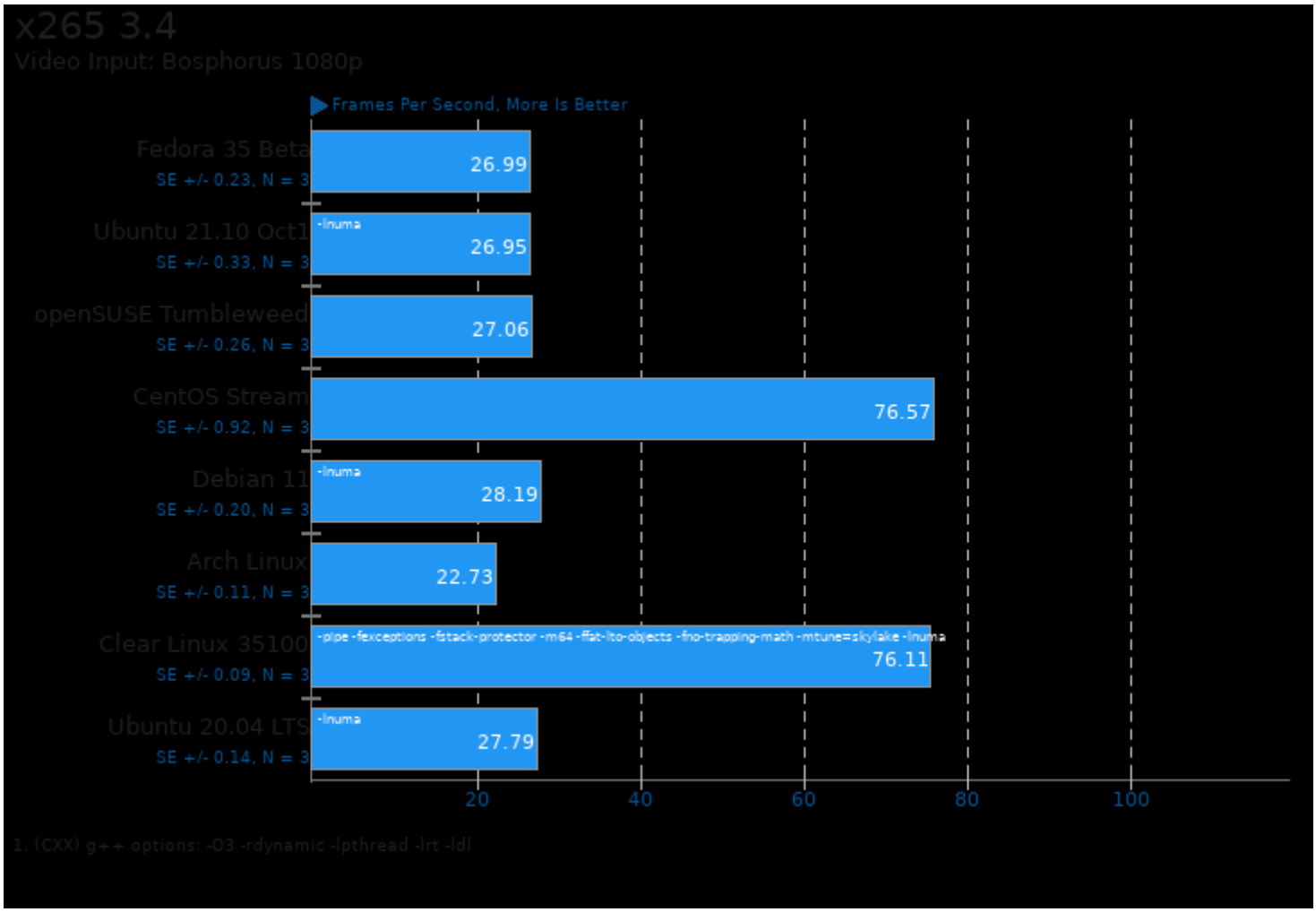
Xeon Platinum 8380 Linux Distro Performance



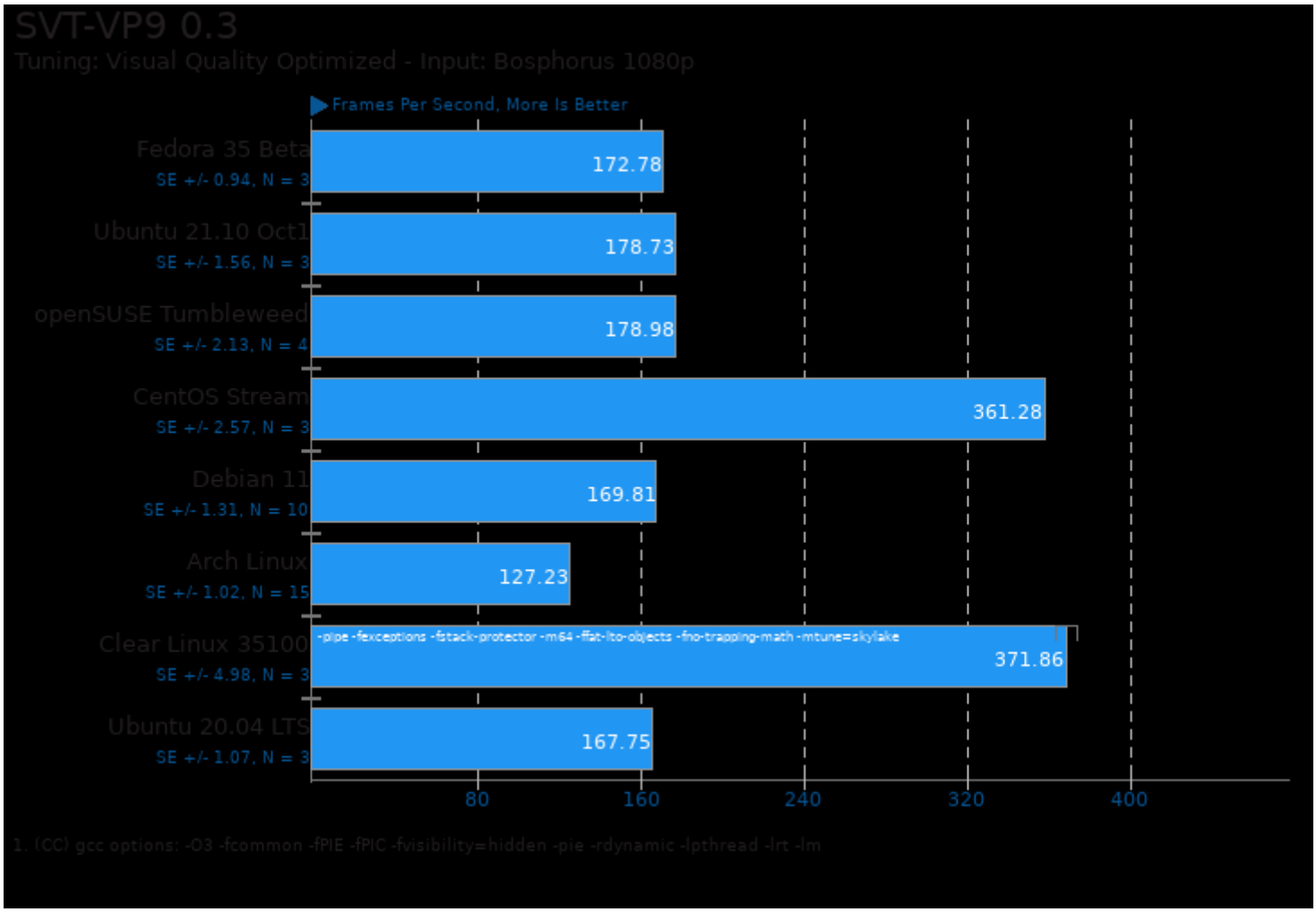
Xeon Platinum 8380 Linux Distro Performance



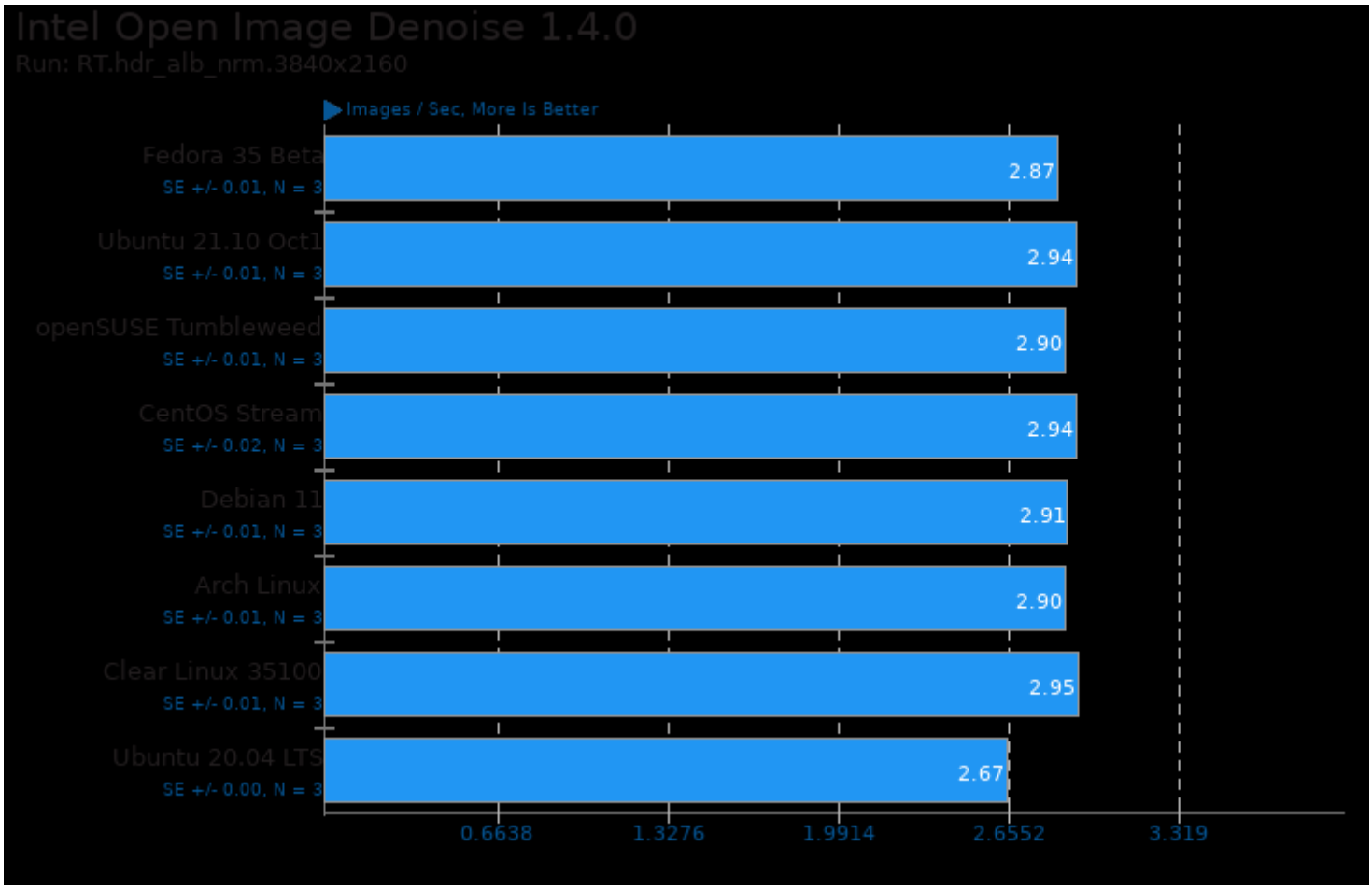
Xeon Platinum 8380 Linux Distro Performance



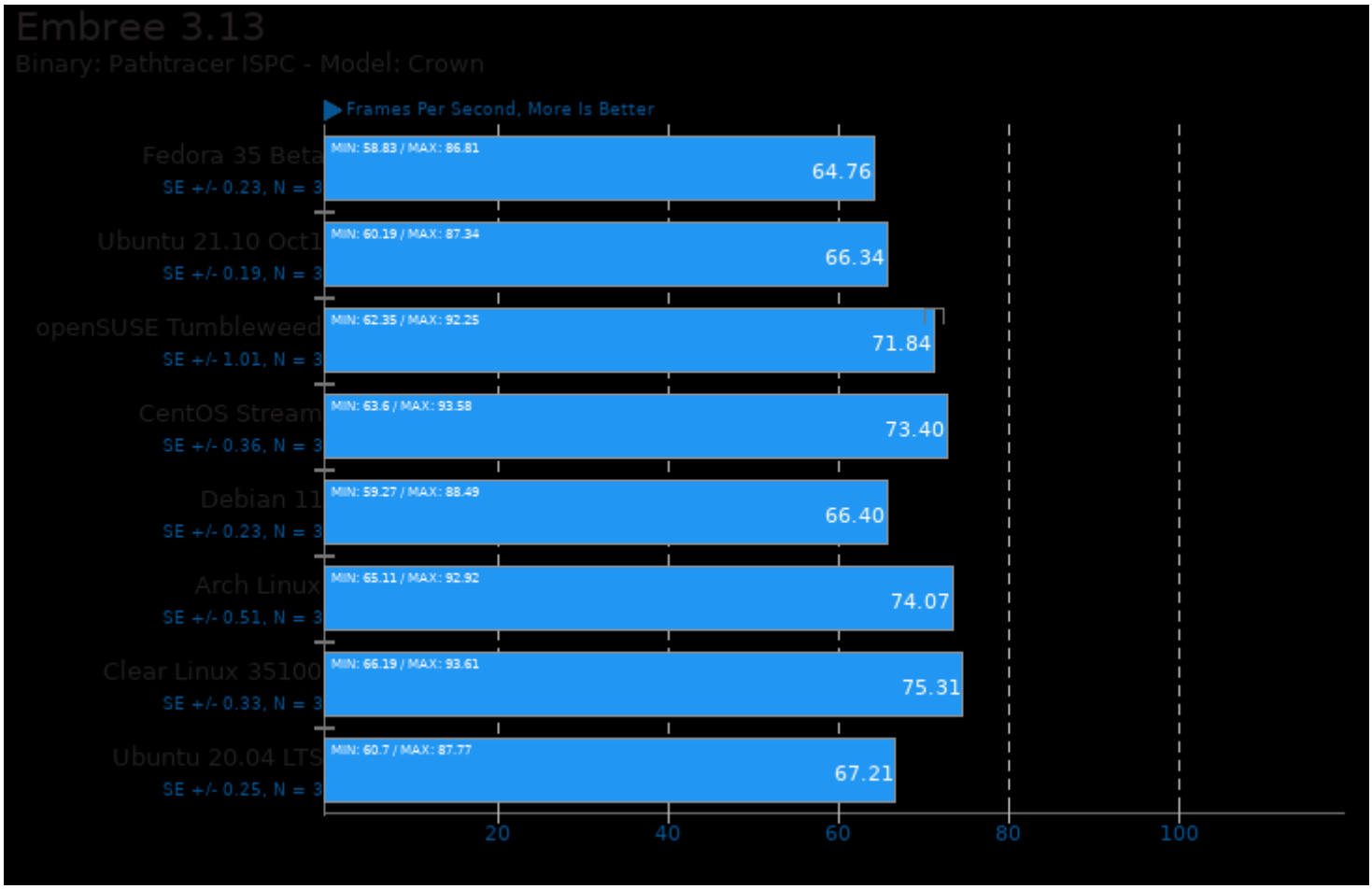
Xeon Platinum 8380 Linux Distro Performance



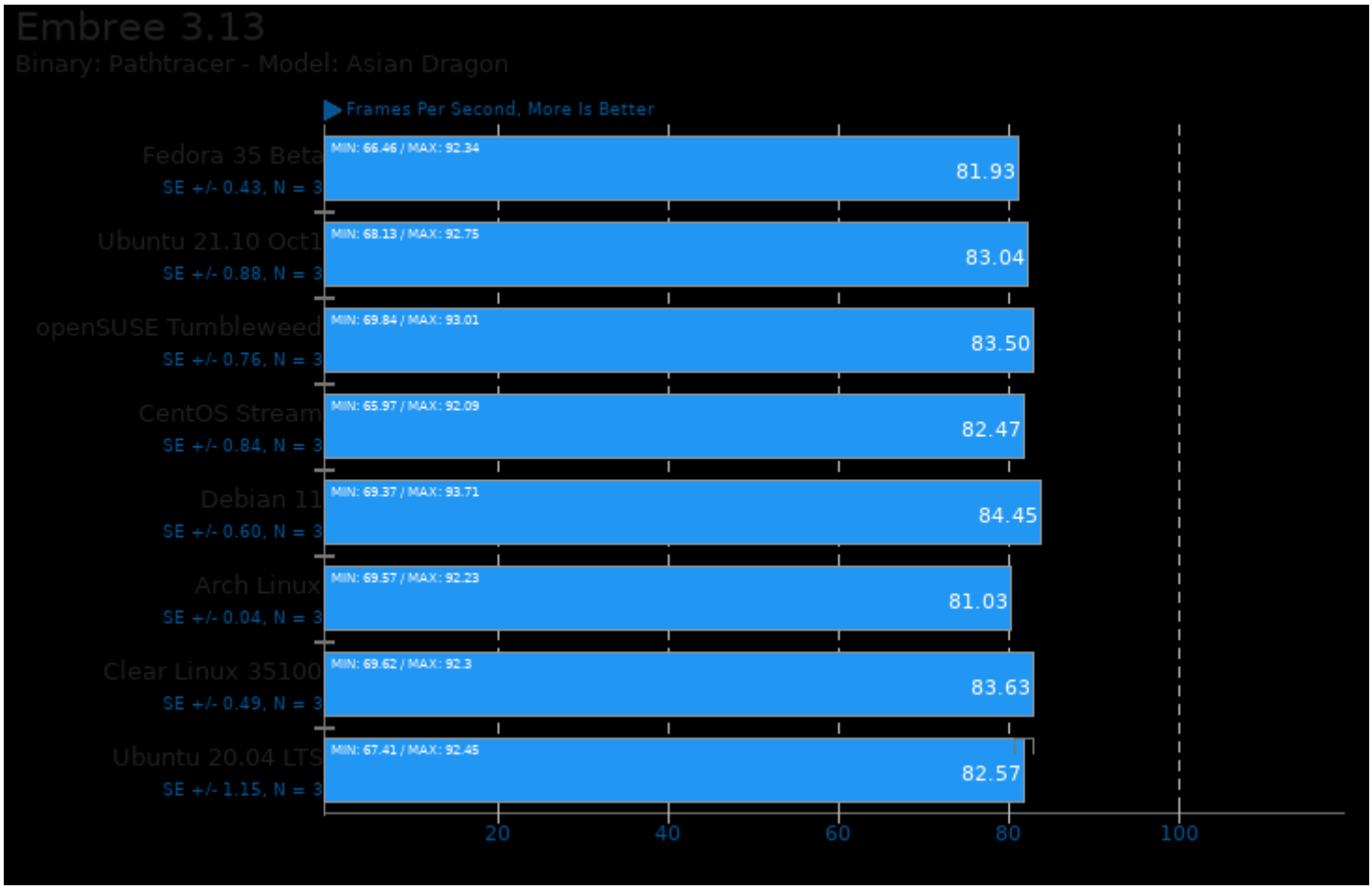
Xeon Platinum 8380 Linux Distro Performance



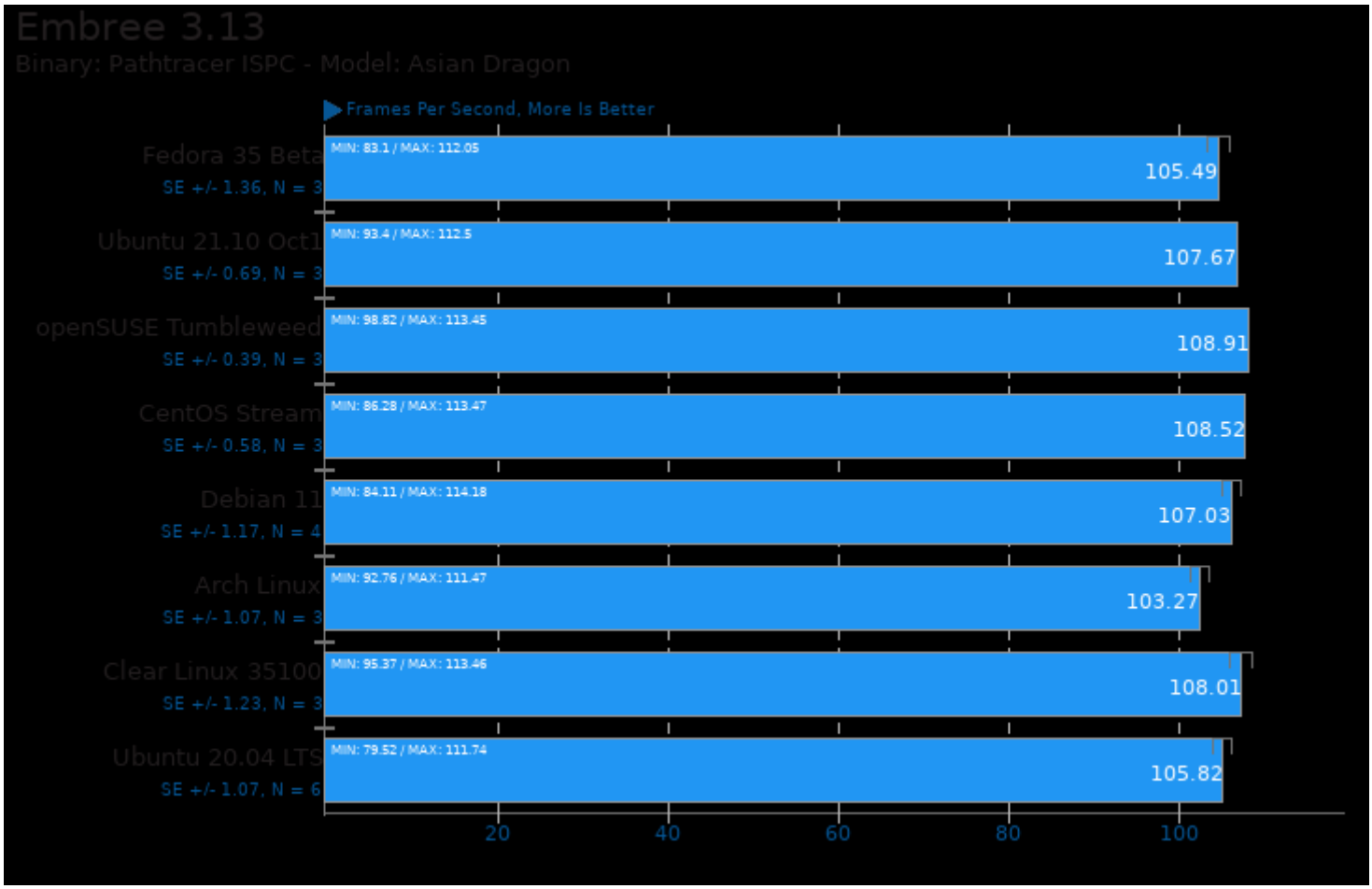
Xeon Platinum 8380 Linux Distro Performance



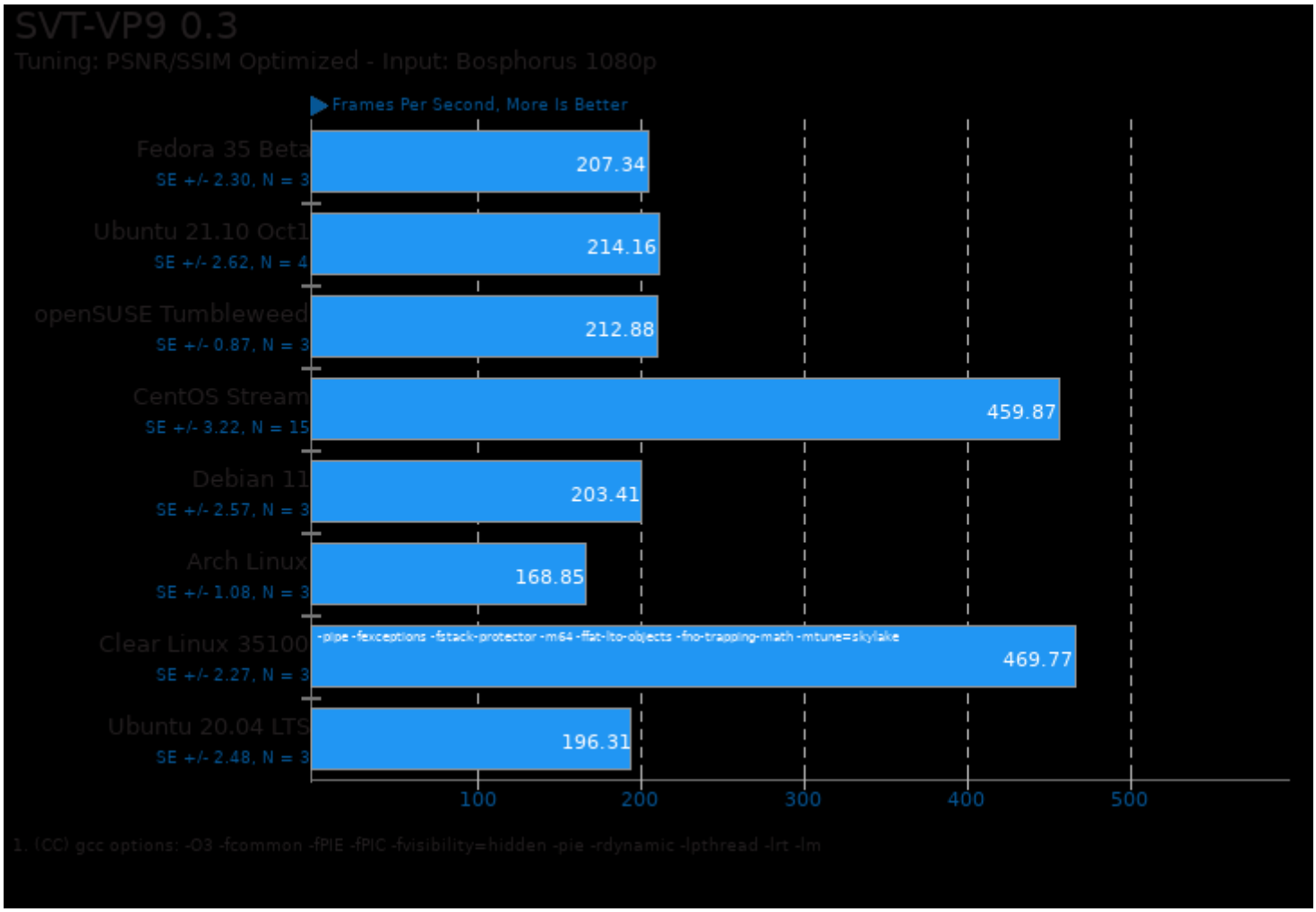
Xeon Platinum 8380 Linux Distro Performance



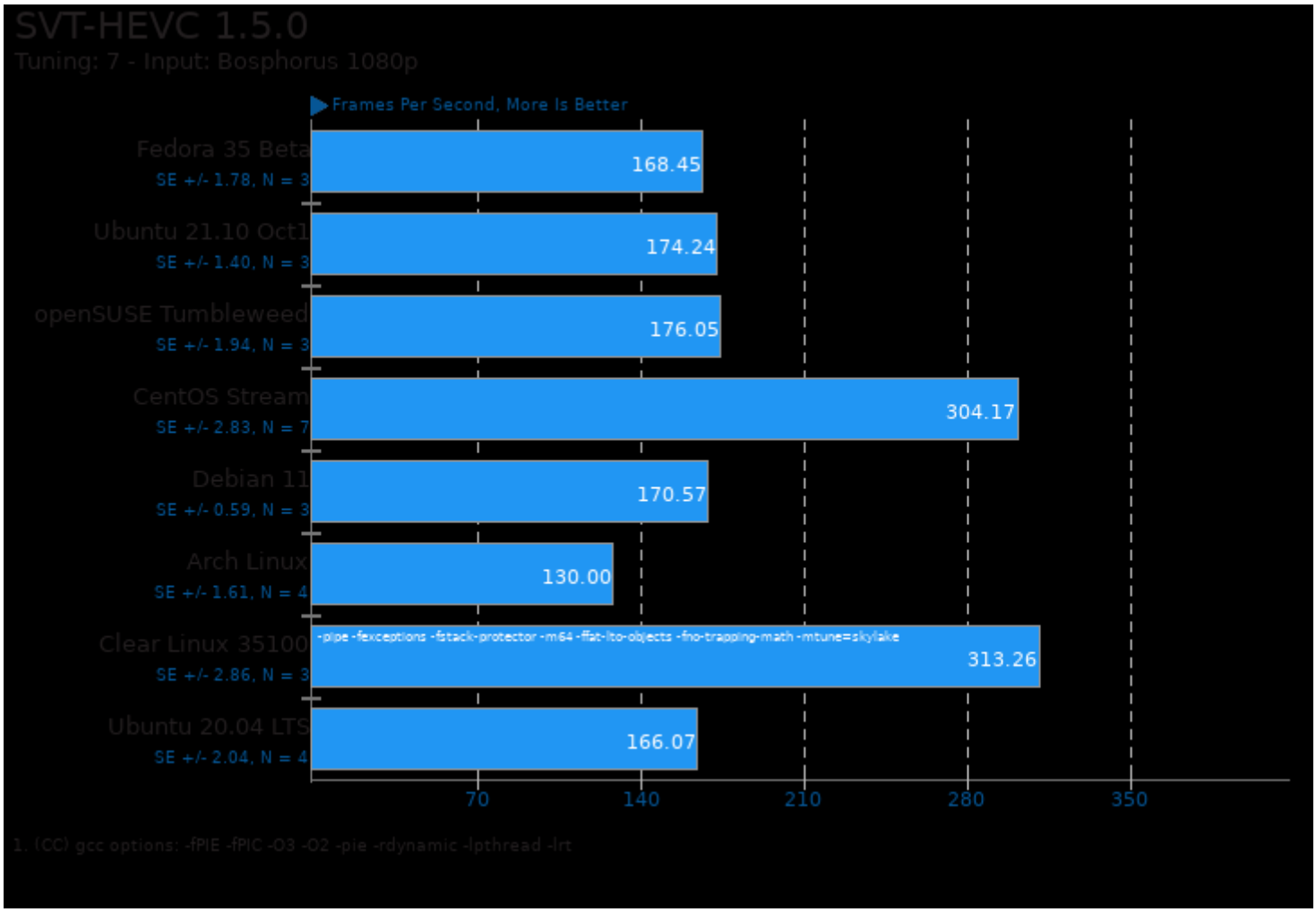
Xeon Platinum 8380 Linux Distro Performance



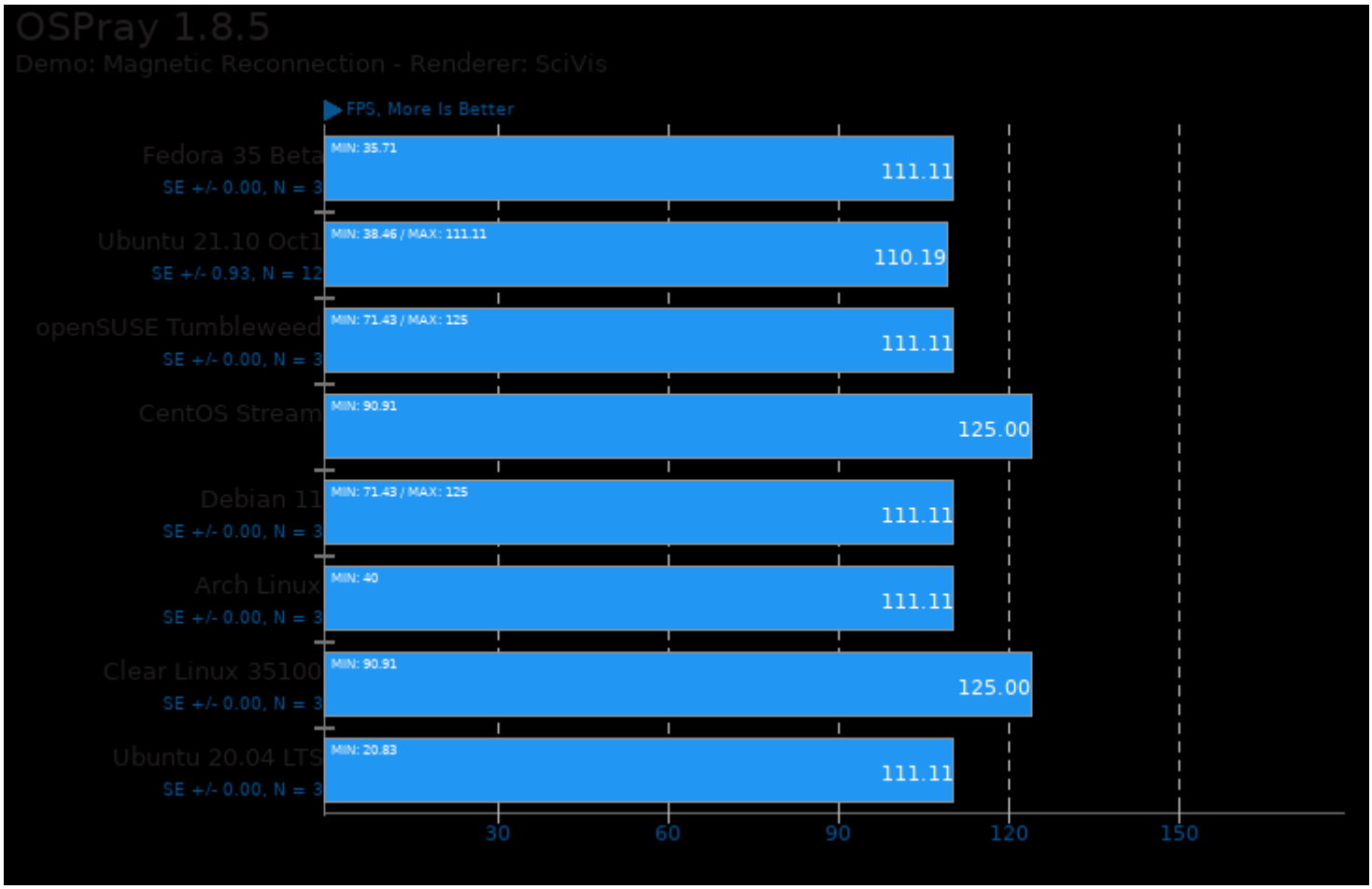
Xeon Platinum 8380 Linux Distro Performance



Xeon Platinum 8380 Linux Distro Performance

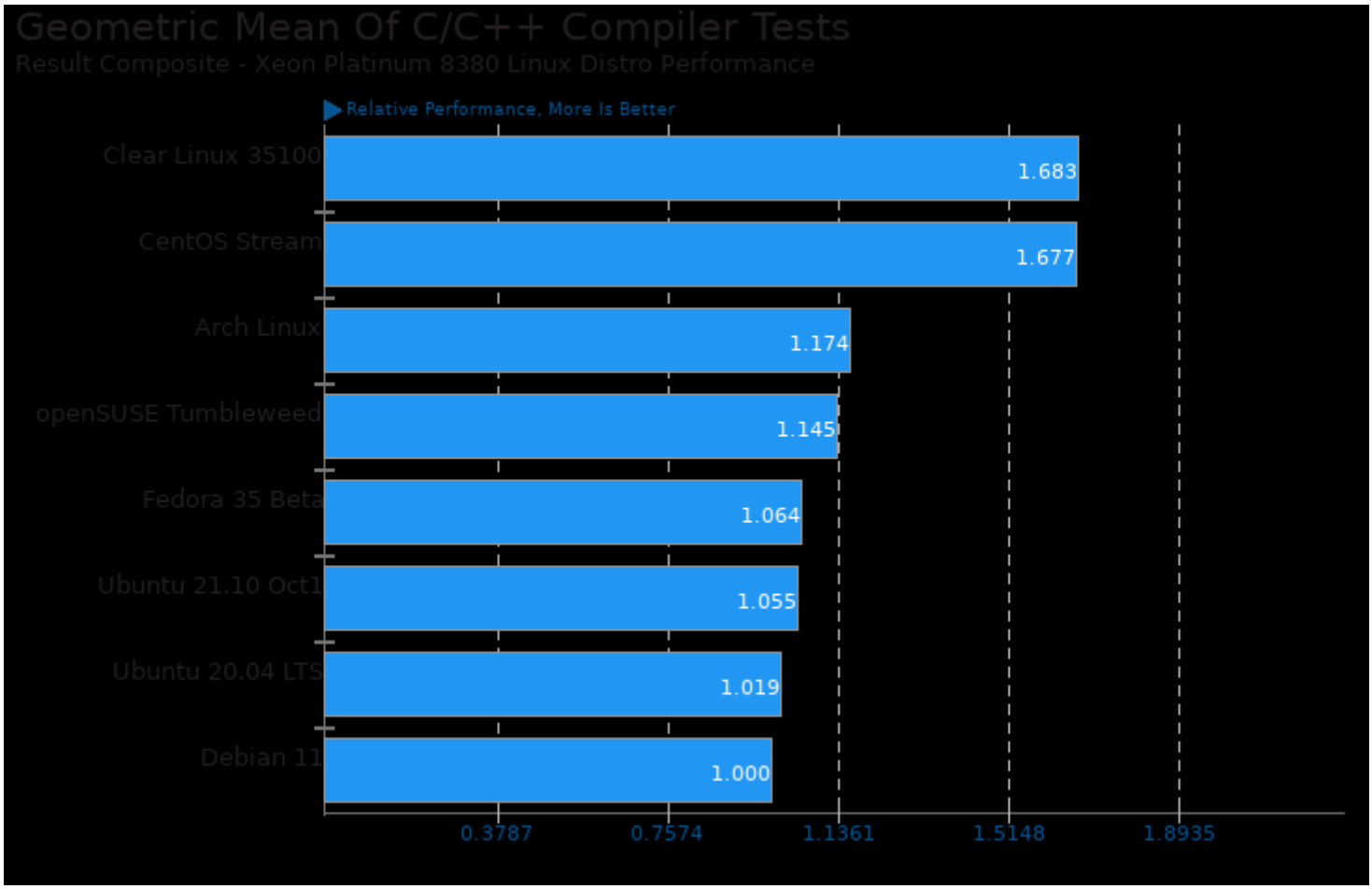


Xeon Platinum 8380 Linux Distro Performance



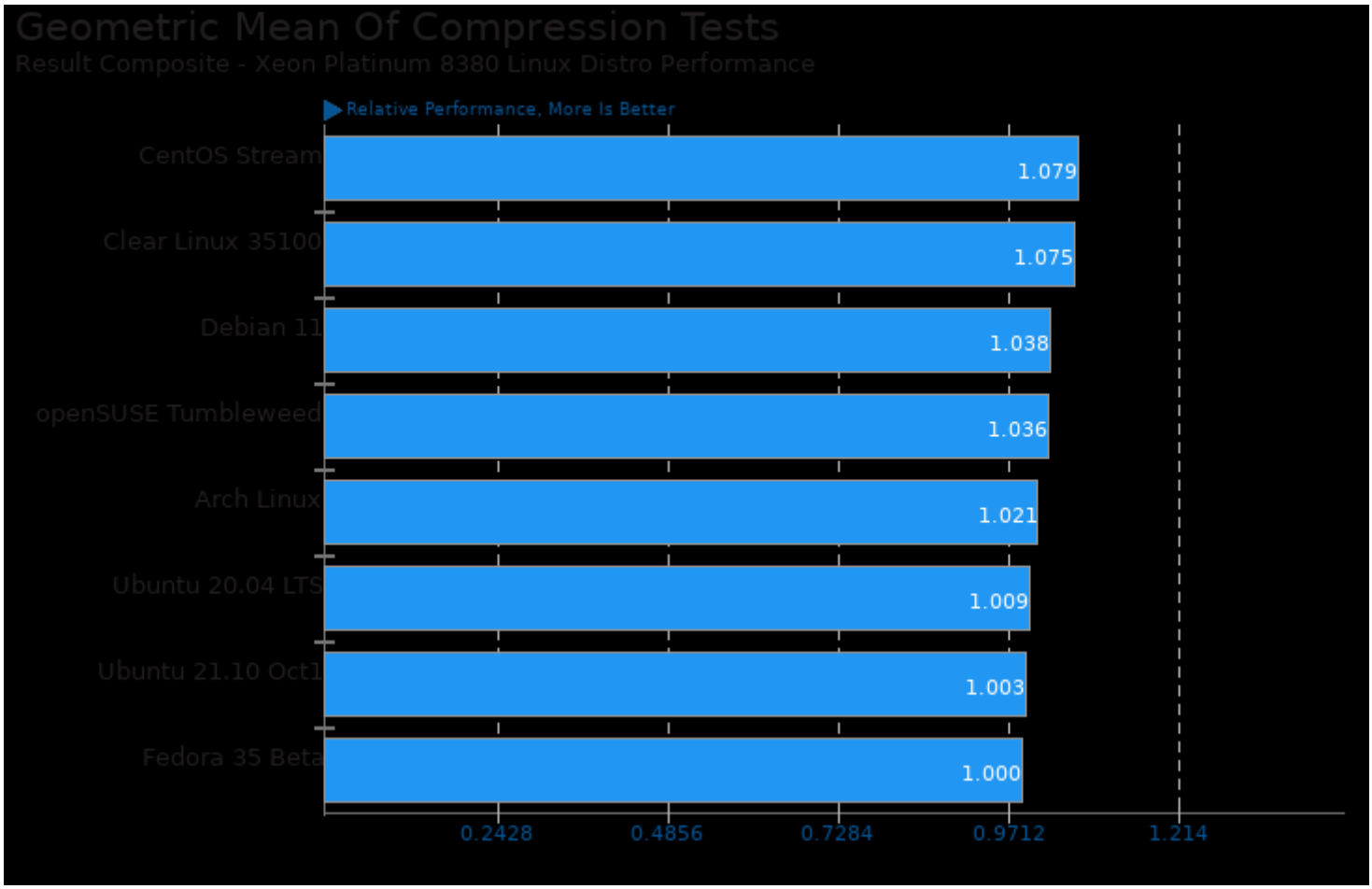
Xeon Platinum 8380 Linux Distro Performance

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



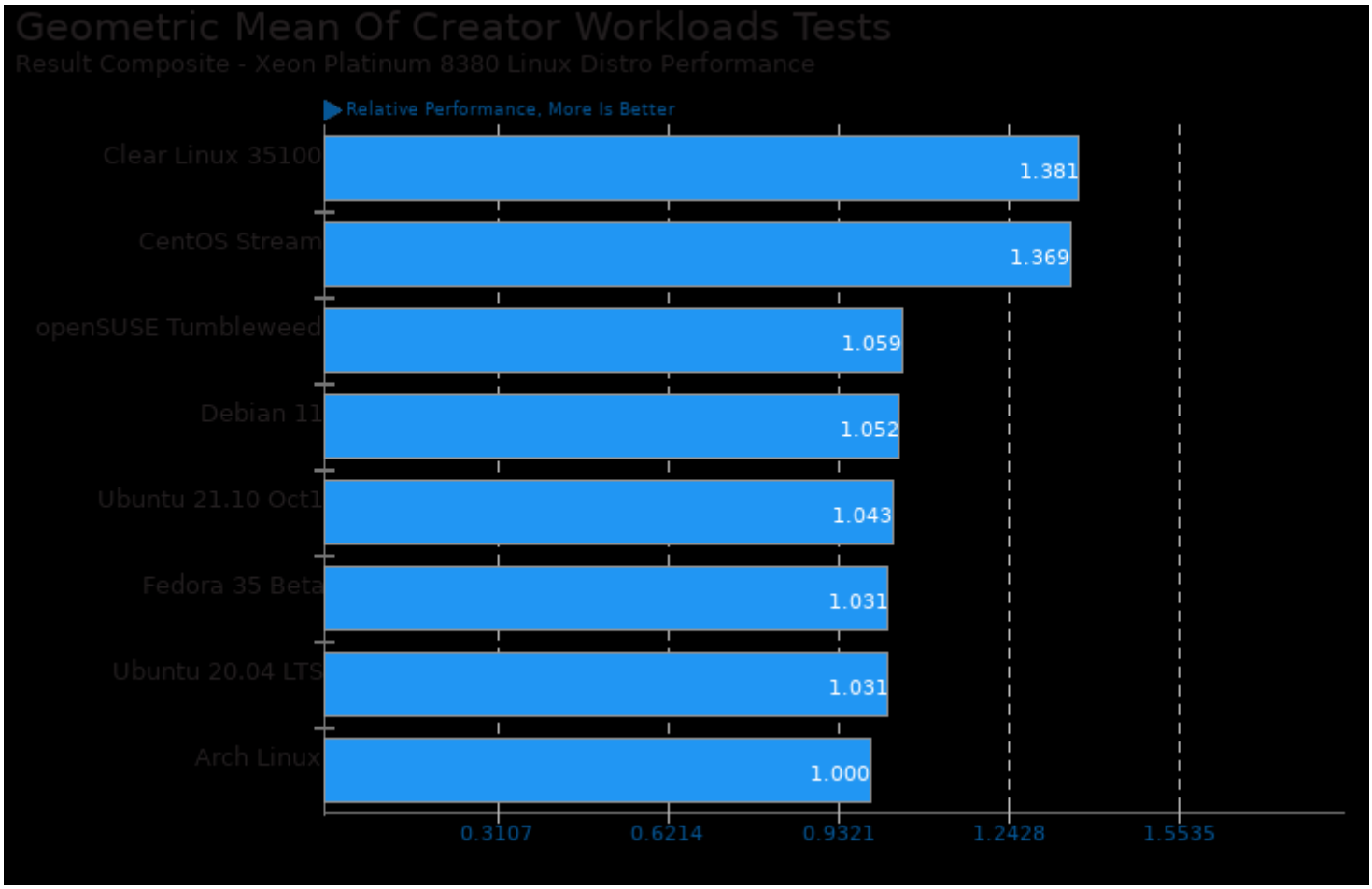
Geometric mean based upon tests: pts/compress-7zip, pts/pgbench, pts/apache, pts/sqlite-speedtest, pts/x265, pts/compress-zstd, pts/nginx, pts/svt-av1, pts/svt-vp9, pts/gromacs and pts/leveldb

Xeon Platinum 8380 Linux Distro Performance



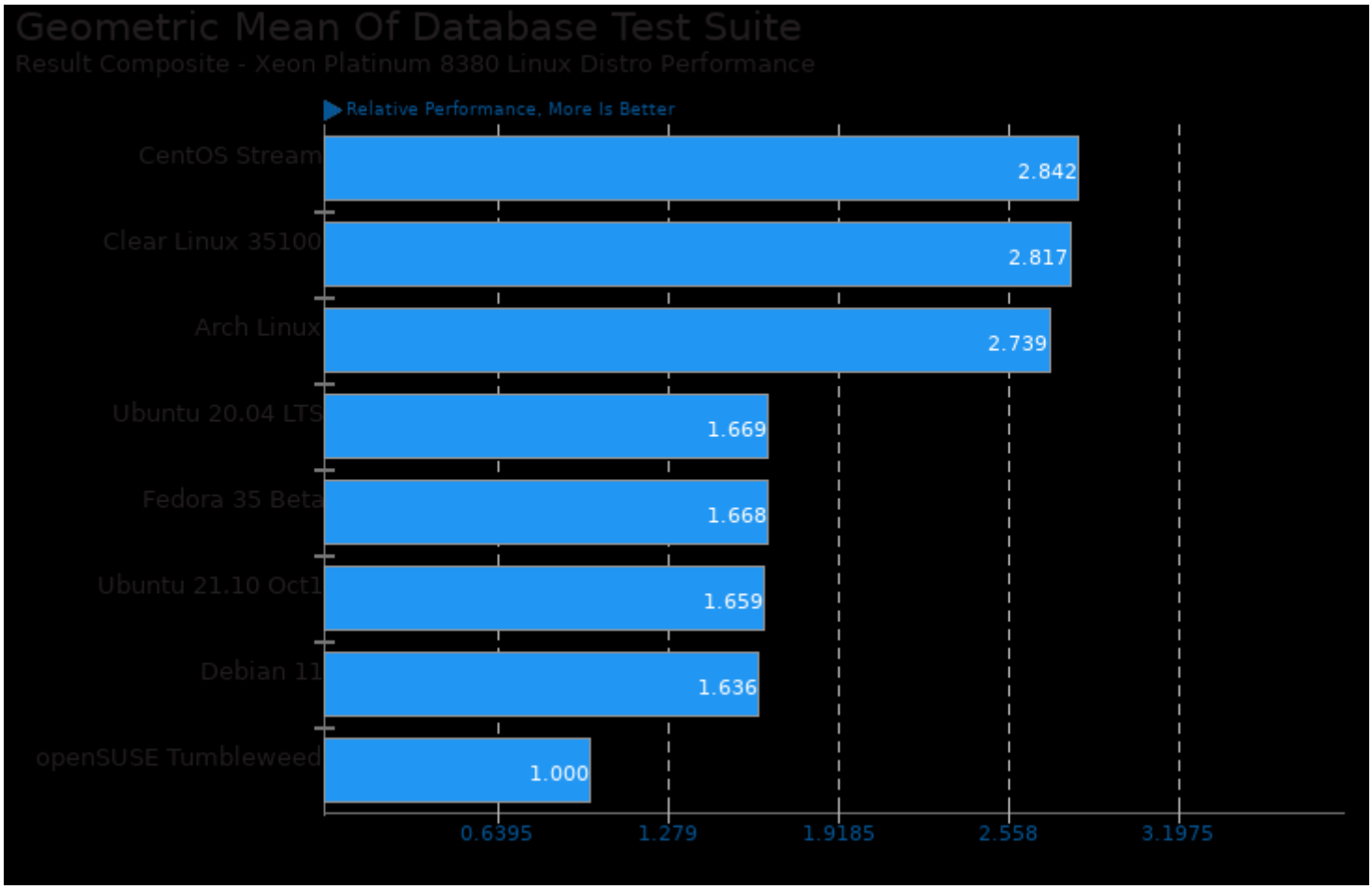
Geometric mean based upon tests: pts/compress-7zip, pts/compress-zstd and pts/compress-lz4

Xeon Platinum 8380 Linux Distro Performance



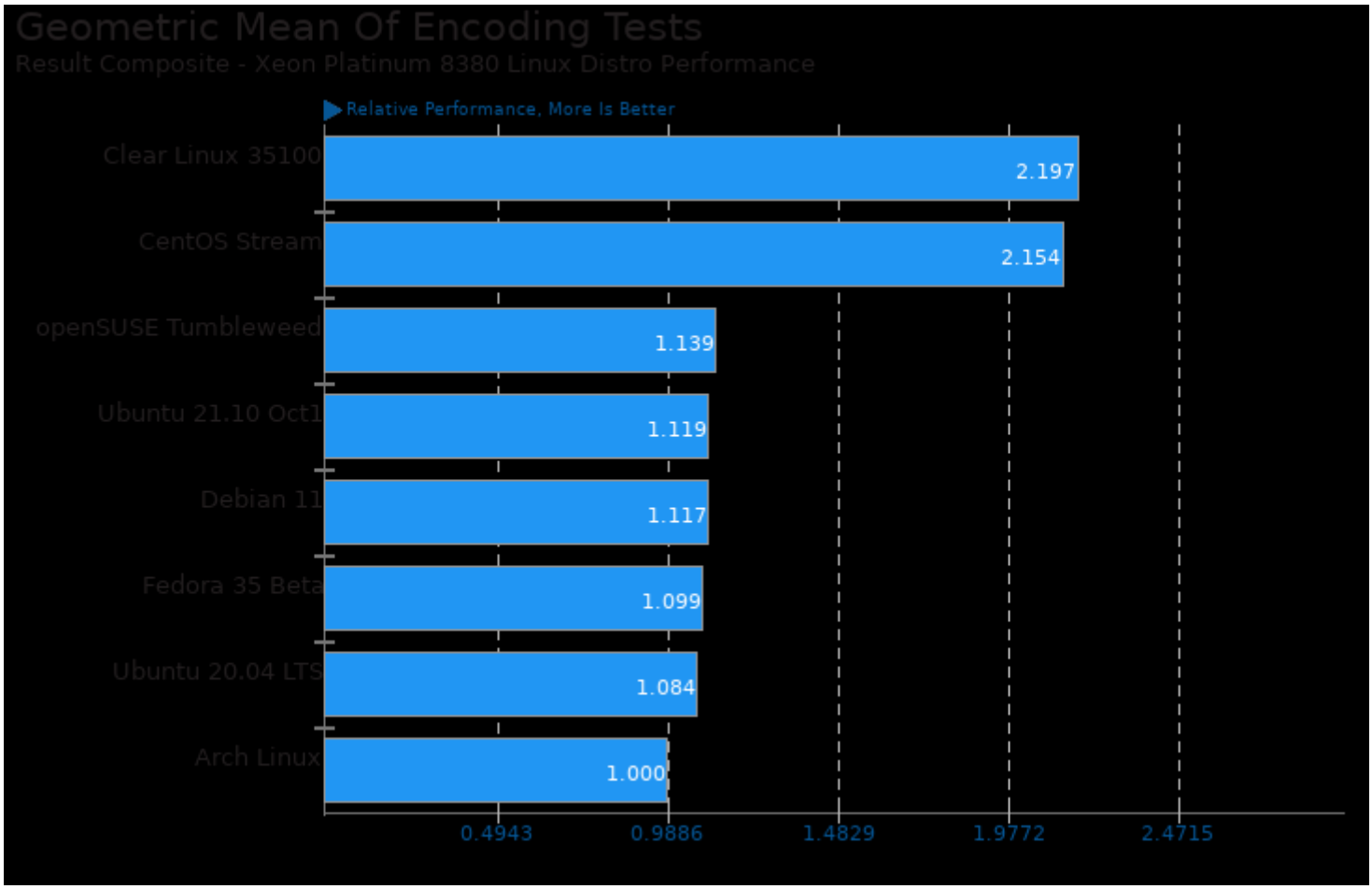
Geometric mean based upon tests: pts/ospray, pts/blender, pts/appleseed, pts/v-ray, pts/svt-vp9, pts/svt-hevc, pts/x265, pts/svt-av1, pts/embree, pts/oidn, pts/openvkl and pts/synthmark

Xeon Platinum 8380 Linux Distro Performance



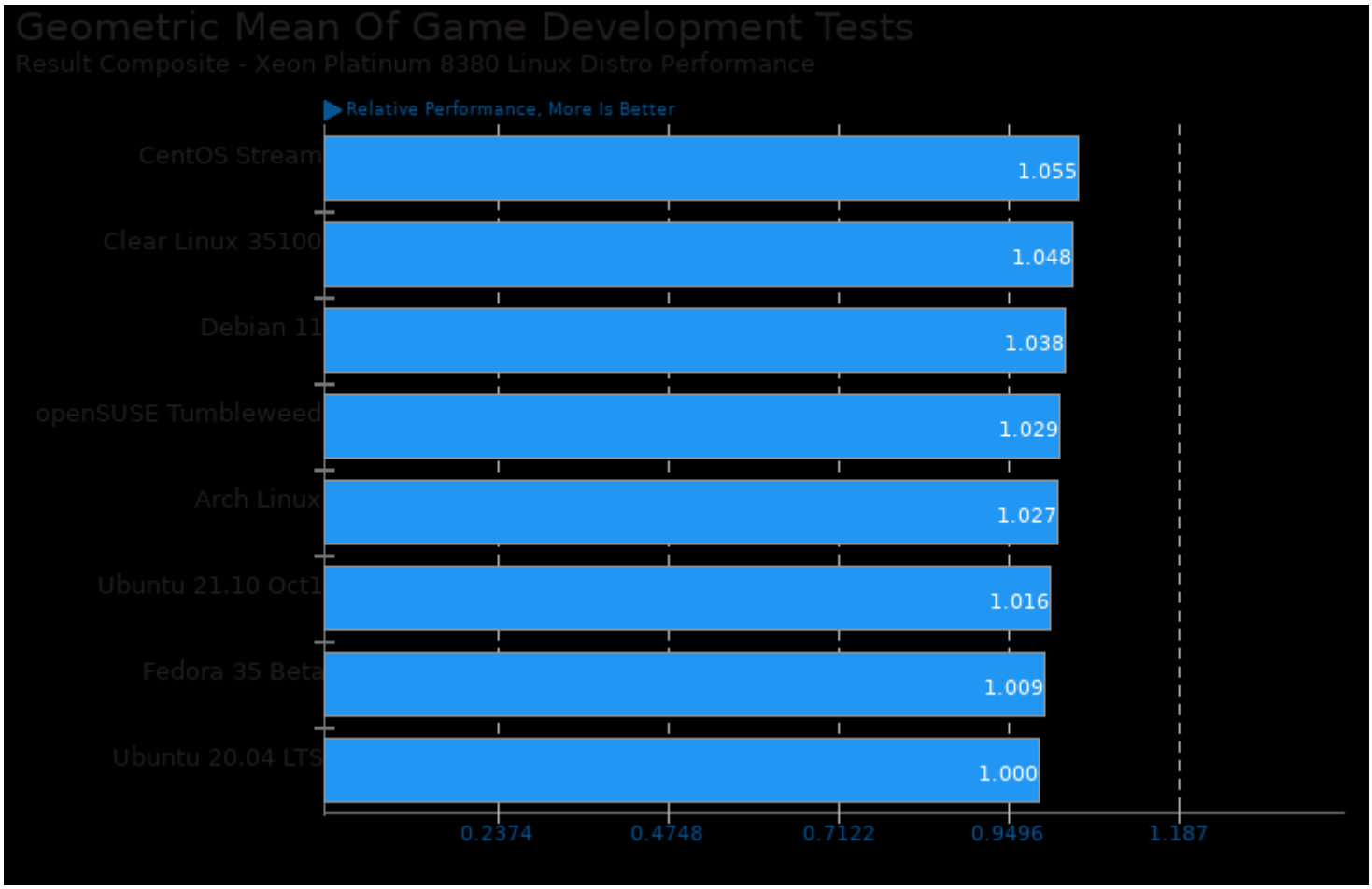
Geometric mean based upon tests: pts/sqlite-speedtest, pts/leveldb, pts/rocksdb and pts/pgbench

Xeon Platinum 8380 Linux Distro Performance



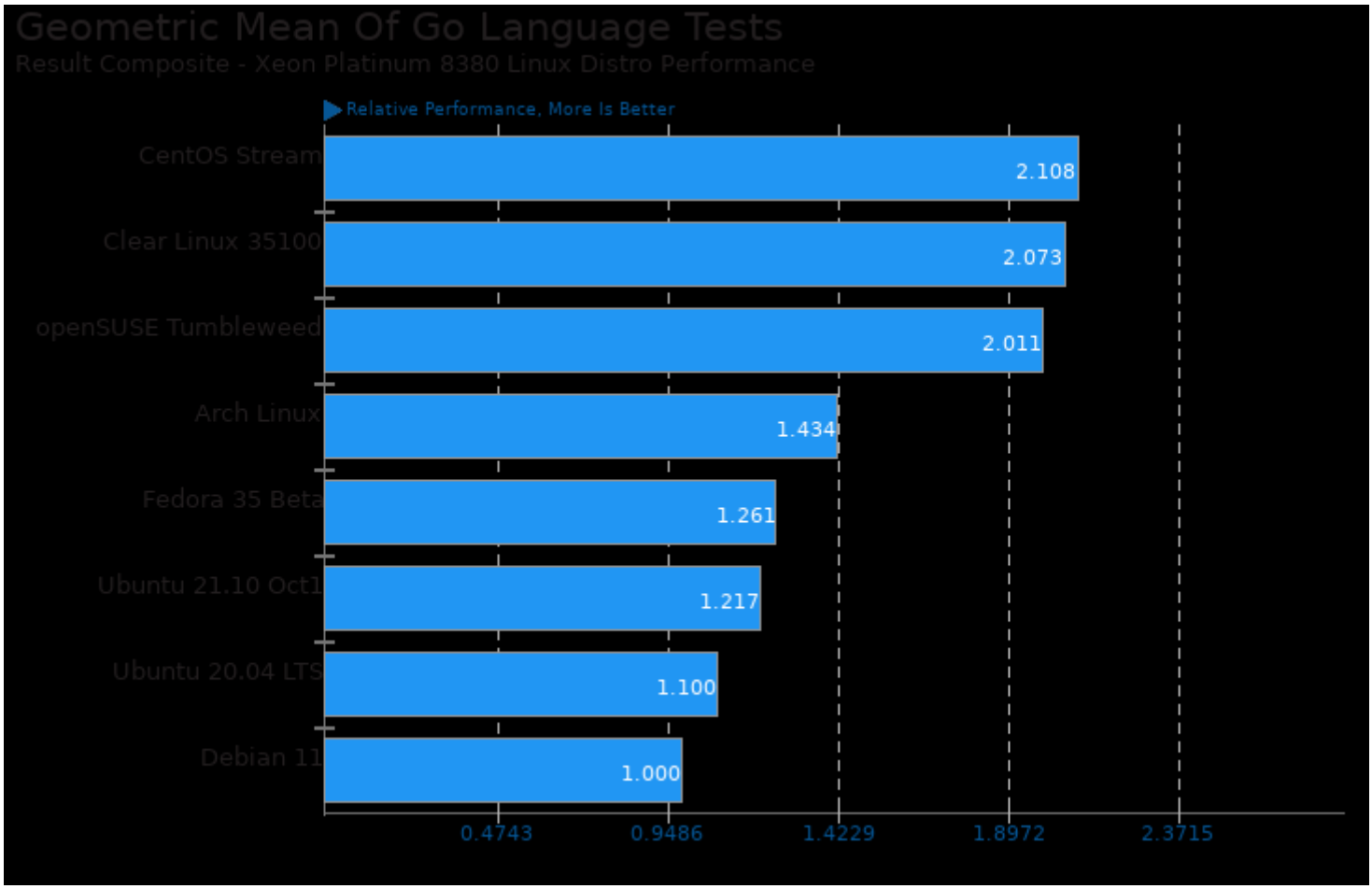
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x265 and pts/svt-av1

Xeon Platinum 8380 Linux Distro Performance



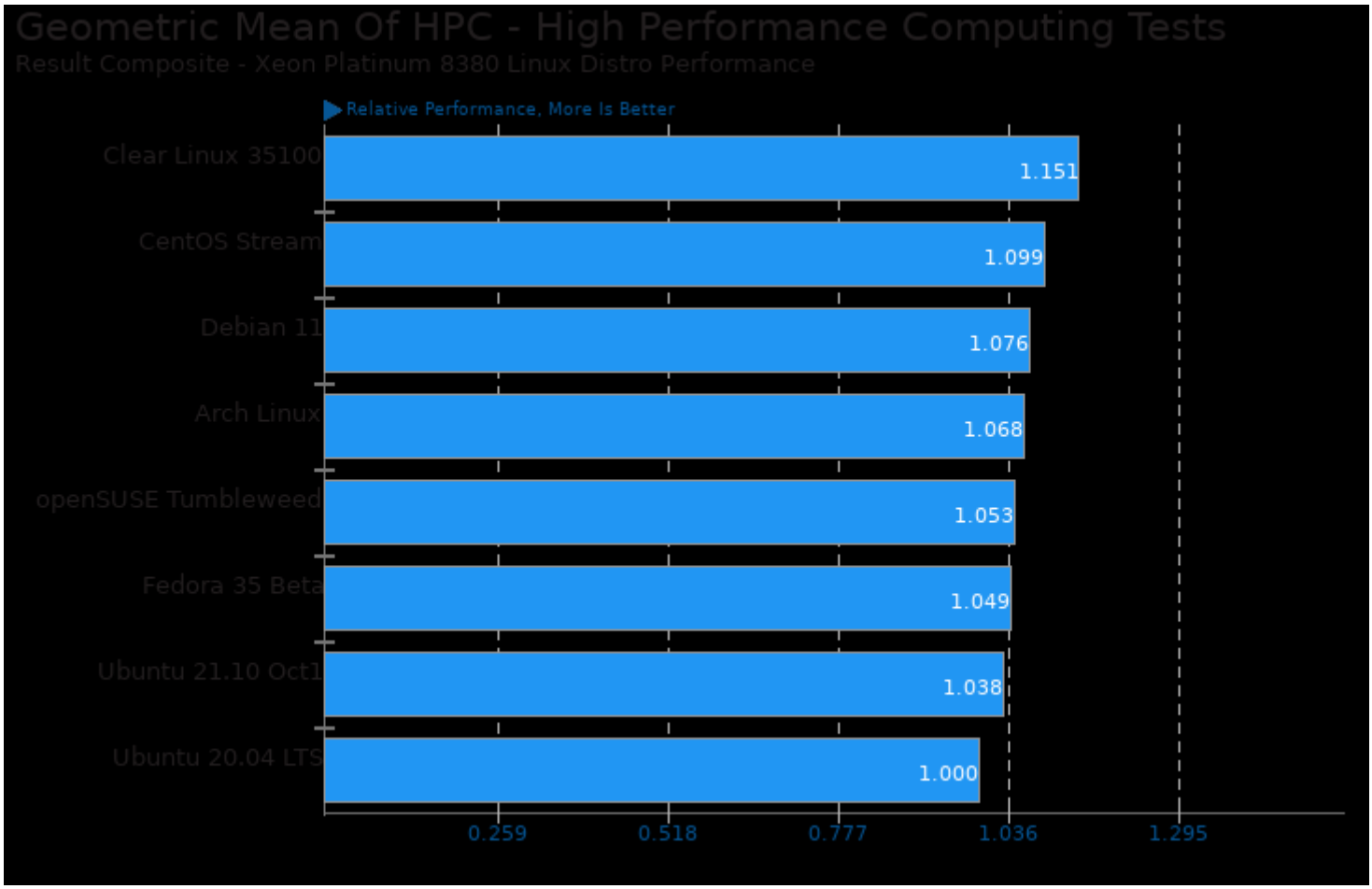
Geometric mean based upon tests: pts/blender, pts/oidn and pts/openvkl

Xeon Platinum 8380 Linux Distro Performance

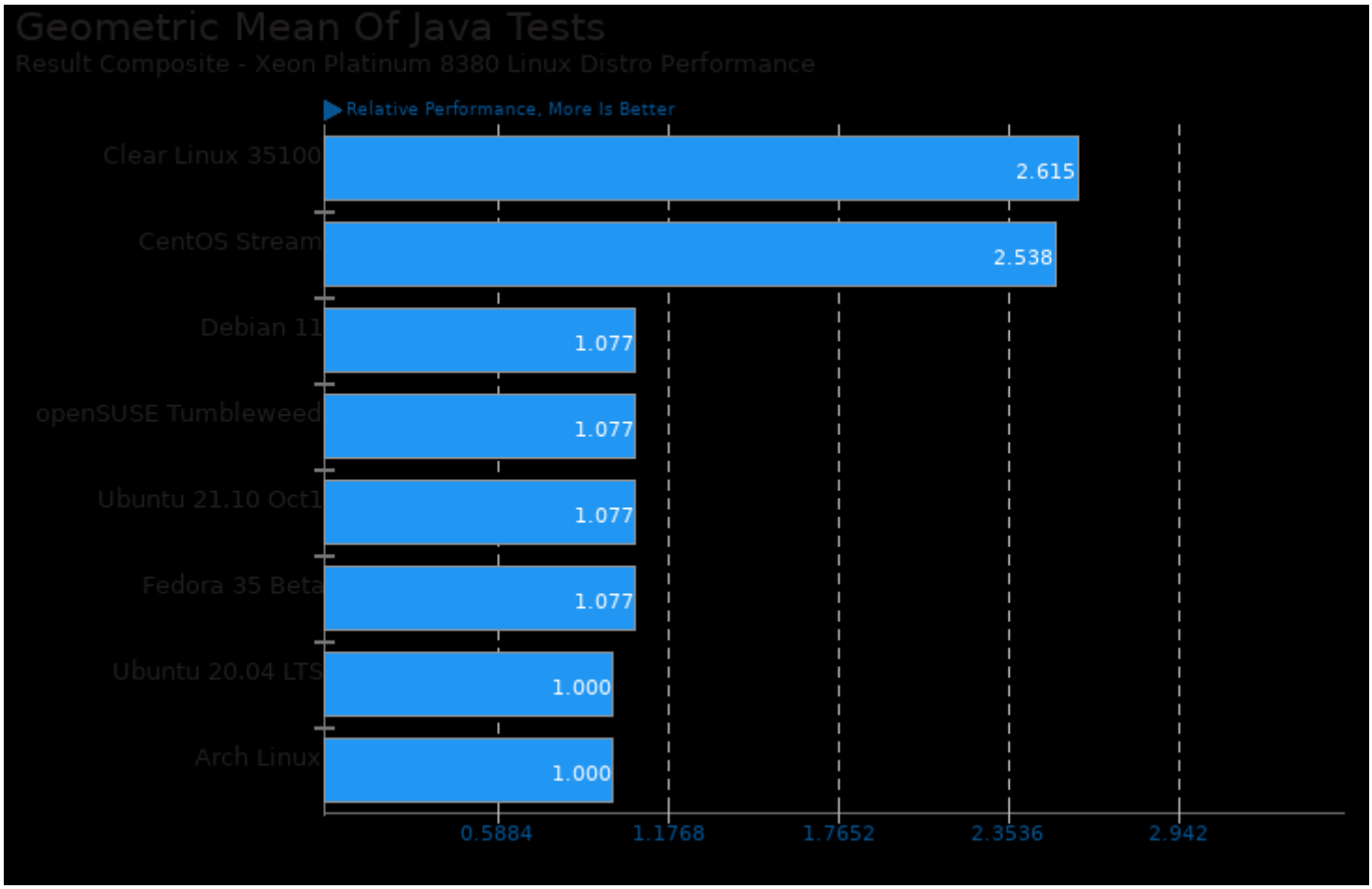


Geometric mean based upon tests: pts/apache and pts/nginx

Xeon Platinum 8380 Linux Distro Performance

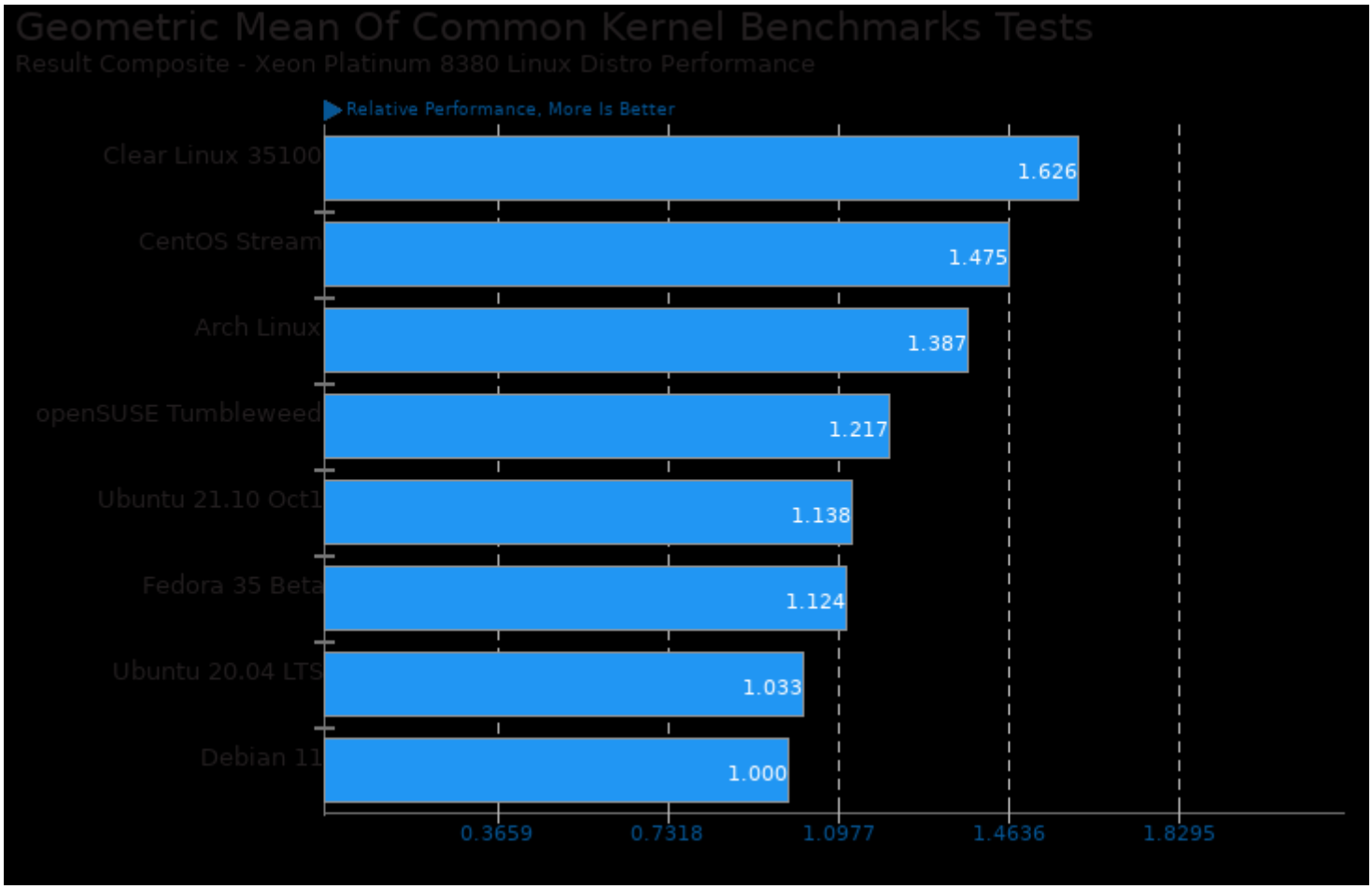


Geometric mean based upon tests: pts/rodinia, pts/hpcg, pts/namd, pts/gromacs, pts/mnn, pts/tnn and pts/tensorflow-lite



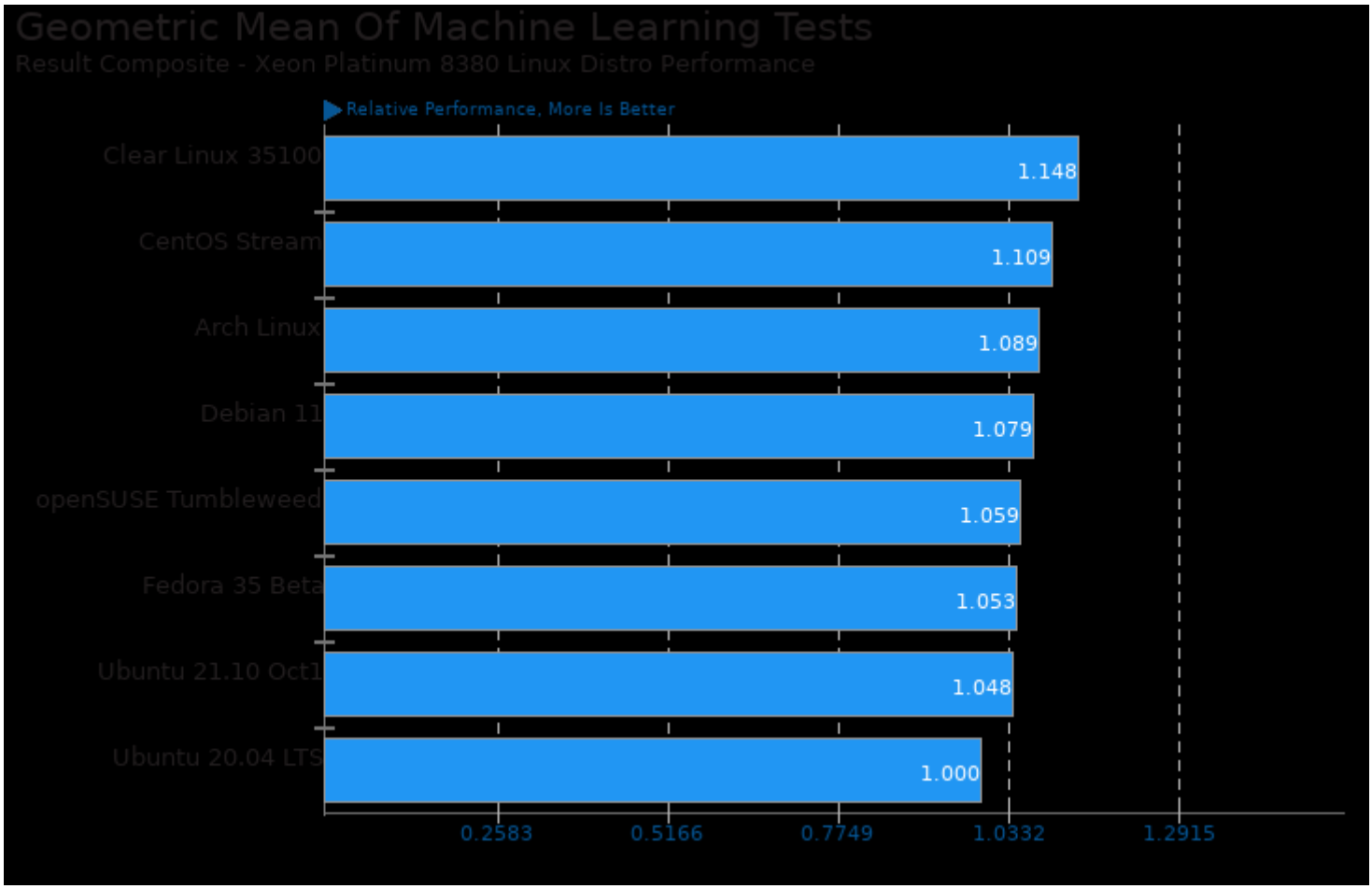
Geometric mean based upon tests: pts/dacapobench and pts/renaissance

Xeon Platinum 8380 Linux Distro Performance



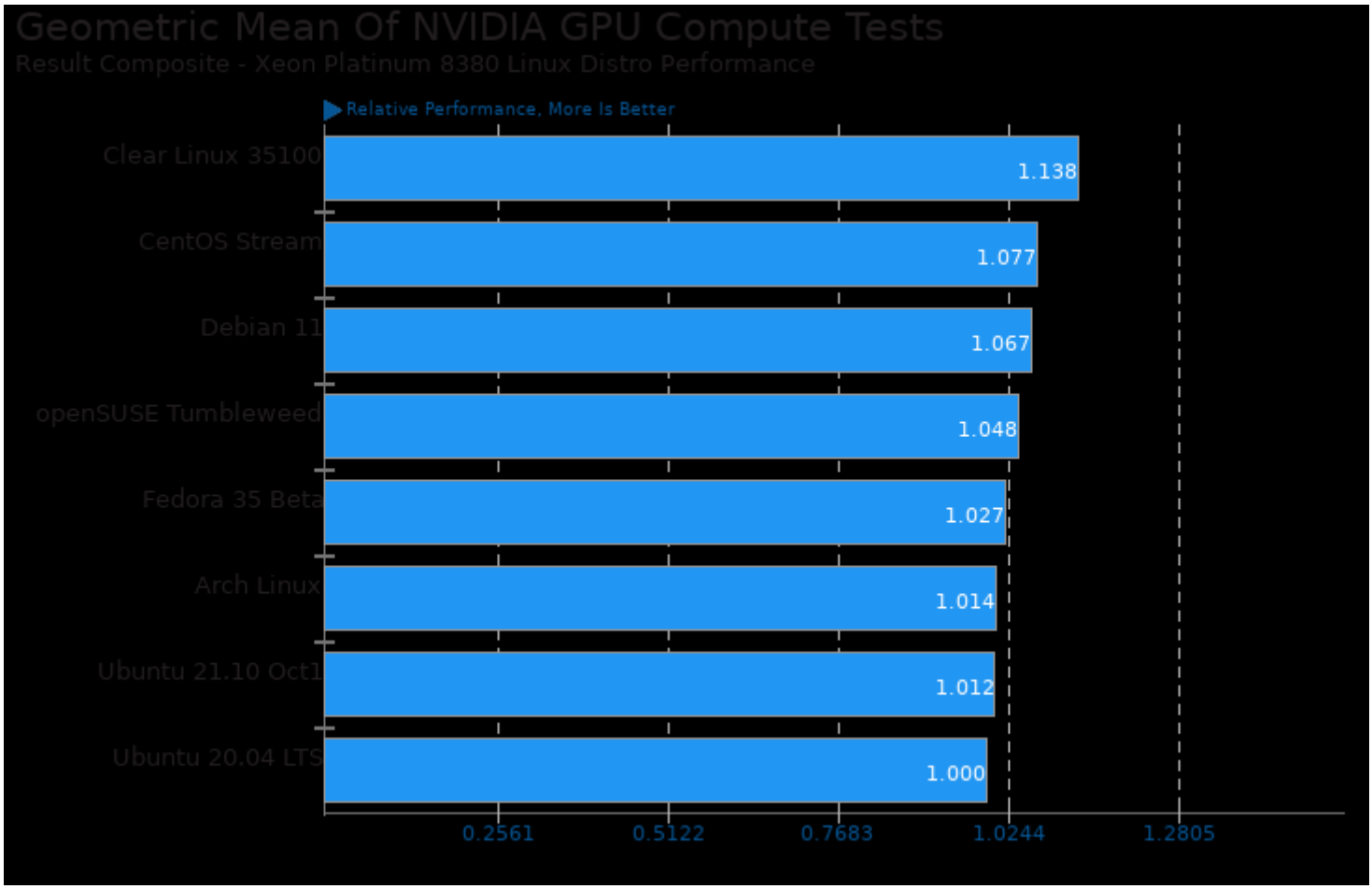
Geometric mean based upon tests: pts/apache, pts/sqlite-speedtest, pts/pgbench, pts/stress-ng, pts/rocksdb and pts/leveldb

Xeon Platinum 8380 Linux Distro Performance



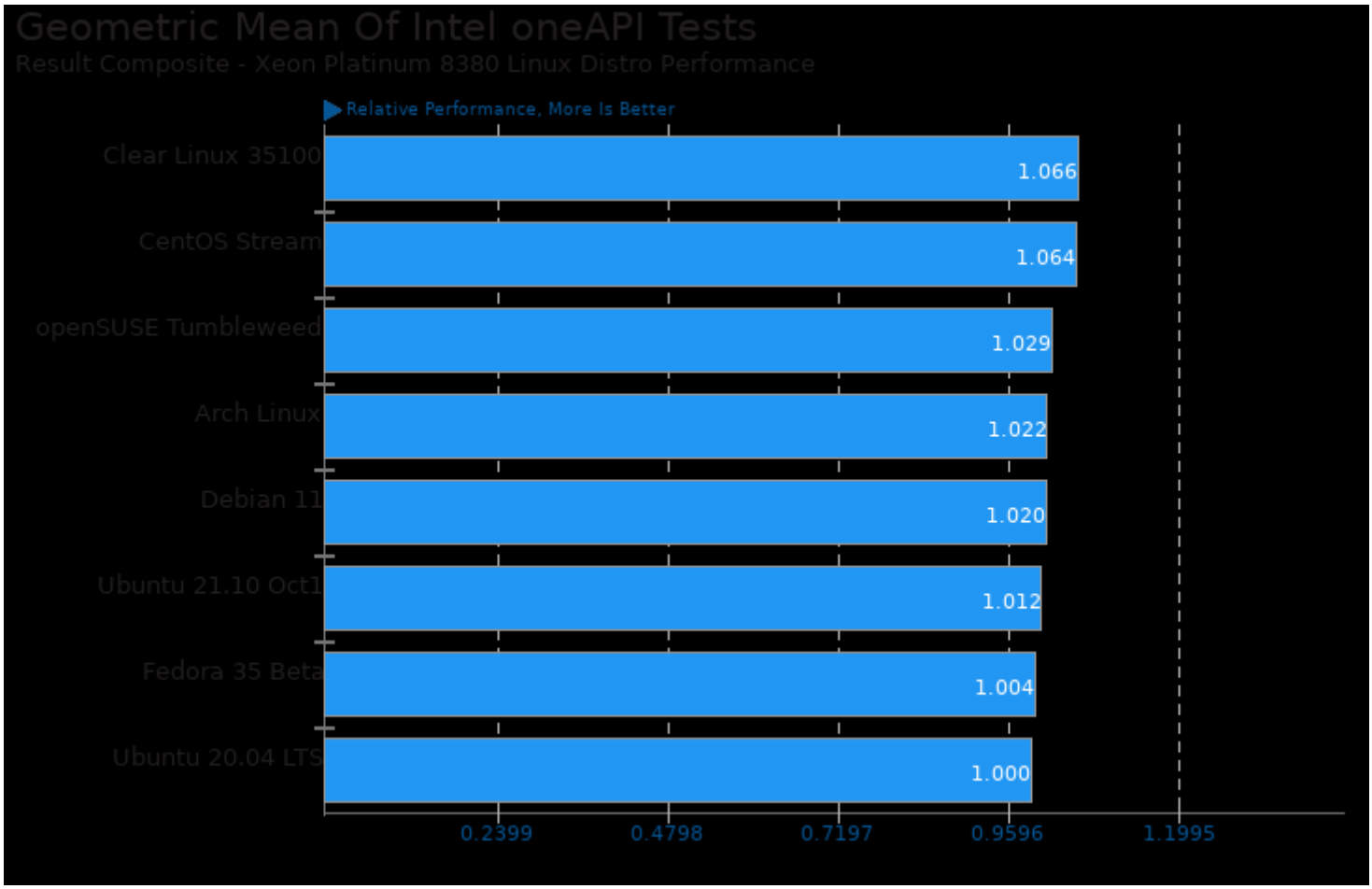
Geometric mean based upon tests: pts/mnn, pts/tnn and pts/tensorflow-lite

Xeon Platinum 8380 Linux Distro Performance



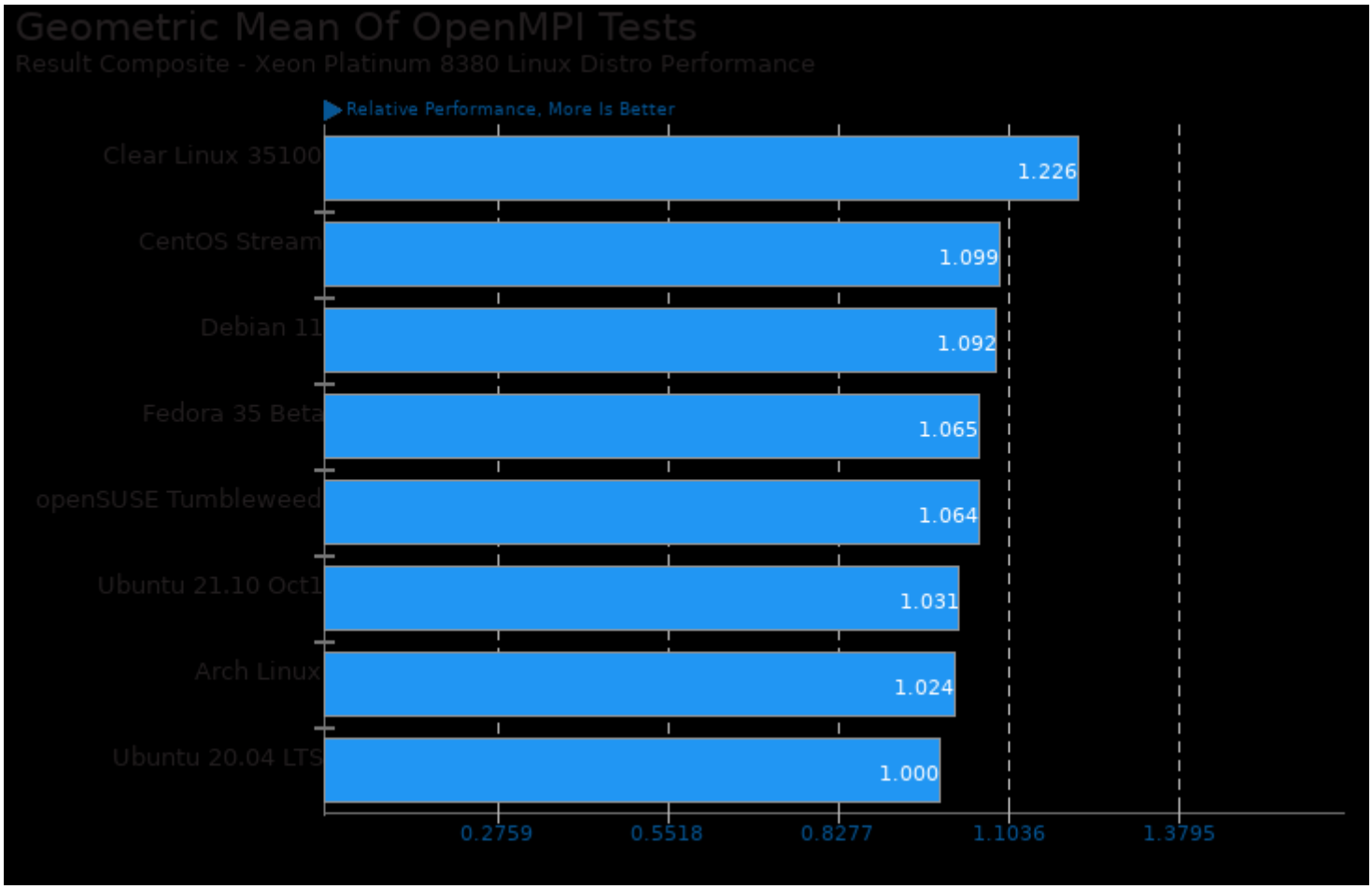
Geometric mean based upon tests: pts/gromacs, pts/rodinia, pts/v-ray and pts/blender

Xeon Platinum 8380 Linux Distro Performance



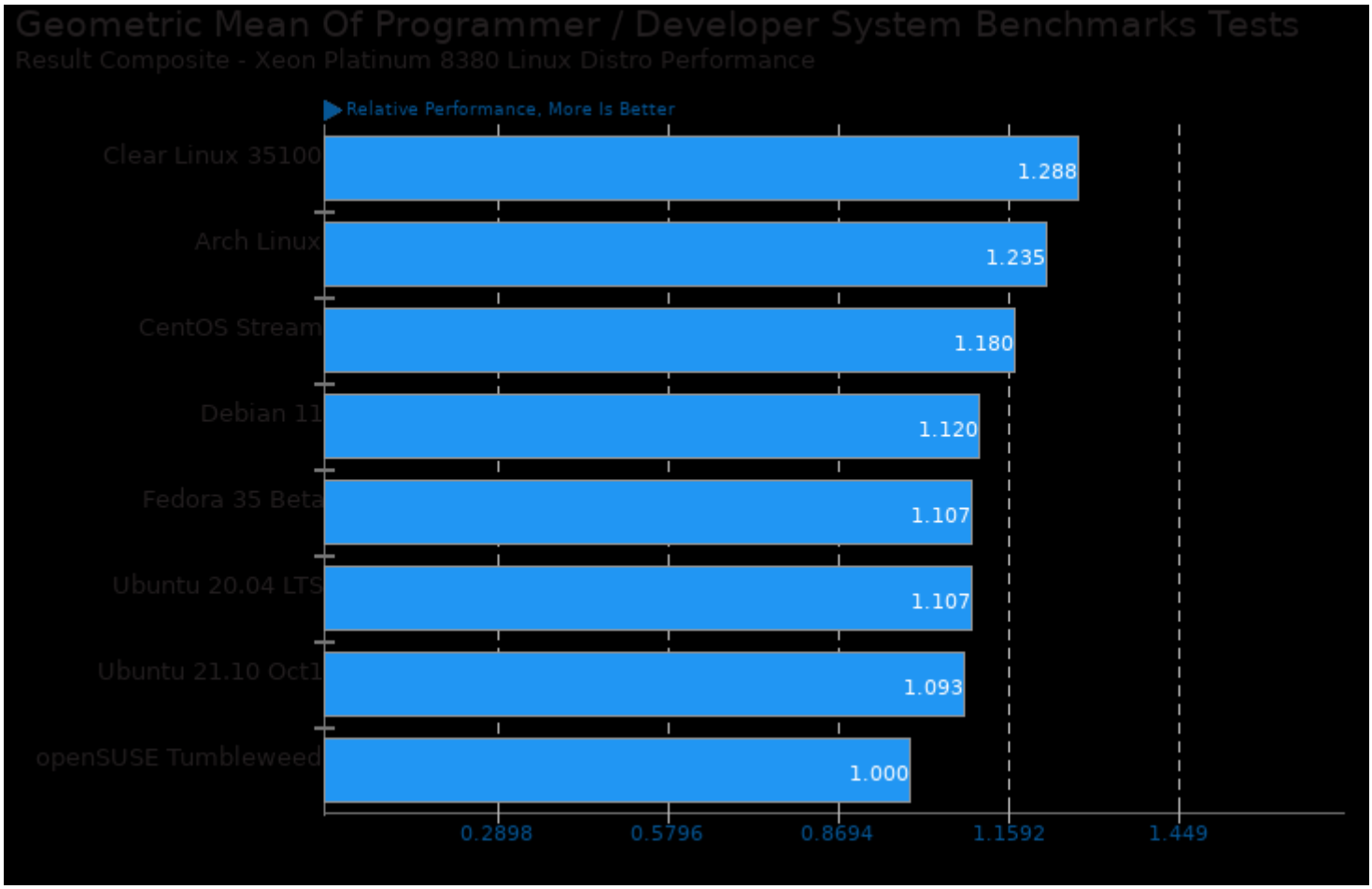
Geometric mean based upon tests: pts/embree, pts/oidn, pts/ospray and pts/openvkl

Xeon Platinum 8380 Linux Distro Performance



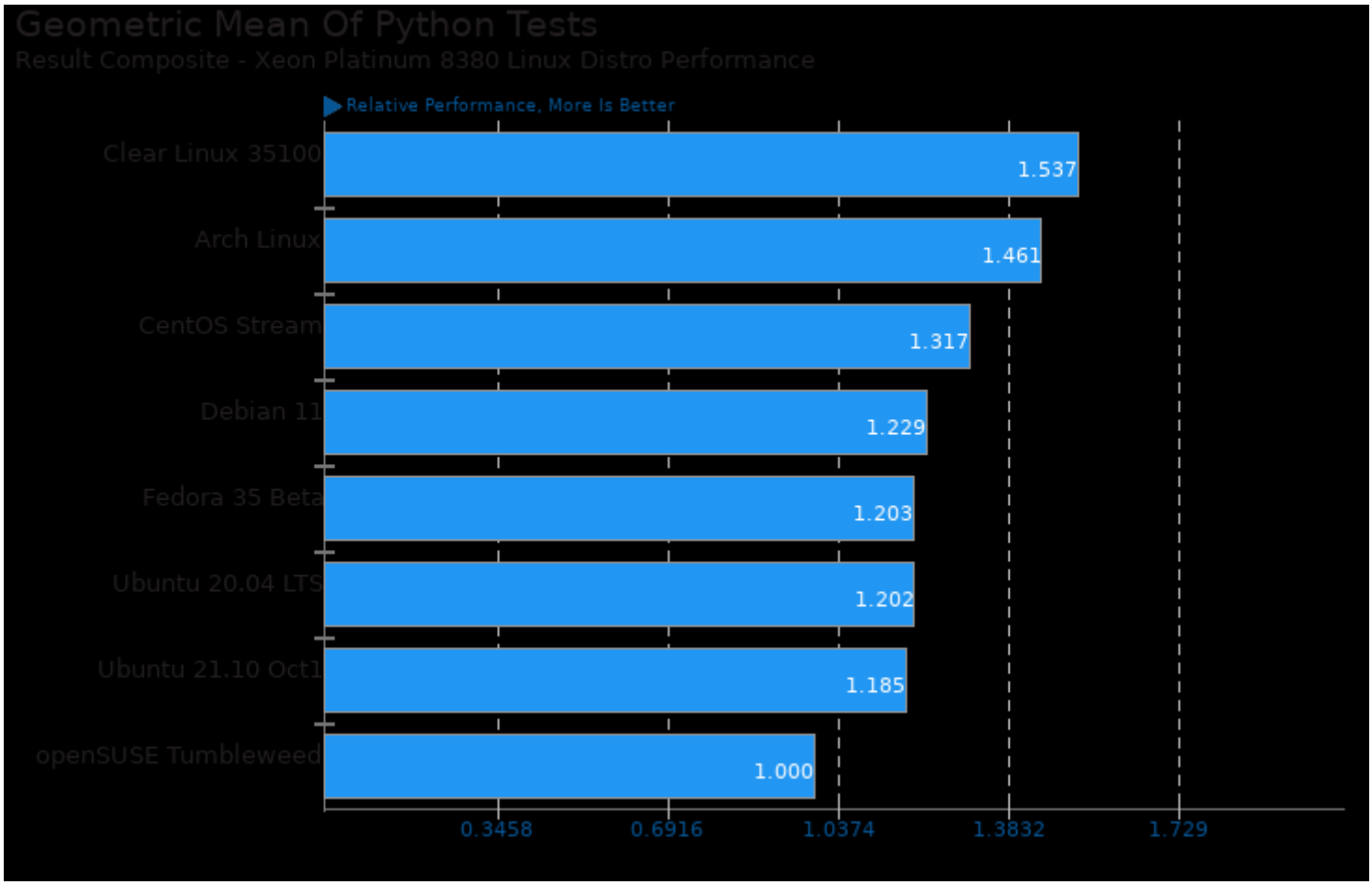
Geometric mean based upon tests: pts/rodinia, pts/hpcg and pts/gromacs

Xeon Platinum 8380 Linux Distro Performance



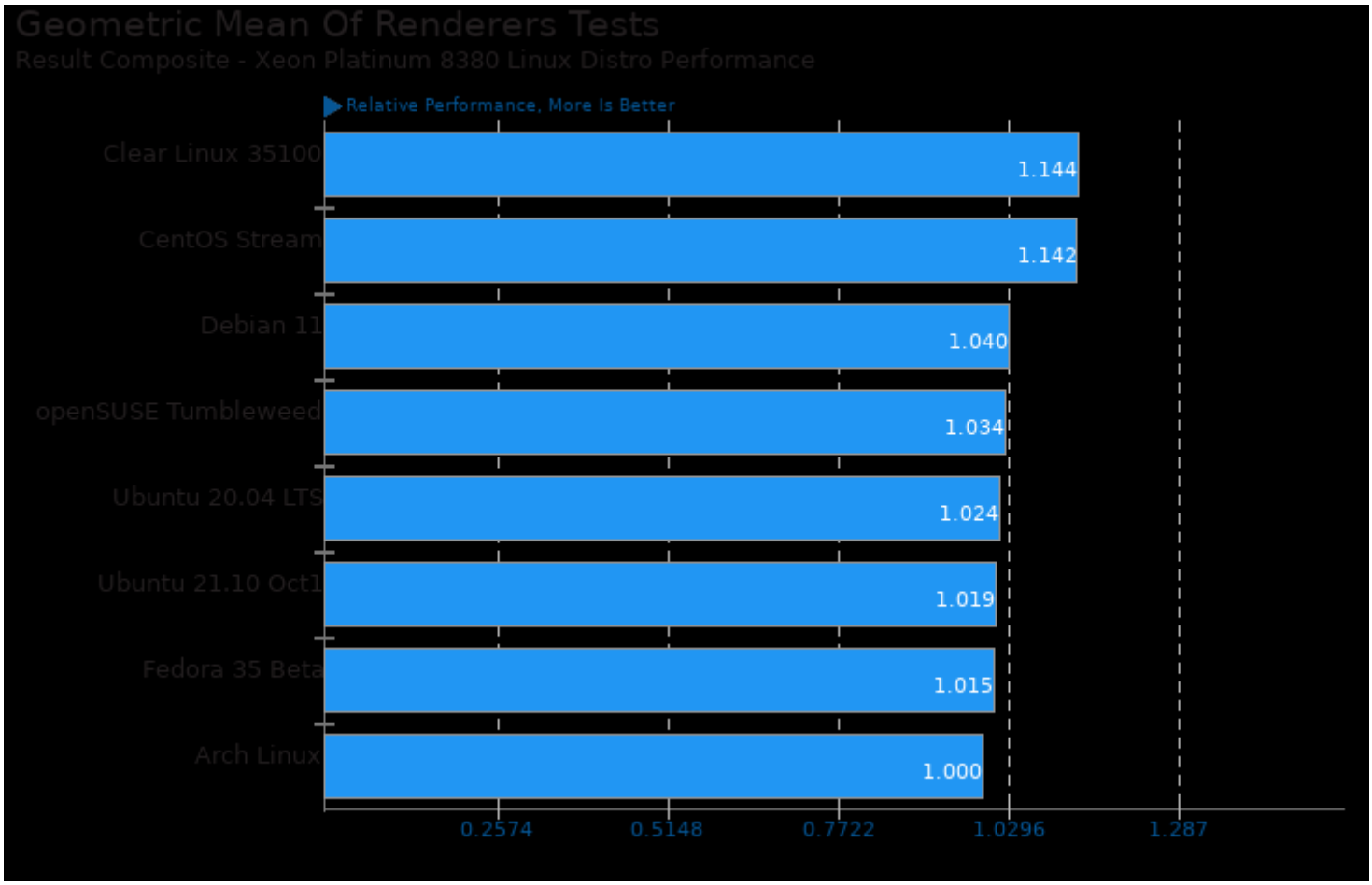
Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/git, pts/compress-zstd, pts/pyperformance and pts/pybench

Xeon Platinum 8380 Linux Distro Performance



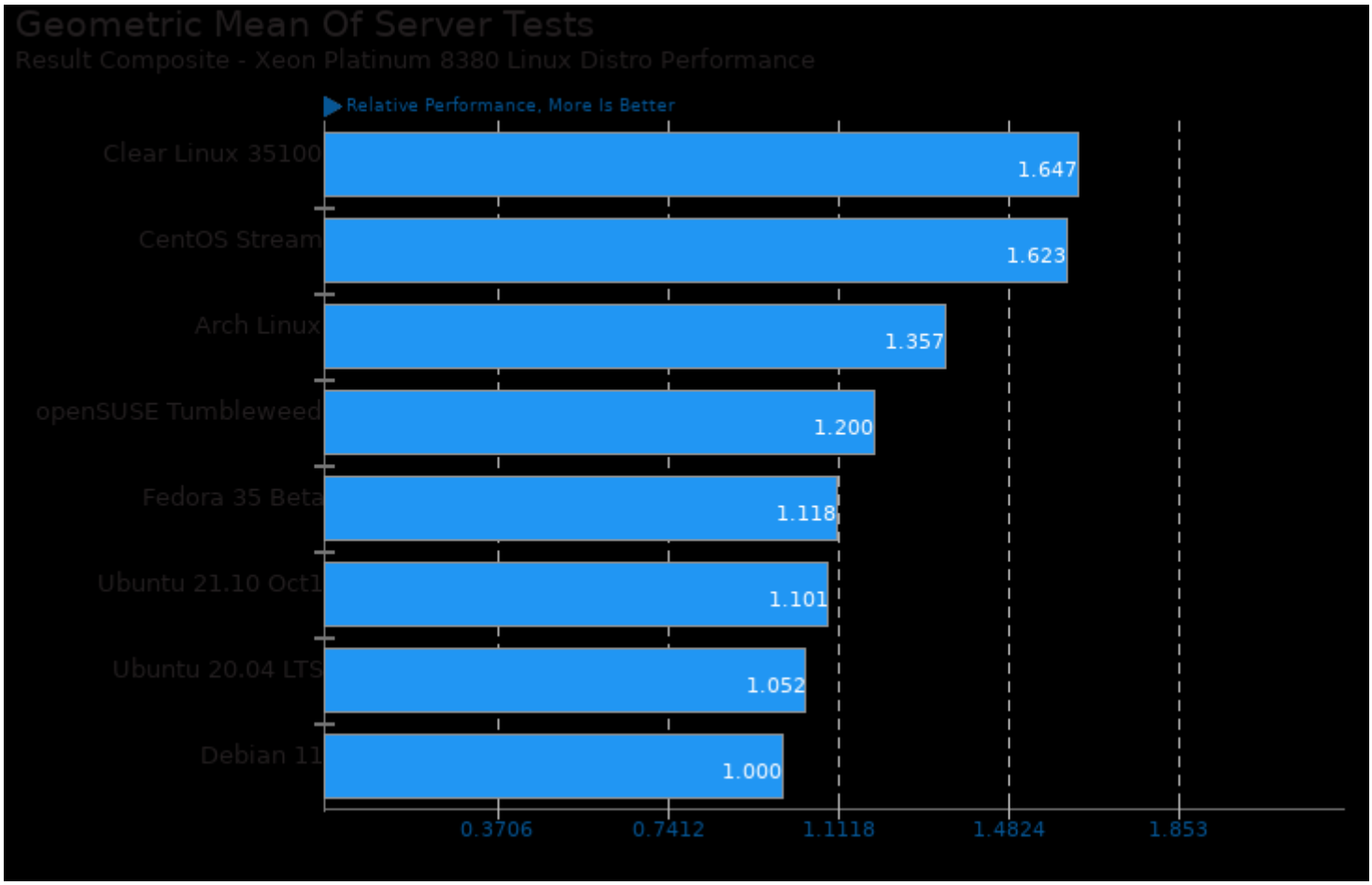
Geometric mean based upon tests: pts/pybench and pts/pyperformance

Xeon Platinum 8380 Linux Distro Performance



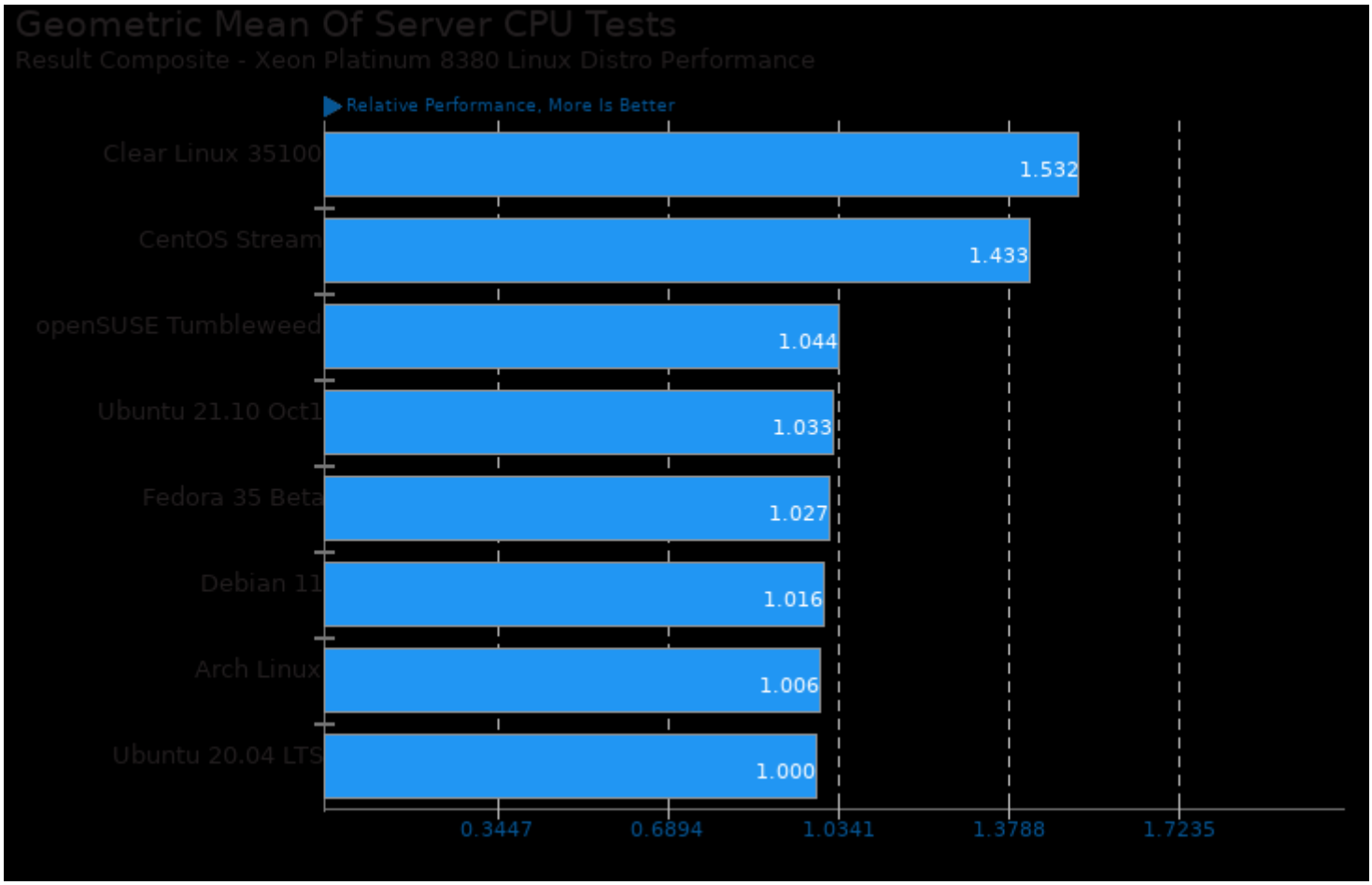
Geometric mean based upon tests: pts/ospray, pts/blender, pts/appleseed and pts/v-ray

Xeon Platinum 8380 Linux Distro Performance



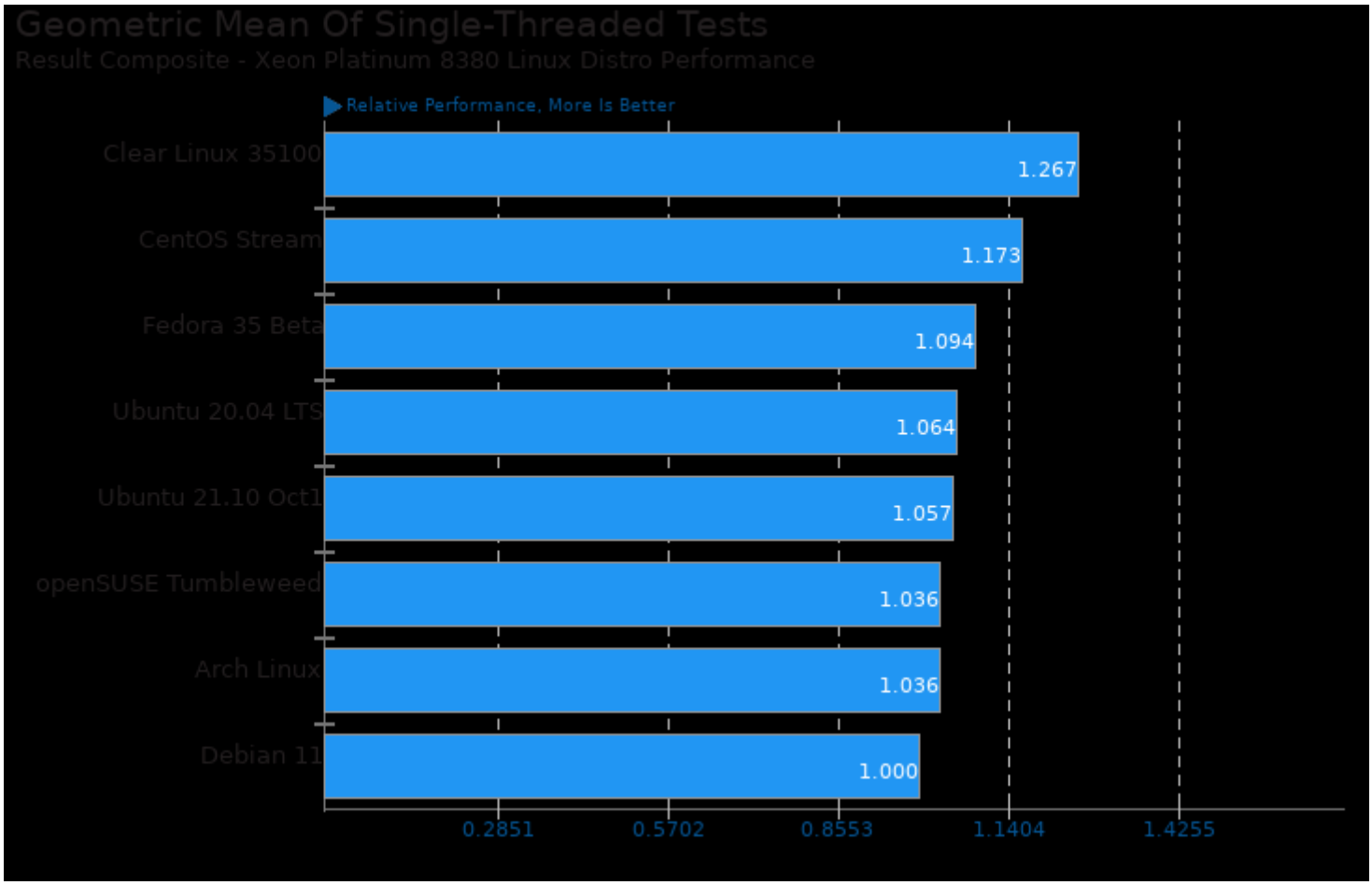
Geometric mean based upon tests: pts/apache, pts/nginx, pts/pgbench, pts/rocksdb, pts/phpbench, pts/node-express-loadtest, pts/simdjson, pts/sqlite-speedtest and pts/leveldb

Xeon Platinum 8380 Linux Distro Performance



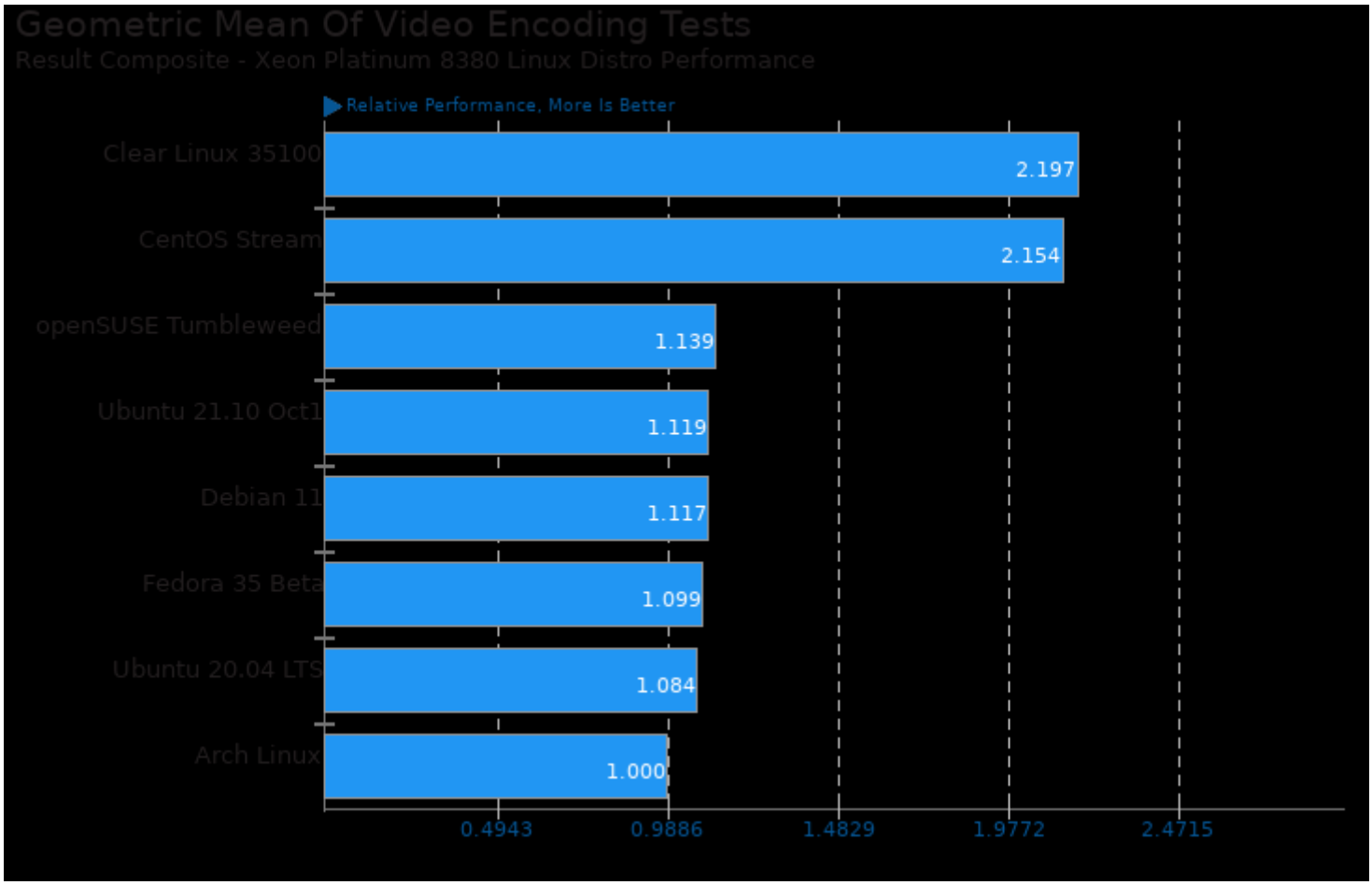
Geometric mean based upon tests: pts/rodinia, pts/namd, pts/dacapobench, pts/renaissance, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/x265, pts/compress-7zip, pts/compress-zstd, pts/stress-ng, pts/blender, pts/appleseed, pts/pybench and pts/phpbench

Xeon Platinum 8380 Linux Distro Performance



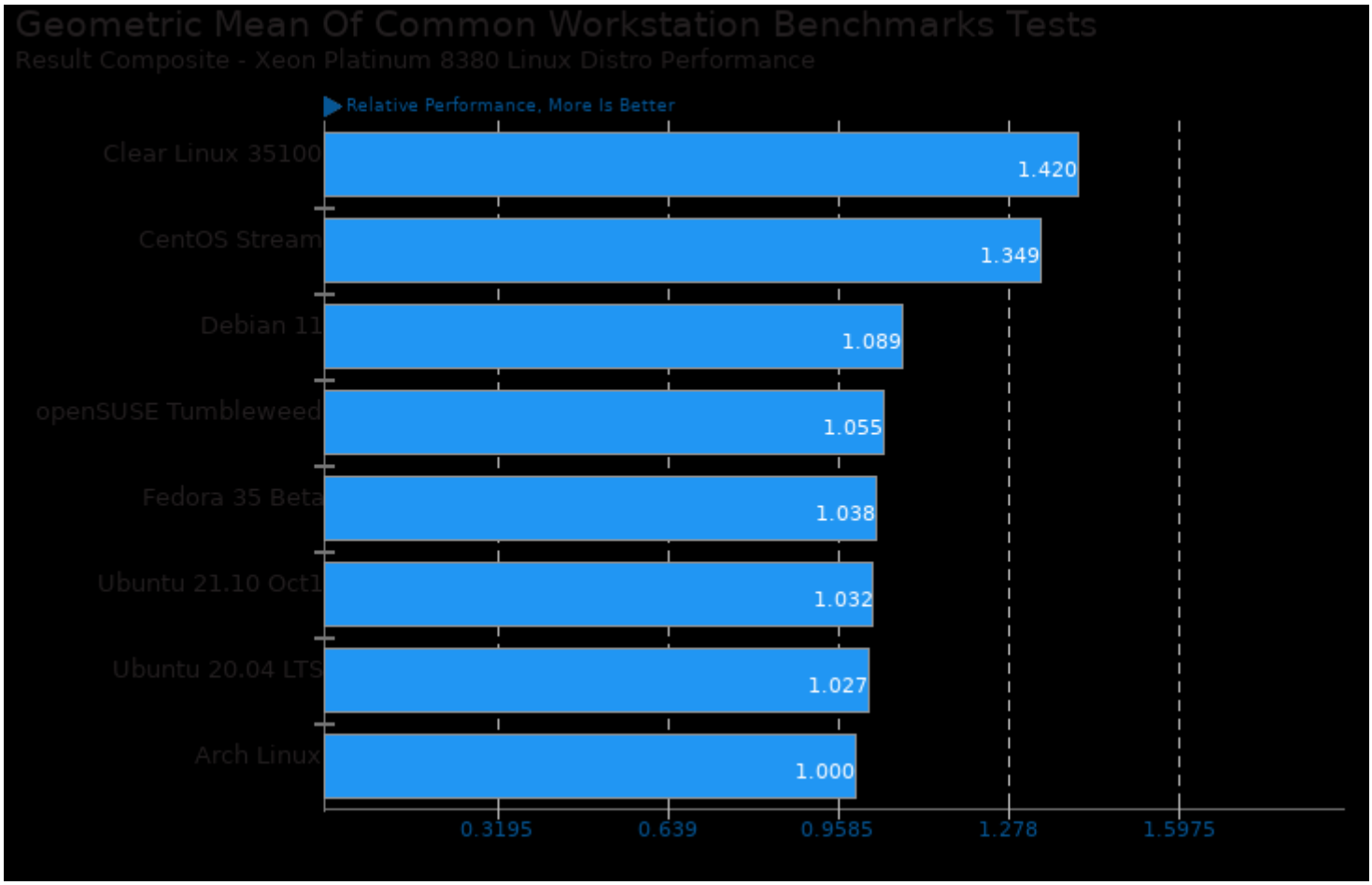
Geometric mean based upon tests: pts/gmpbench, pts/node-express-loadtest, pts/pybench, pts/phpbench, pts/nginx and pts/git

Xeon Platinum 8380 Linux Distro Performance



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x265 and pts/svt-av1

Xeon Platinum 8380 Linux Distro Performance



Geometric mean based upon tests: pts/blender, pts/rodinia, pts/x265 and pts/git

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 04:29.