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Ubuntu 17.10 AMD Ryzen

Tests for a future article.

Automated Executive Summary

Threadripper 1950X: Clear Linux 20500 had the most wins, coming in first place for 51% of the tests.

Based on the geometric mean of all complete results, the fastest (Threadripper 1950X: Clear Linux 20500) was 1.971x the speed of the slowest (Ryzen 7 1800X: Void Linux).

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

Systemd Total Boot Time (Test: Loader) at 549.161x
Systemd Total Boot Time (Test: Userspace) at 55.471x
Hackbench (Count: 16 - Type: Process) at 11.912x
Hackbench (Count: 16 - Type: Thread) at 11.639x
Systemd Total Boot Time (Test: Kernel) at 10.482x
Rodinia (Test: OpenMP CFD Solver) at 5.371x
Rodinia (Test: OpenMP LavaMD) at 4.21x
Parboil (Test: OpenMP Stencil) at 3.718x
ebizzy at 3.635x
Systemd Total Boot Time (Test: Total) at 3.312x.

Test Systems:

Ryzen 7 1800X: Ubuntu 17.10

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Device 1450, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon RX 580 8192MB, Audio: AMD Device aaf0, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Ubuntu 17.10, Kernel: 4.13.0-31-generic (x86_64), Desktop: GNOME Shell 3.26.2, Display Server: Wayland, OpenGL: 4.5 Mesa 17.2.4 (LLVM 5.0.0), Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

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: NONE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.3

Ryzen 7 1800X: Fedora 27

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon RX 580 8192MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Fedora 27, Kernel: 4.14.14-300.fc27.x86_64 (x86_64), Desktop: GNOME Shell 3.26.2, Display Server: Wayland, OpenGL: 4.5 Mesa 17.2.4 (LLVM 5.0.0), Compiler: GCC 7.2.1 20170915, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,objc,obj-c++,fortran,ada,go,lto --enable-libmpx --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / data=ordered,relatime,rw,seclabel
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.4
Security Notes: SELinux + Full AMD retpoline Protection

Ryzen 7 1800X: openSUSE Tumbleweed

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: AMD Radeon RX 470/480/570/580 8192MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: openSUSE Tumbleweed 20180122, Kernel: 4.14.14-1-default (x86_64), Desktop: KDE Plasma 5.11.95, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, File-System: xfs, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-gnu-indirect-function --enable-languages=c,c++,objc,fortran,obj-c++,ada,go --enable-libstdcxx-allocator=new --enable-linux-futex --enable-multilib --enable-offload-targets=hsa,nvptx-none=/usr/nvptx-none, --enable-plugin --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Disk Notes: NONE / attr2,inode64,noquota,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.4
Security Notes: Full AMD retpoline Protection

Ryzen 7 1800X: Clear Linux 20500

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 2 x 8192 MB DDR4-1067MT/s CMK16GX4M2B3200C16, Disk: 120GB Force MP500, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Clear Linux OS 20500, Kernel: 4.14.14-513.native (x86_64), Desktop: GNOME Shell 3.26.2, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, OpenGL: 4.3 Mesa 17.4.0-devel, Vulkan: 1.0.39, Compiler: GCC 7.2.1 20171126 + Clang 5.0.1 + LLVM 5.0.1, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes:
CFFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wl--copy-dt-needed-entries-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
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-Wl--copy-dt-needed-entries-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-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common
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-Wl--copy-dt-needed-entries-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-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common-fvisibility-inlines-hidden
FFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wl--copy-dt-needed-entries-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 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 --enable-__cxa_atexit --enable-bootstrap --enable-clocale=gnu --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-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
Disk Notes: KYBER / data=ordered,relatime,rw,stripe=256
Processor Notes: Scaling Governor: acpi-cpufreq performance
Python Notes: Python 2.7.12 + Python 3.6.4
Security Notes: Full AMD retpoline Protection

Threadripper 1950X: Ubuntu 17.10

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F3g BIOS), Chipset: AMD Device 1450, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon R7 370 / R9 270/370 OEM 4096MB, Audio: Realtek ALC1220, Monitor: VE228, Network: Qualcomm Atheros Device e0b1 + Intel Wireless 8265 / 8275

OS: Ubuntu 17.10, Kernel: 4.13.0-31-generic (x86_64), Desktop: GNOME Shell 3.26.2, 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: NONE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.3

Threadripper 1950X: Fedora 27

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F3g BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon R7 370 / R9 270/370 OEM 4096MB, Audio: Realtek ALC1220, Monitor: VE228, Network: Qualcomm Atheros Killer E2500 Gigabit + Intel Wireless 8265 / 8275

OS: Fedora 27, Kernel: 4.14.14-300.fc27.x86_64 (x86_64), Desktop: GNOME Shell 3.26.2, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,objc,obj-c++,fortran,ada,go,lto --enable-libmpx --enable-multilib

--enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / data=ordered,relatime,rw,seclabel
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.4
Security Notes: SELinux + Full AMD retpoline Protection

Threadripper 1950X: openSUSE Tumbleweed

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F3g BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: AMD Radeon R7 370 / R9 270/370 OEM 4096MB, Audio: Realtek ALC1220, Monitor: VE228, Network: Qualcomm Atheros Killer E2500 Gigabit + Intel Wireless 8265 / 8275

OS: openSUSE Tumbleweed 20180122, Kernel: 4.14.14-1-default (x86_64), Desktop: KDE Plasma, Display Driver: modesetting 1.19.6, Compiler: GCC 7.2.1 20180116 [gcc-7-branch revision 256737], File-System: xfs, Screen Resolution: 1920x1080

Environment Notes: LIBGL_DEBUG=quiet
Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-gnu-indirect-function --enable-languages=c,c++,objc,fortran,obj-c++,ada,go --enable-libstdcxx-allocator=new --enable-linux-futex --enable-multilib --enable-offload-targets=hsa,nvptx-none=/usr/nvptx-none, --enable-plugin --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Disk Notes: NONE / attr2,inode64,noquota,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14 + Python 3.6.4
Security Notes: Full AMD retpoline Protection

Threadripper 1950X: Clear Linux 20500

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F3g BIOS), Chipset: AMD Family 17h, Memory: 4 x 4096 MB DDR4-3600MT/s F4-3600C17-4GVK, Disk: 16GB Voyager 3.0 + 120GB Force MP500, Graphics: MSI AMD Radeon R7 370 / R9 270/370 OEM, Audio: Realtek ALC1220, Network: Qualcomm Atheros Killer E2500 Gigabit + Intel Wireless 8265 / 8275

OS: Clear Linux OS 20500, Kernel: 4.14.14-513.native (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.1 20171126 + Clang 5.0.1 + LLVM 5.0.1, File-System: ext4, Screen Resolution: 1024x768

Environment Notes: CFFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wl--copy-dt-needed-entries-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
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-Wl--copy-dt-needed-entries-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-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common
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-Wl--copy-dt-needed-entries-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-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common-fvisibility-inlines-hidden
FFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wl--copy-dt-needed-entries-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 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 --enable-__cxa_atexit --enable-bootstrap --enable-clocale=gnu --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-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
Disk Notes: KYBER / data=ordered,relatime,rw,stripe=256
Processor Notes: Scaling Governor: acpi-cpufreq performance
Python Notes: Python 2.7.12 + Python 3.6.4
Security Notes: Full AMD retpoline Protection

Ryzen 7 1800X: Solus 3

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force

MP500, Graphics: MSI AMD Radeon RX 580 8192MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Solus 3, Kernel: 4.14.14-47.current (x86_64), Desktop: Budgie, Display Driver: modesetting 1.19.5, OpenGL: 4.5 Mesa 17.3.1 (LLVM 5.0.0), Vulkan: 1.0.65, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: amdgpu.si_support=1 amdgpu.cik_support=1
Compiler Notes: --build=x86_64-solus-linux --enable-__cxa_atexit --enable-clocale=gnu --enable-gnu-indirect-function --enable-gold --enable-languages=c,c++,fortran --enable-ld=default --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --target=x86_64-solus-linux --with-arch_32=i686 --with-multilib-list=m32,m64
Disk Notes: NONE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.13 + Python 3.5.4
Security Notes: Full AMD retpoline Protection

Ryzen 7 1800X: Antergos 18.1 Rolling

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon RX 470/480/570/580 8192MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Antergos Linux 18.1-ISO-Rolling, Kernel: 4.14.14-1-ARCH (x86_64), Desktop: GNOME Shell 3.26.2, Display Driver: modesetting 1.19.6, Compiler: GCC 7.2.1 20180116, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --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++ --enable-libmpx --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 / data=ordered,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq schedutil
Python Notes: Python 3.6.4
Security Notes: Full AMD retpoline Protection

Ryzen 7 1800X: Debian Testing

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: llvmpipe 16128MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: Debian testing, Kernel: 4.14.0-3-amd64 (x86_64), Desktop: GNOME Shell 3.26.2, Display Driver: modesetting 1.19.5, OpenGL: 3.3 Mesa 17.2.5 (LLVM 5.0 128 bits), Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

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: NONE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14+ + Python 3.6.4

Ryzen 7 1800X: Ubuntu 16.04.3 LTS

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Device 1450, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon RX 580 8192MB, Audio: AMD Device aaf0, Monitor: DELL P2415Q, Network: Intel

I211 Gigabit Connection

OS: Ubuntu 16.04, Kernel: 4.13.0-31-generic (x86_64), Desktop: Unity 7.4.0, Display Driver: modesetting 1.19.5, OpenGL: 4.5 Mesa 17.2.4 (LLVM 5.0.0), Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 3840x2160

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: NONE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq performance
Python Notes: Python 2.7.12 + Python 3.5.2

Ryzen 7 1800X: Void Linux

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: MSI X370 XPOWER GAMING TITANIUM (MS-7A31) v1.0 (1.90 BIOS), Chipset: AMD Family 17h, Memory: 16384MB, Disk: 120GB Force MP500, Graphics: MSI AMD Radeon RX 470/480/570/580 8192MB, Audio: AMD Ellesmere, Monitor: DELL P2415Q, Network: Intel I211 Gigabit Connection

OS: VoidLinux rolling, Kernel: 4.14.15_1 (x86_64), Desktop: Xfce 4.12, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-unknown-linux-gnu --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-multilib --disable-nls --disable-target-libiberty --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-default-pie --enable-default-ssp --enable-fast-character --enable-languages=c,c++,objc,obj-c++,fortran,lto,go --enable-lto --enable-serial-configure --enable-shared --enable-threads=posix --enable-vtable-verify --mandir=/usr/share/man --with-default-libstdcxx-abi=gcc4-compatible --with-isl --with-linker-hash-style=gnu
Disk Notes: NONE / data=ordered,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.14
Security Notes: Minimal AMD ASM retpoline Protection

	Ryzen 7 1800X: Ubuntu 17.10	Ryzen 7 1800X: Fedora 27	Ryzen 7 1800X: openSUSE Tumbleweed	Ryzen 7 1800X: Clear Linux 20500	Threadripper 1950X: Ubuntu 17.10	Threadripper 1950X: Fedora 27	Threadripper 1950X: openSUSE Tumbleweed	Threadripper 1950X: Clear Linux 20500	Ryzen 7 1800X: Solus 3	Ryzen 7 1800X: Antergos 18.1 Rolling	Ryzen 7 1800X: Debian Testing	Ryzen 7 1800X: Ubuntu 16.04.3 LTS	Ryzen 7 1800X: Void Linux
SQLite - D.T.D (sec)	18.93	18.54	17.33	12.42	14.12	14.00	13.83	**8.92**	**23.79**	19.07	18.78	16.92	19.92
Normalized	47.12%	48.11%	51.47%	71.82%	63.17%	63.71%	64.5%	100%	37.49%	46.78%	47.5%	52.72%	44.78%
Standard Deviation	25.8%	29.5%	32%	28.8%	1%	0.6%	0.4%	0.1%	18.9%	33.2%	33.3%	20.1%	23.8%
FS-Mark - 1.F.1.S (Files/s)	**283.07**	430.90		321.47	503.77	492.10		**536.73**	327.20	330.53	400.73	420.93	364.47
Normalized	52.74%	80.28%		59.89%	93.86%	91.68%		100%	60.96%	61.58%	74.66%	78.42%	67.91%
Standard Deviation	6.9%	0.6%		2.8%	1.2%	0.3%		4.9%	1.6%	14.5%	13.4%	3.2%	1.7%

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FS-Mark - 4.F.3.S.D.1.S (Files/s)	404.25	384.45		463.17	502.83	492.87		564.60	292.43	442.28	428.23	380.28	372.77
Normalized	71.6%	68.09%		82.04%	89.06%	87.3%		100%	51.79%	78.34%	75.85%	67.35%	66.02%
Standard Deviation	12%	19.2%		12%	1.3%	0.5%		0.1%	14.6%	9.7%	0.7%	14.4%	0.6%
Compile Bench - Compile	951.11	815.80	844.14	1512	1559	1306	1548	2059	816.38		890.98	937.65	550.05
Normalized	46.18%	39.61%	40.99%	73.41%	75.69%	63.42%	75.15%	100%	39.64%		43.26%	45.53%	26.71%
Standard Deviation	11.8%	7.5%	9%	7.6%	1.9%	17%	2.6%	6.6%	6.4%		11.4%	8.5%	3.4%
Compile Bench - Initial Create (MB/s)	470.06	320.07	327.38	536.68	505.57	345.78	363.14	554.72	413.71		465.13	474.11	279.35
Normalized	84.74%	57.7%	59.02%	96.75%	91.14%	62.33%	65.46%	100%	74.58%		83.85%	85.47%	50.36%
Standard Deviation	3.2%	1.2%	5.7%	1.8%	1%	0.7%	0.7%	2.3%	4.8%		3.7%	3%	5.6%
Parboil - OpenMP CUTCP (sec)	5.57	5.59	5.48	3.97	3.27	3.26	3.22	2.42	4.07		5.45	5.81	5.59
Normalized	43.45%	43.29%	44.16%	60.96%	74.01%	74.23%	75.16%	100%	59.46%		44.4%	41.65%	43.29%
Standard Deviation	0.8%	0.6%	1.1%	0.7%	1%	1.9%	0.3%	0.8%	0.4%		1%	1.2%	0.4%
Parboil - OpenMP Stencil (sec)	27.79	28.83	41.74	28.16	12.00	12.23	16.12	11.37	18.44		42.20	29.06	42.27
Normalized	40.91%	39.44%	27.24%	40.38%	94.75%	92.97%	70.53%	100%	61.66%		26.94%	39.13%	26.9%
Standard Deviation	0.8%	1.1%	0.5%	1.6%	0.6%	1.7%	0.7%	2.1%	0.9%		0.6%	1.1%	0.7%
Parboil - O.M.G (sec)	97.06	110.21	94.50	99.84	153.01	170.05	134.30	155.45	111.18		95.84	99.57	94.40
Normalized	97.26%	85.65%	99.89%	94.55%	61.7%	55.51%	70.29%	60.73%	84.91%		98.5%	94.81%	100%
Standard Deviation	0.6%	0.2%	0.8%	0.1%	0.3%	0.2%	2.4%	0.2%	0%		0.4%	0.5%	0.8%
Rodinia - OpenMP LavaMD (sec)	82.42	82.24	82.92	36.94	46.49	45.43	45.36	20.40	85.89	83.74	82.74	79.98	83.99
Normalized	24.75%	24.81%	24.6%	55.22%	43.88%	44.9%	44.97%	100%	23.75%	24.36%	24.66%	25.51%	24.29%
Standard Deviation	0%	0.3%	0.1%	0.2%	0.2%	1.3%	0.4%	0.3%	0.1%	0.1%	0.2%	0.3%	0.5%
Rodinia - OpenMP CFD Solver (sec)	31.63	31.69	32.06	31.44	72.88	13.68	13.65	13.57	32.20	31.23	31.27	37.47	33.50
Normalized	42.9%	42.82%	42.33%	43.16%	18.62%	99.2%	99.41%	100%	42.14%	43.45%	43.4%	36.22%	40.51%
Standard Deviation	1.4%	0.7%	0.1%	1.4%	0.2%	0.8%	0.5%	3.1%	1.8%	0.8%	0.7%	0.6%	0.1%
Timed HMMer Search - P.D.S (sec)	8.19	7.02	7.12	6.50	8.17	5.43	5.70	4.98	7.12	9.47	7.06	8.18	7.41
Normalized	60.81%	70.94%	69.94%	76.62%	60.95%	91.71%	87.37%	100%	69.94%	52.59%	70.54%	60.88%	67.21%
Standard Deviation	0.9%	0.5%	1%	1%	0.9%	0.4%	1%	0.7%	0.9%	1.2%	0.3%	1.3%	1.5%
John The Ripper - Blowfish (Real	12457	12422	12256	12546	12889	23933	23789	24137	12414	12441	12460	12725	12036
Normalized	51.61%	51.46%	50.78%	51.98%	53.4%	99.15%	98.56%	100%	51.43%	51.54%	51.62%	52.72%	49.87%
Standard Deviation	0%		0.4%	0.2%	34.1%	0.4%	0.2%	0.2%	0.1%			0%	0.6%

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TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)	312.34	338.57	320.23	361.73	453.75	514.85	487.77	**521.94**	330.81	339.70	319.78	**305.30**	332.28
Normalized	59.84%	64.87%	61.35%	69.3%	86.94%	98.64%	93.45%	100%	63.38%	65.08%	61.27%	58.49%	63.66%
Standard Deviation	0.1%	1%	0.5%	0.2%	2.2%	0.5%	0.6%	0.1%	0.6%	0.7%	0.5%	0.4%	0.3%
x264 - H.2.V.E (FPS)	**270.29**	303.49	301.53	315.31	343.94	445.62	434.41	**471.34**	304.50	278.25	302.24	273.57	302.72
Normalized	57.35%	64.39%	63.97%	66.9%	72.97%	94.54%	92.16%	100%	64.6%	59.03%	64.12%	58.04%	64.23%
Standard Deviation	2.8%	0.7%	0.5%	0.7%	1.9%	1.3%	0.9%	0.8%	0.2%	1.8%	1.4%	2.4%	1%
ebizzy (Records/s)	442994	432764	414840	457255	816007	826876	807508	**949502**	435349	474239	451094	**261217**	419211
Normalized	46.66%	45.58%	43.69%	48.16%	85.94%	87.09%	85.05%	100%	45.85%	49.95%	47.51%	27.51%	44.15%
Standard Deviation	6.5%	5.3%	1.7%	4.8%	0.9%	4.4%	3.8%	1.6%	3.9%	0.3%	2.9%	2.6%	1.5%
Timed Linux Kernel Compilation - Time To Compile (sec)	85.19	80.89		72.86	47.80	43.08		**39.35**	81.43	86.40	87.16	70.17	**96.03**
Normalized	46.19%	48.65%		54.01%	82.32%	91.34%		100%	48.32%	45.54%	45.15%	56.08%	40.98%
Standard Deviation	1.6%	0.1%		2.1%	3.1%	3%		2.8%	1.7%	2.1%	2.3%	1.9%	1.8%
C-Ray - Total Time (sec)	9.71	**10.02**	9.71	7.82	5.21	5.19	5.13	**4.16**	9.73	9.73	9.73	7.95	9.80
Normalized	42.84%	41.52%	42.84%	53.2%	79.85%	80.15%	81.09%	100%	42.75%	42.75%	42.75%	52.33%	42.45%
Standard Deviation	0%	0%	0.1%	0.2%	0.4%	0.8%	0.2%	0.4%	0.2%	0.1%	0.2%	0.3%	0.2%
Stockfish - Total Time (ms)	3641	3511	3468	**3440**	3597	3450	3459	3468	3594	3606	3538	3571	**3756**
Normalized	94.48%	97.98%	99.19%	100%	95.64%	99.71%	99.45%	99.19%	95.72%	95.4%	97.23%	96.33%	91.59%
Standard Deviation	0.2%	0.1%	0.5%	0.1%	1.1%	0.4%	0.9%	0.1%	0.3%	0.8%	0.3%	0.1%	
FLAC Audio Encoding - WAV To FLAC	5.43	**5.60**	5.59	**5.14**	5.49	5.50	5.55	5.27	5.48	5.46	5.42	5.38	
Normalized	94.66%	91.79%	91.95%	100%	93.62%	93.45%	92.61%	97.53%	93.8%	94.14%	94.83%	95.54%	
Standard Deviation	0.3%	3.2%	0.2%	0.3%	0.8%	0.7%	0.7%	0.4%	0.5%	0.2%	0.4%	0.3%	
FFmpeg - H.2.H.T.N.D (sec)	7.82	6.54	6.91	6.26	7.85	6.12	6.55	**5.76**	6.47	**9.20**	7.05	7.60	6.84
Normalized	73.66%	88.07%	83.36%	92.01%	73.38%	94.12%	87.94%	100%	89.03%	62.61%	81.7%	75.79%	84.21%
Standard Deviation	0.8%	0.3%	1.7%	1.8%	0.6%	1%	1.1%	0.8%	0.4%	0.4%	1.1%	1.9%	2.1%
Hackbench - 16 - Thread (sec)	48.97	42.67	50.42	41.88	**30.34**	42.11	33.12	33.32	47.68	37.57	45.33	48.89	**353.13**
Normalized	61.96%	71.1%	60.17%	72.45%	100%	72.05%	91.61%	91.06%	63.63%	80.76%	66.93%	62.06%	8.59%
Standard Deviation	2.3%	3.4%	1.5%	0.2%	6.7%	1.1%	2%	0.3%	0.7%	1.8%	3.4%	6.1%	0.3%
Hackbench - 16 - Process (sec)	45.33	41.43	47.25	41.46	**29.86**	32.40	32.48	33.00	46.95	36.46	44.51	44.49	**355.69**
Normalized	65.87%	72.07%	63.2%	72.02%	100%	92.16%	91.93%	90.48%	63.6%	81.9%	67.09%	67.12%	8.39%
Standard Deviation	1.8%	2.4%	2.7%	0.1%	1.9%	1.8%	0.7%	0.1%	2.9%	2.1%	1.3%	2.9%	0.2%
Systemd Total Boot Time - Total (ms)	41890	29966	**53638**	**16194**	43100	33025	50684	27698	27965	19572	26471	28770	
Normalized	38.66%	54.04%	30.19%	100%	37.57%	49.04%	31.95%	58.47%	57.91%	82.74%	61.18%	56.29%	

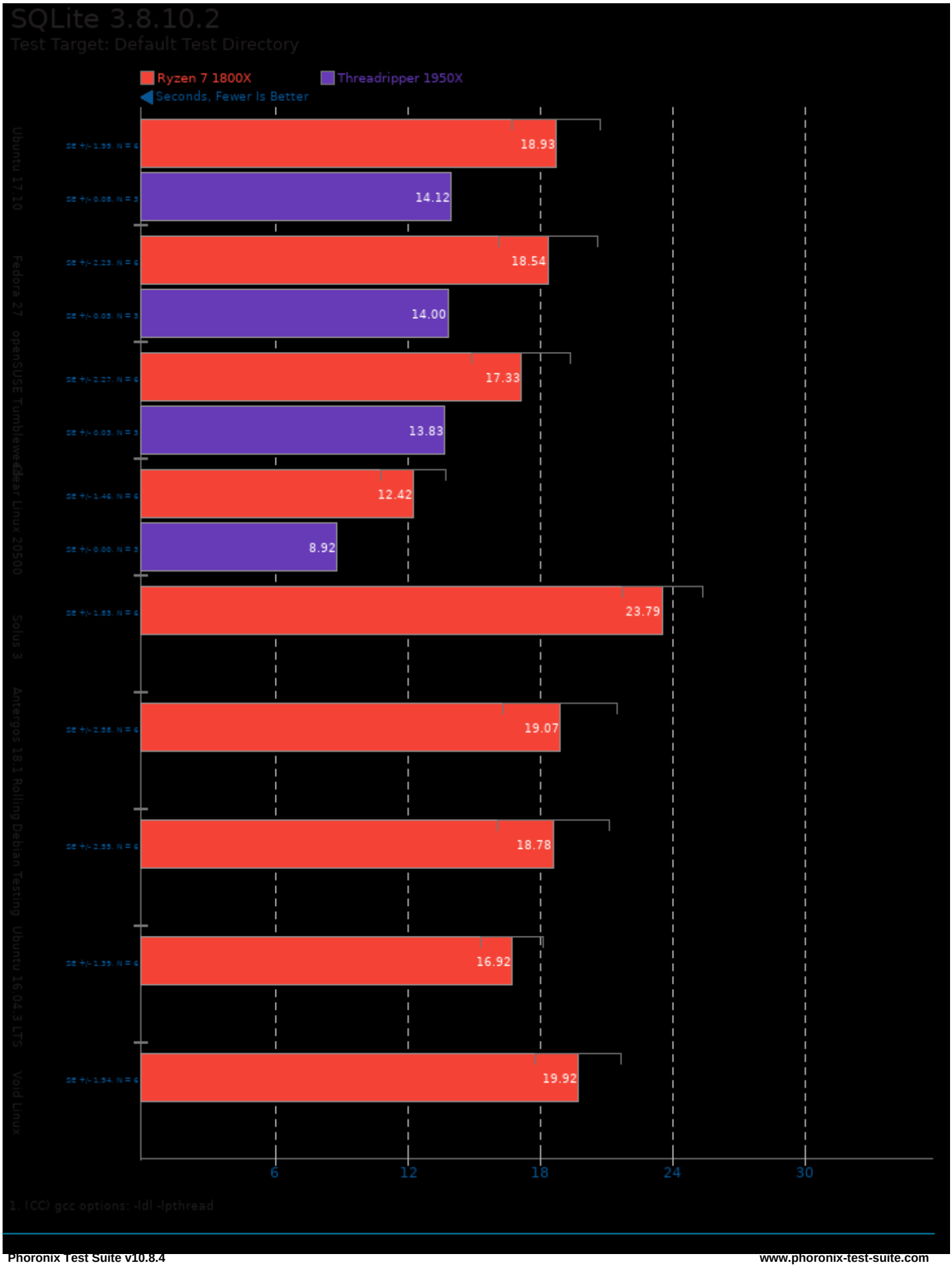
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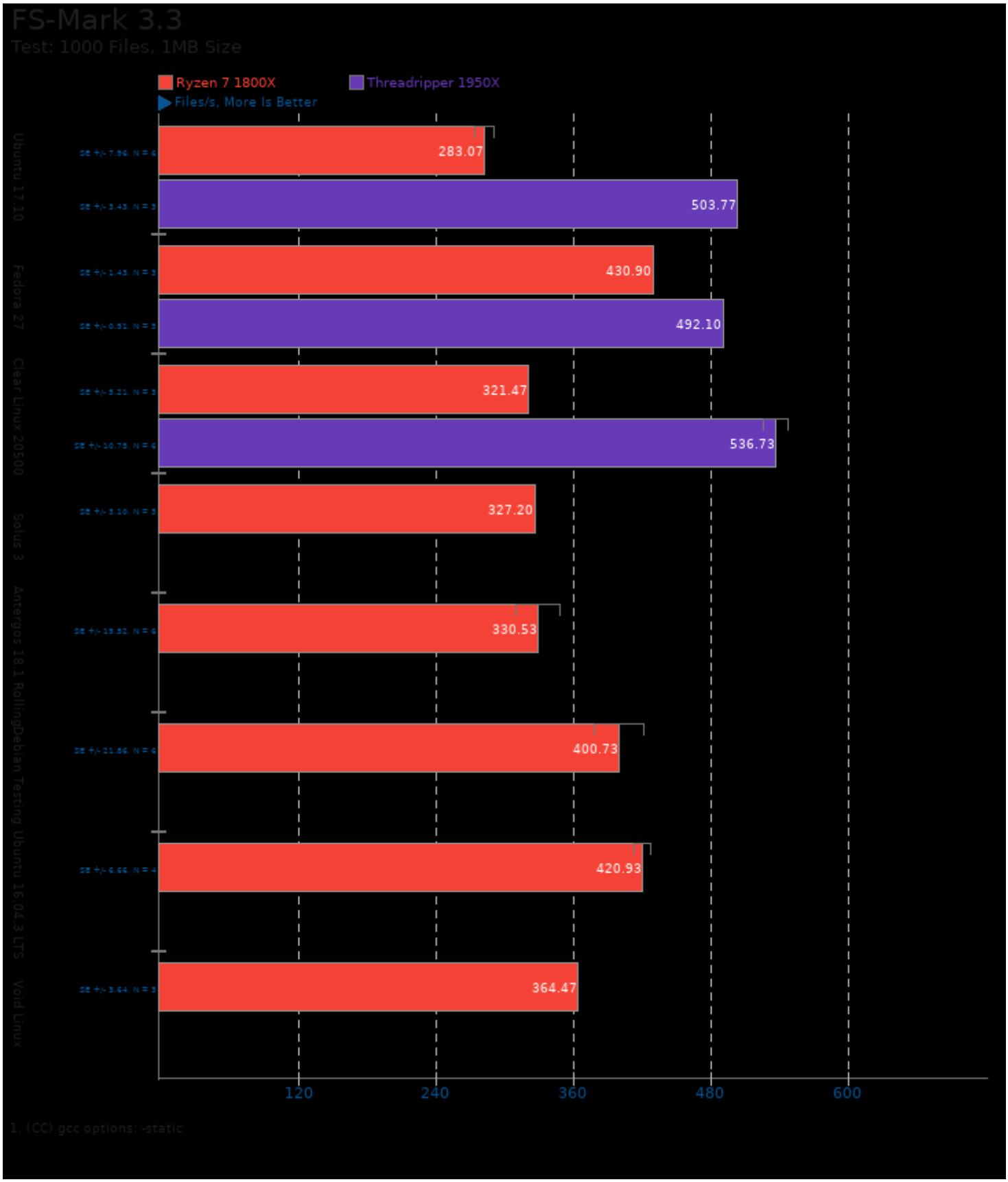
Systemd Total Boot Time - Kernel (ms)	5010	4464	**6866**	2680	3680	3069	6029	2648	**655**	3501	3430	3520	
Normalized	13.07%	14.67%	9.54%	24.44%	17.8%	21.34%	10.86%	24.73%	100%	18.71%	19.1%	18.61%	
Systemd Total Boot Time - Loader (ms)	3500	5308	917	24.10	3660	5337	**8512**	**15.50**	69	2504	5404	3430	
Normalized	0.44%	0.29%	1.69%	64.32%	0.42%	0.29%	0.18%	100%	22.46%	0.62%	0.29%	0.45%	
Systemd Total Boot Time - Firmware (ms)	12340	12527	14160	12948	14390	14464	14430	22184	**23260**	12459	**12184**	12310	
Normalized	98.74%	97.26%	86.05%	94.1%	84.67%	84.24%	84.44%	54.92%	52.38%	97.79%	100%	98.98%	
Systemd Total Boot Time - Userspace (ms)	21030	5625	**30115**	**542.90**	21360	7027	18983	2850	1133	1107	5452	9490	
Normalized	2.58%	9.65%	1.8%	100%	2.54%	7.73%	2.86%	19.05%	47.92%	49.04%	9.96%	5.72%	
glibc bench - ffs	6.17	6.18	6.25	6.18	**5.82**	5.89	5.89	6.01	6.22	6.18	6.18	6.19	**6.27**
Normalized	94.33%	94.17%	93.12%	94.17%	100%	98.81%	98.81%	96.84%	93.57%	94.17%	94.17%	94.02%	92.82%
Standard Deviation	0.1%	0%	1%	0%	0.1%	0.8%	0.2%	0.3%	0.3%	0.2%	0%	0.2%	0.1%
glibc bench - sqrt (nanoseconds)	6.01	6.02	6.02	6.02	**5.71**	5.75	**5.71**	5.85	6.06	6.01	6.01	6.02	**6.11**
Normalized	95.01%	94.85%	94.85%	94.85%	100%	99.3%	100%	97.61%	94.22%	95.01%	95.01%	94.85%	93.45%
Standard Deviation	0.1%	0.1%	0.3%	0.1%	0.6%	1.3%	1.6%	0.5%	0.2%	0.2%	0%	0.2%	0.1%
glibc bench - tanh (nanoseconds)	49.11	48.53	48.08	45.92	47.24	46.63	45.80	**44.50**	48.63	48.43	48.09	**51.63**	50.36
Normalized	90.61%	91.7%	92.55%	96.91%	94.2%	95.43%	97.16%	100%	91.51%	91.89%	92.53%	86.19%	88.36%
Standard Deviation	0.2%	0.3%	0.2%	0.6%	1%	1%	0.4%	0.6%	1%	0.7%	0.4%	0.2%	0.4%
glibc bench - ffsll	7.06	6.18	6.18	6.18	6.72	5.89	**5.88**	5.98	7.12	6.18	6.17	7.08	**7.17**
Normalized	83.29%	95.15%	95.15%	95.15%	87.5%	99.83%	100%	98.33%	82.58%	95.15%	95.3%	83.05%	82.01%
Standard Deviation	0.2%	0.1%	0.2%	0.1%	0.7%	1.2%	1.1%	0.3%	0.1%	0.1%	0.1%	0.1%	0%
glibc bench - pthread_once (nanoseconds)	6.18	6.20	6.18	6.19	5.91	**5.82**	5.84	5.98	6.23	6.20	6.18	6.22	**6.30**
Normalized	94.17%	93.87%	94.17%	94.02%	98.48%	100%	99.66%	97.32%	93.42%	93.87%	94.17%	93.57%	92.38%
Standard Deviation	0.1%	0.2%	0.1%	0%	1.4%	0.2%	0.6%	0%	0.3%	0.3%	0%	0.6%	0%
PyBench - T.F.A.T.T (Milliseconds)	1392	1695	1677	**1313**	1406	1689	1698	1354	**1946**		1384	1461	1921
Normalized	94.32%	77.46%	78.29%	100%	93.39%	77.74%	77.33%	96.97%	67.47%		94.87%	89.87%	68.35%
Standard Deviation	0.4%	1.5%	0.6%	0.1%	1.5%	1.3%	0.9%	0.3%	0.4%		0.2%	0.1%	0.1%
NGINX Benchmark - S.W.P.S (Reqs/sec)	33559			**35213**	33613			34043	**30476**			32740	
Normalized	95.3%			100%	95.46%			96.68%	86.55%			92.98%	
Standard Deviation	1.4%			0.6%	4.7%			2.1%	0.1%			1%	

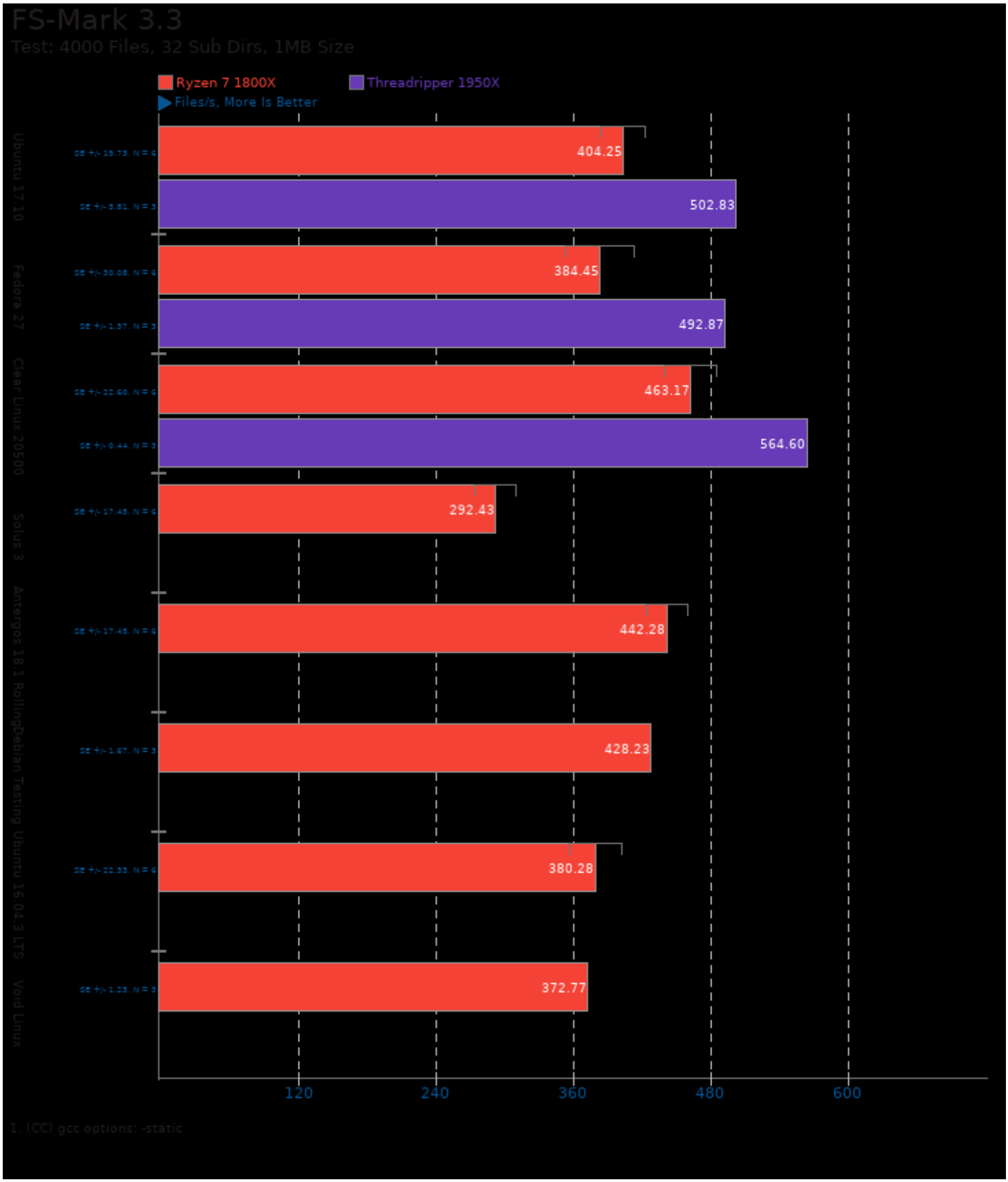
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Apache Benchmark - S.W.P.S (Reqs/sec)	28296		30221	27625		**30527**				**26650**
Normalized	92.69%		99%	90.49%		100%				87.3%
Standard Deviation	0.4%		0.6%	1.4%		0.2%				2%
PHPBench - P.B.S (Score)	429908	426416	**517585**	432004	421472	504047	427470	508658	409944	**402025**
Normalized	83.06%	82.39%	100%	83.47%	81.43%	97.38%	82.59%	98.28%	79.2%	77.67%
Standard Deviation	1.2%	1.3%	0.9%	0.4%	0.7%	0.9%	0.6%	0.8%	0.9%	0.3%
GIMP - resize (sec)				**3.31**					**3.16**	
Normalized				95.47%					100%	
Standard Deviation				2%					0.4%	
GIMP - auto-levels				**5.67**					**5.55**	
Normalized				97.88%					100%	
Standard Deviation				0.9%					1.1%	
GIMP - unsharp-mask (sec)				**12.32**					**13.47**	
Normalized				100%					91.46%	
Standard Deviation				1.4%					1.4%	
GIMP - resize (sec)					3.21	**3.12**		**3.51**		3.27
Normalized					97.2%	100%		88.89%		95.41%
Standard Deviation					2.3%	2.4%		3.4%		0.2%
GIMP - auto-levels					5.81	5.83	**6.49**	6.35		**5.76**
Normalized					99.14%	98.8%	88.75%	90.71%		100%
Standard Deviation					0.5%	0.6%	0.3%	0.8%		0.7%
GIMP - unsharp-mask (sec)					12.35	**11.73**	**13.16**	12.74		12.77
Normalized					94.98%	100%	89.13%	92.07%		91.86%
Standard Deviation					0.9%	0.1%	0.1%	1.1%		1%
GIMP - resize (sec)									**3.16**	
Normalized									100%	
Standard Deviation									0%	
GIMP - auto-levels									**6.26**	
Normalized									100%	
Standard Deviation									0.4%	
GIMP - unsharp-mask (sec)									**13.47**	
Normalized									99.85%	
Standard Deviation									2.5%	

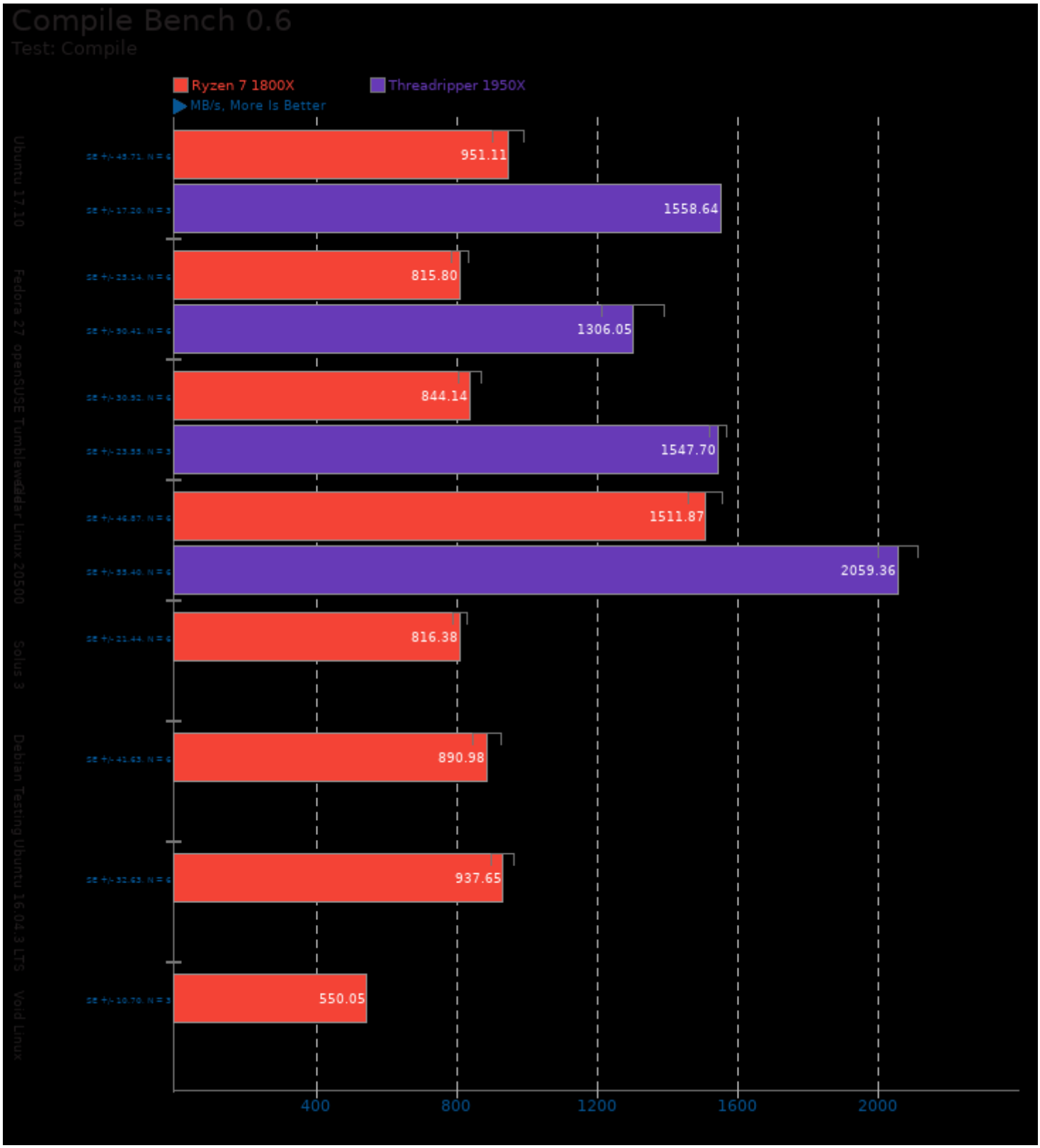
Ubuntu 17.10 AMD Ryzen

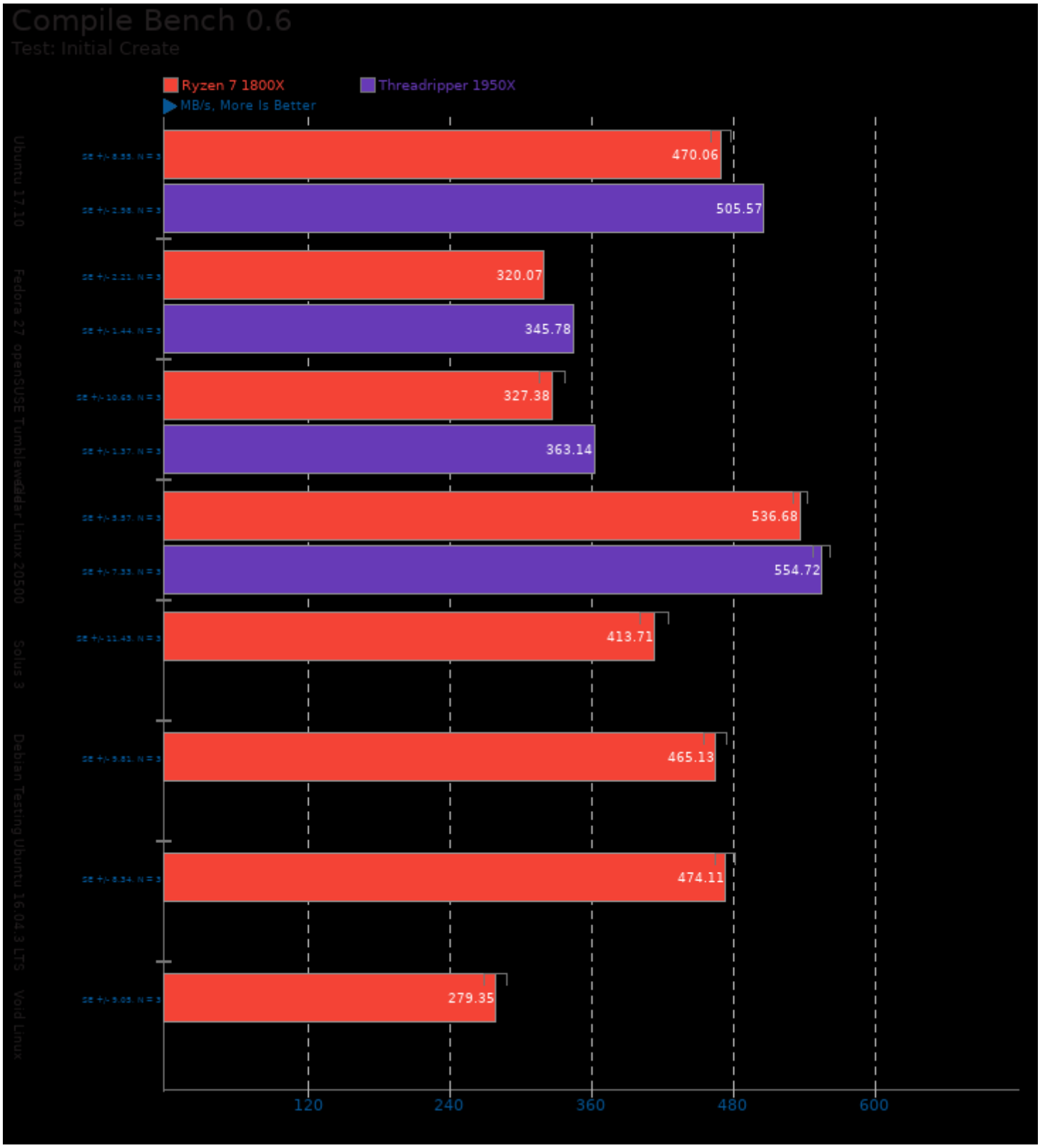

SQLite 3.8.10.2
Test Target: Default Test Directory
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
18.93
14.12
18.54
14.00
17.33
13.83
12.42
8.92
23.79
19.07
18.78
16.92
19.92
6
12
18
24
30
1. (CC) gcc options: -ldl -lpthread

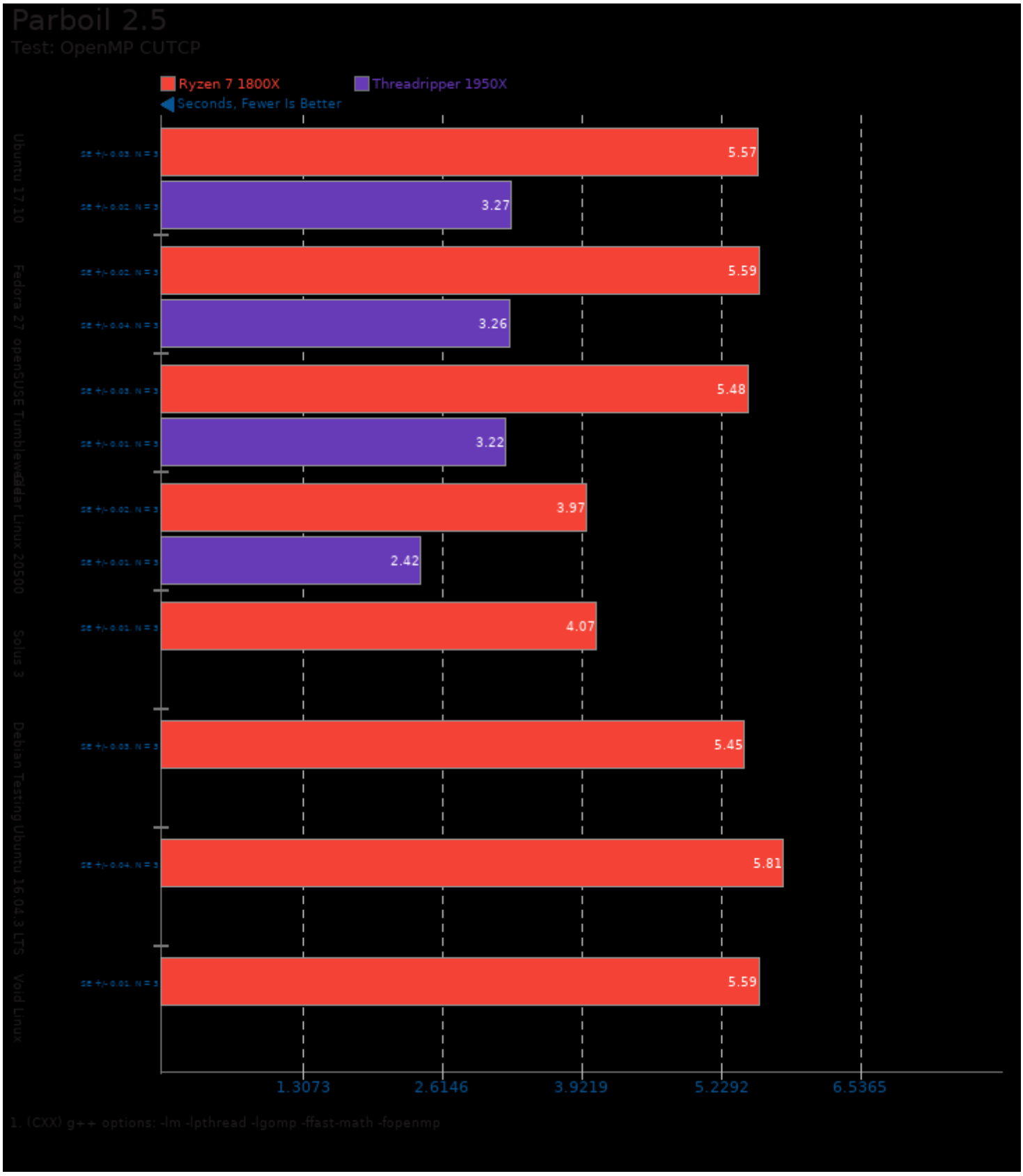

FS-Mark 3.3
Test: 1000 Files, 1MB Size
Ryzen 7 1800X
Threadripper 1950X
Files/s, More Is Better
283.07
503.77
430.90
492.10
321.47
536.73
327.20
330.53
400.73
420.93
364.47
120
240
360
480
600
Ubuntu 17.10
Fedora 27
Clear Linux 20500
Solus 3
Antergos 18.1 RollingDebian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CC) gcc options: -static

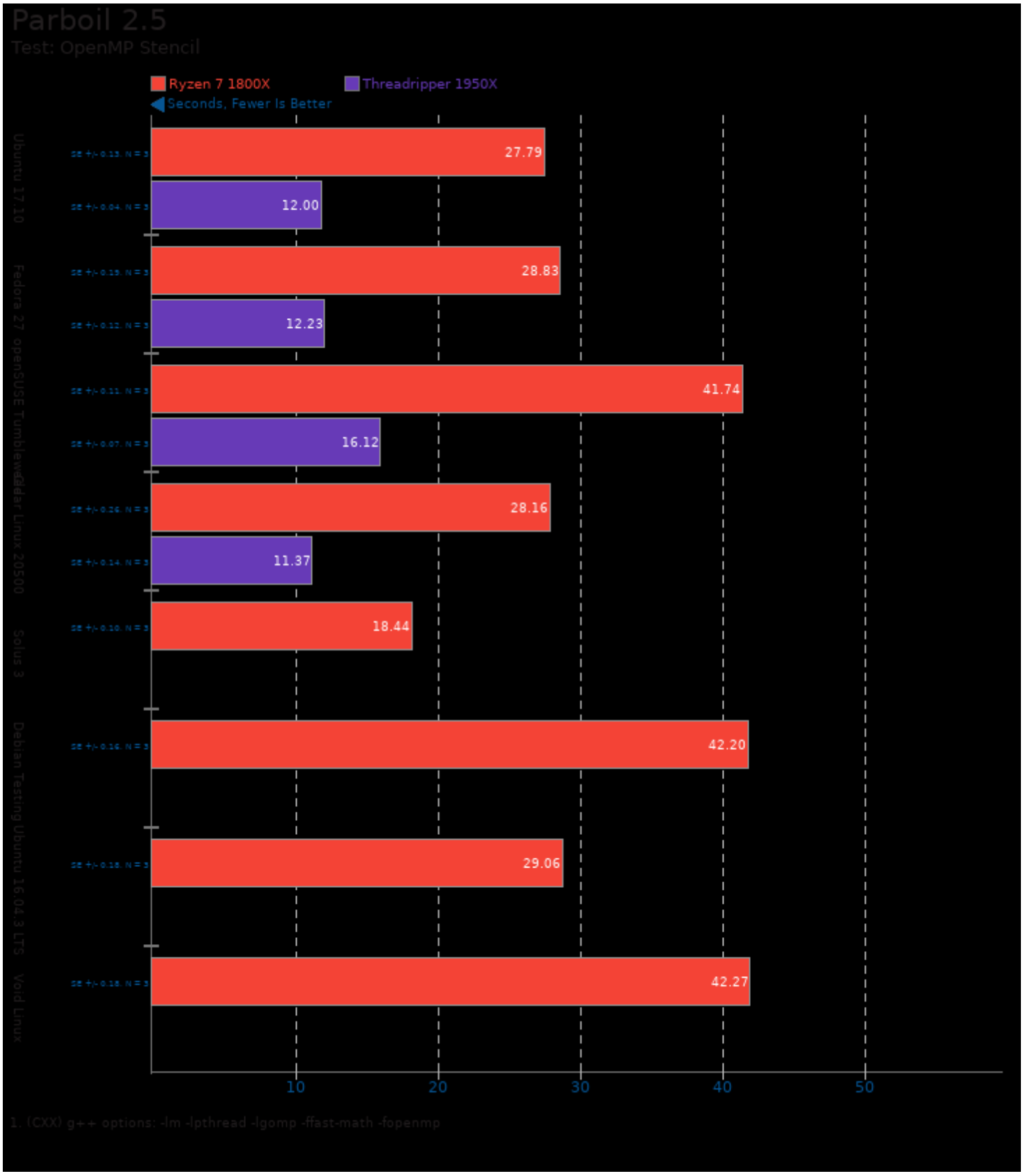

FS-Mark 3.3
Test: 4000 Files, 32 Sub Dirs, 1MB Size
Ryzen 7 1800X
Threadripper 1950X
Files/s, More Is Better
404.25
502.83
384.45
492.87
463.17
564.60
292.43
442.28
428.23
380.28
372.77
120
240
360
480
600
Ubuntu 17.10
Fedora 27
Clear Linux 20500
Solus 3
Antergos 18.1 RollingDebian Testing Ubuntu 16.04.3 LTS
Void Linux
1. (CC) gcc options: -static

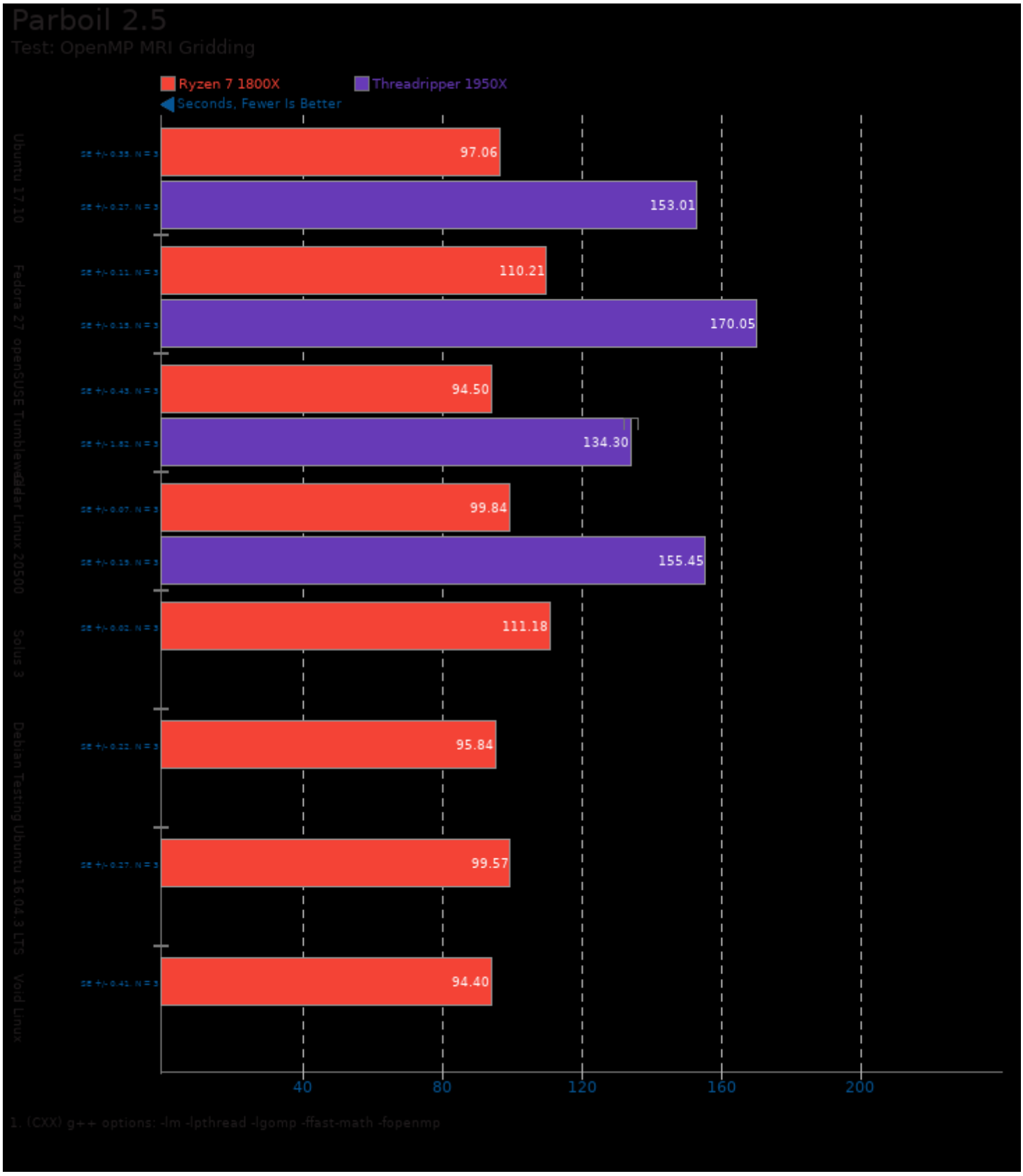
Ubuntu 17.10 AMD Ryzen

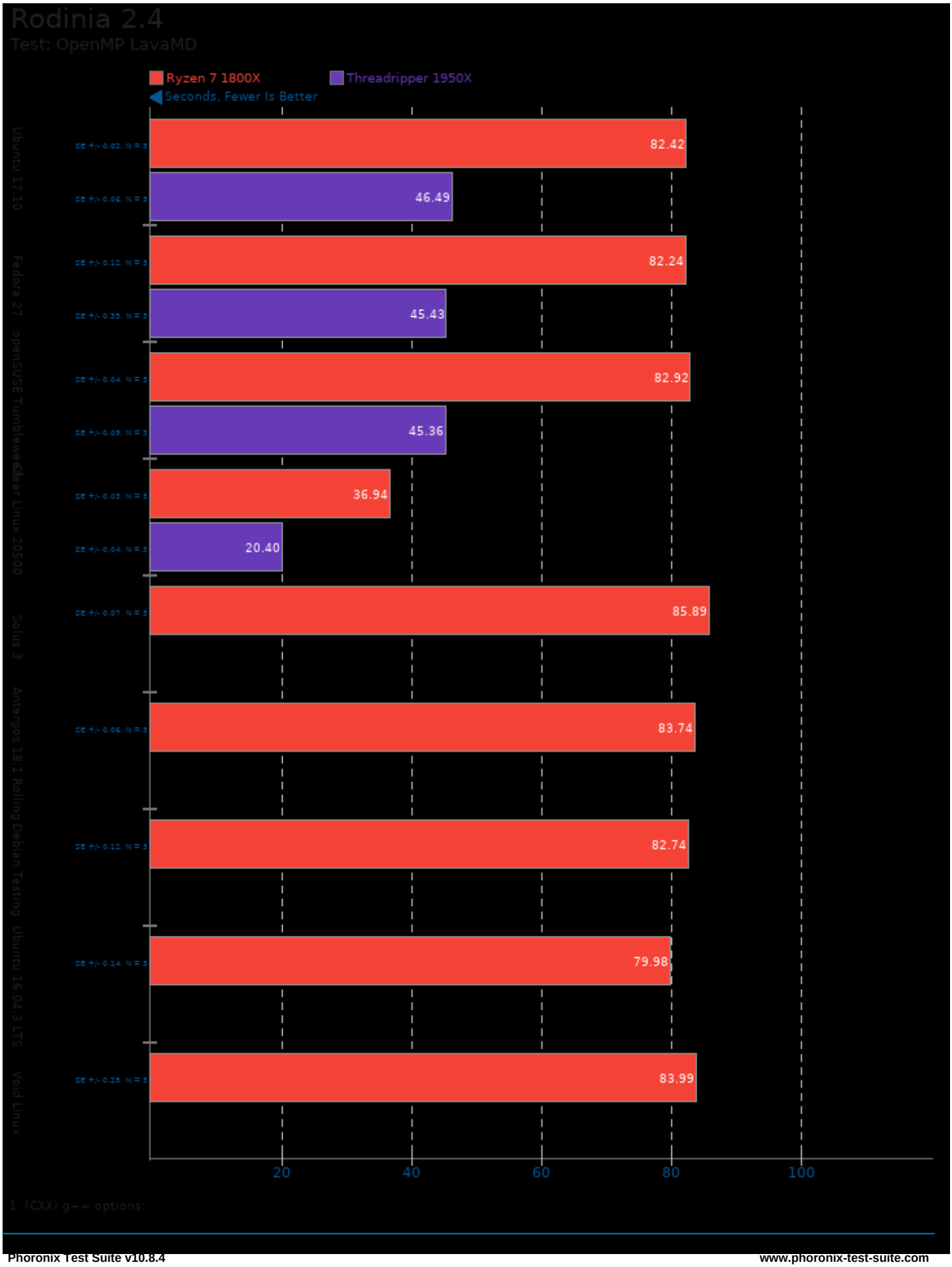


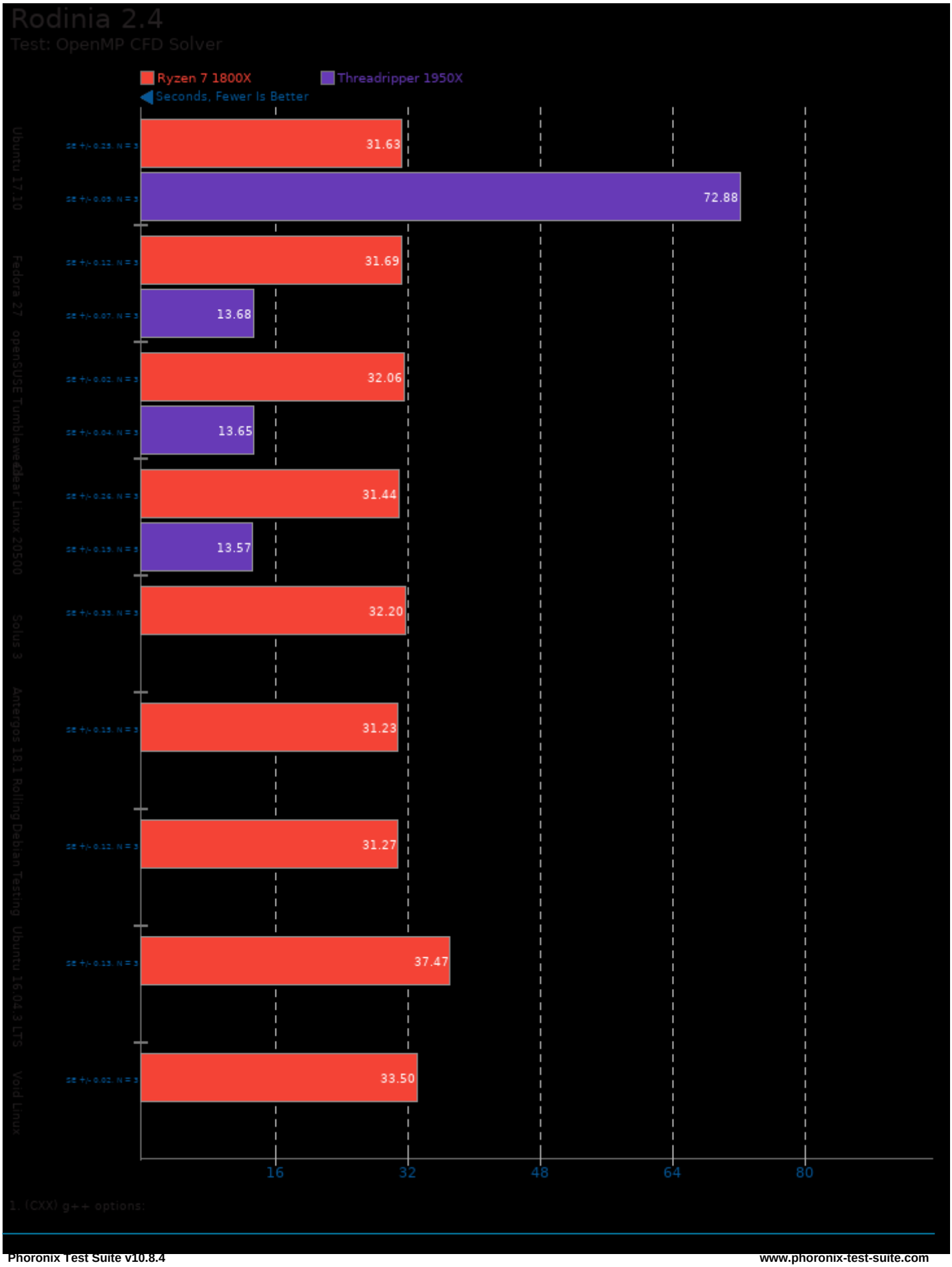

Compile Bench 0.6
Test: Initial Create
Ryzen 7 1800X
Threadripper 1950X
MB/s, More Is Better
470.06
505.57
320.07
345.78
327.38
363.14
536.68
554.72
413.71
465.13
474.11
279.35
120
240
360
480
600
Ubuntu 17.10
Fedora 27 openSUSE Tumbleweed
Cedar Linux 20500
Solus 3
Debian Testing Ubuntu 16.04.3 LTS
Void Linux

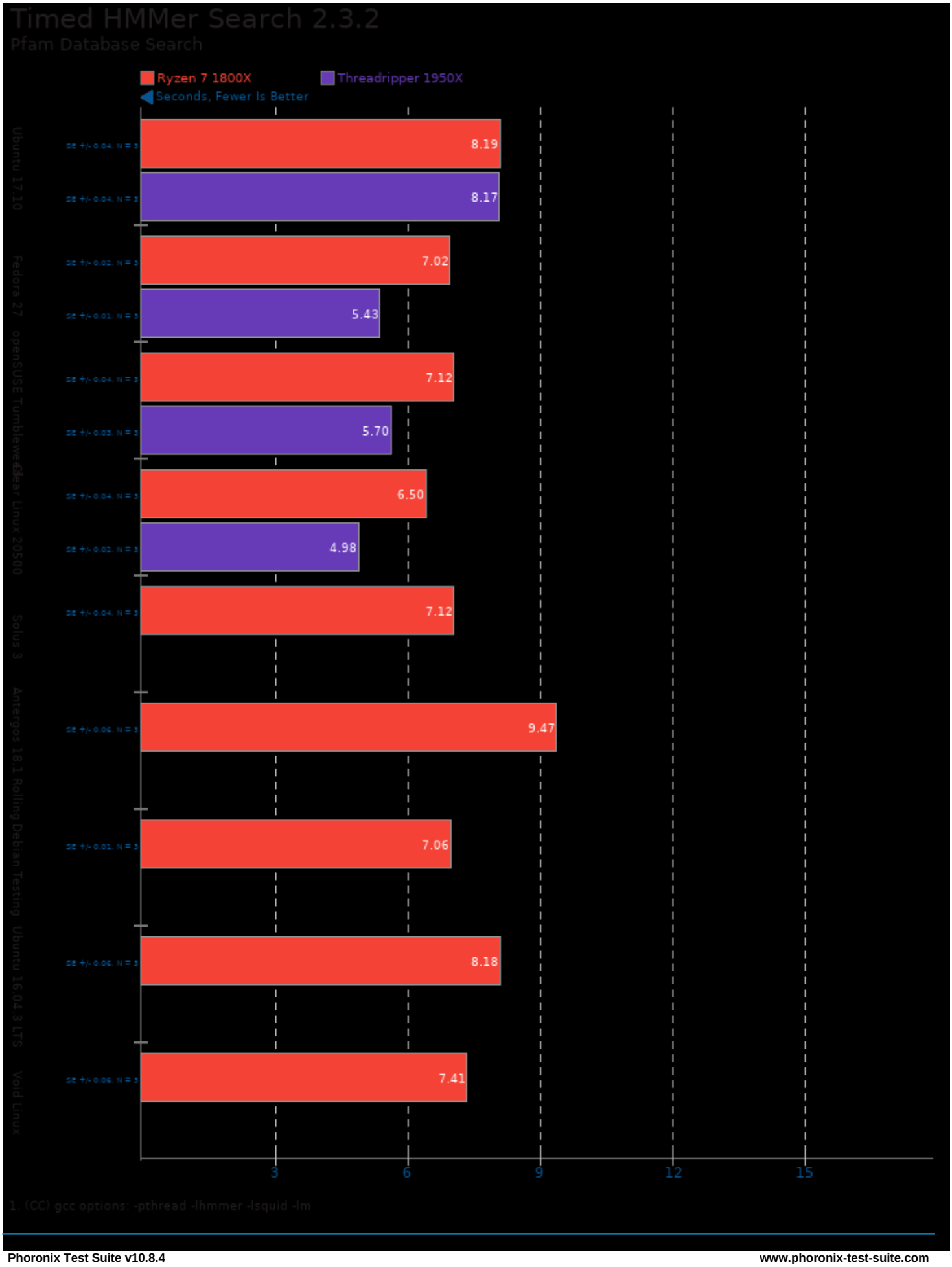

Parboil 2.5
Test: OpenMP CUTCP
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
5.57
3.27
5.59
3.26
5.48
3.22
3.97
2.42
4.07
5.45
5.81
5.59
1.3073
2.6146
3.9219
5.2292
6.5365
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp

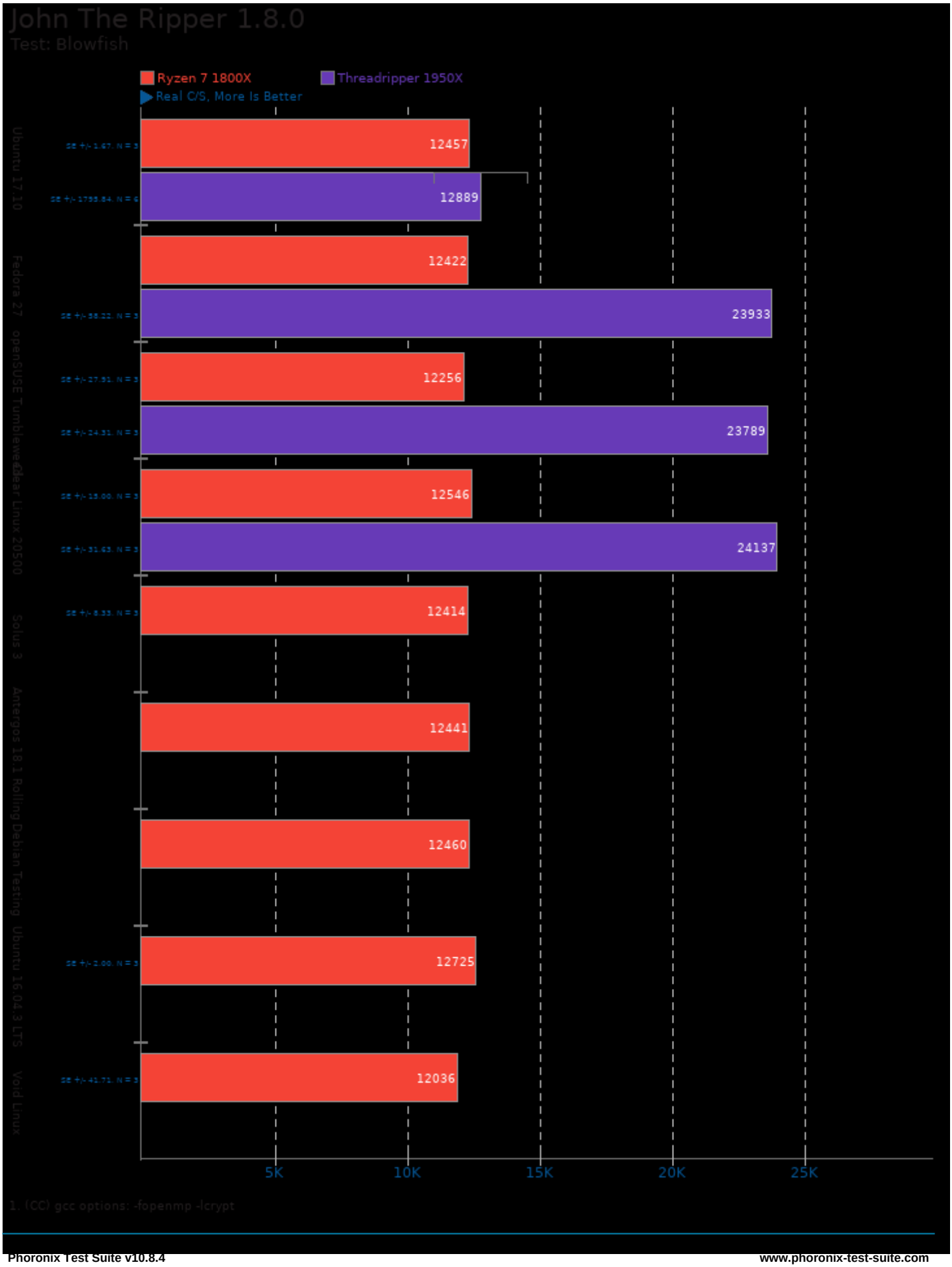

Parboil 2.5
Test: OpenMP Stencil
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
27.79
12.00
28.83
12.23
41.74
16.12
28.16
11.37
18.44
42.20
29.06
42.27
10
20
30
40
50
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp

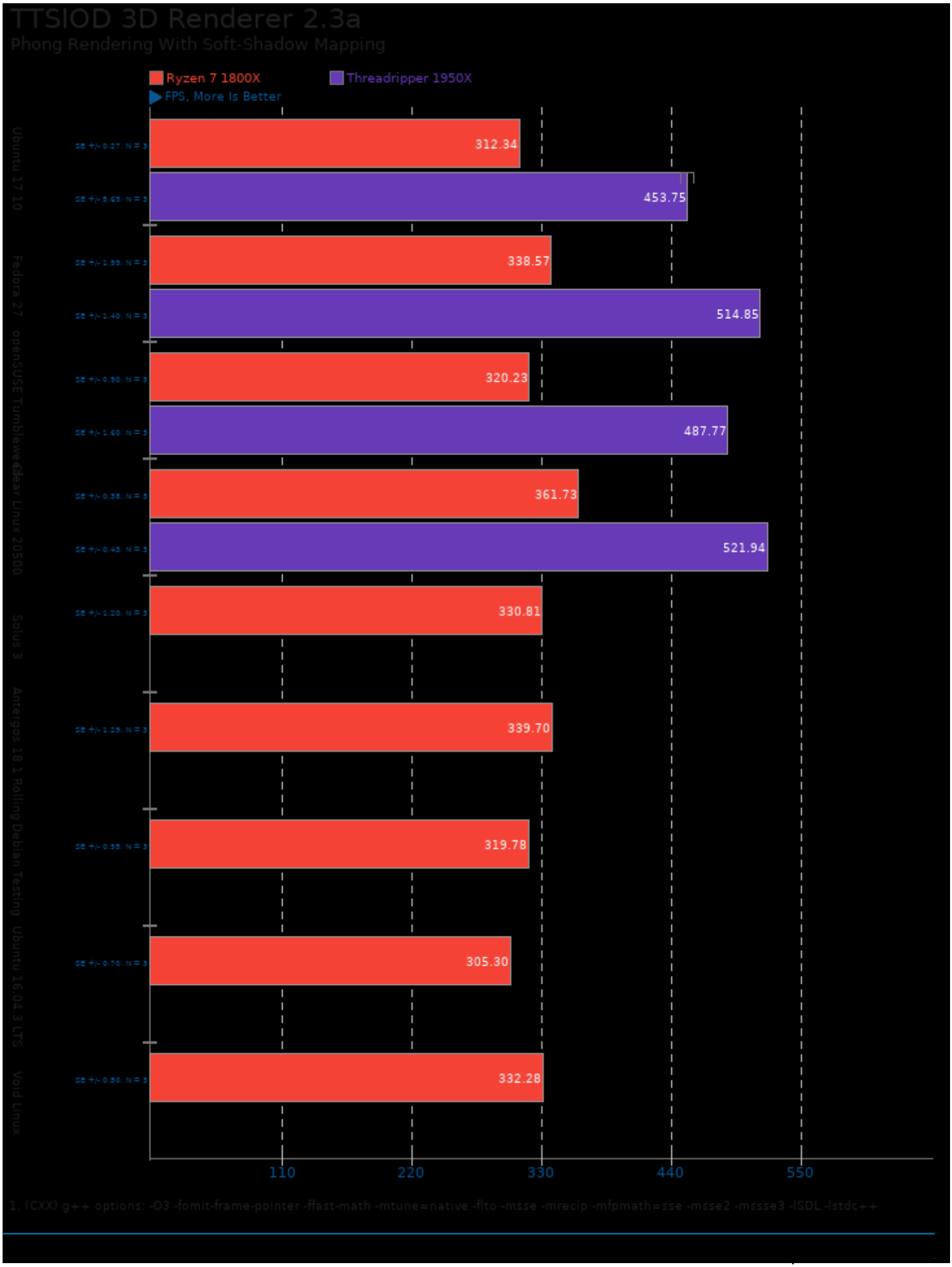

Parboil 2.5
Test: OpenMP MRI Gridding
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
97.06
153.01
110.21
170.05
94.50
134.30
99.84
155.45
111.18
95.84
99.57
94.40
40
80
120
160
200
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp

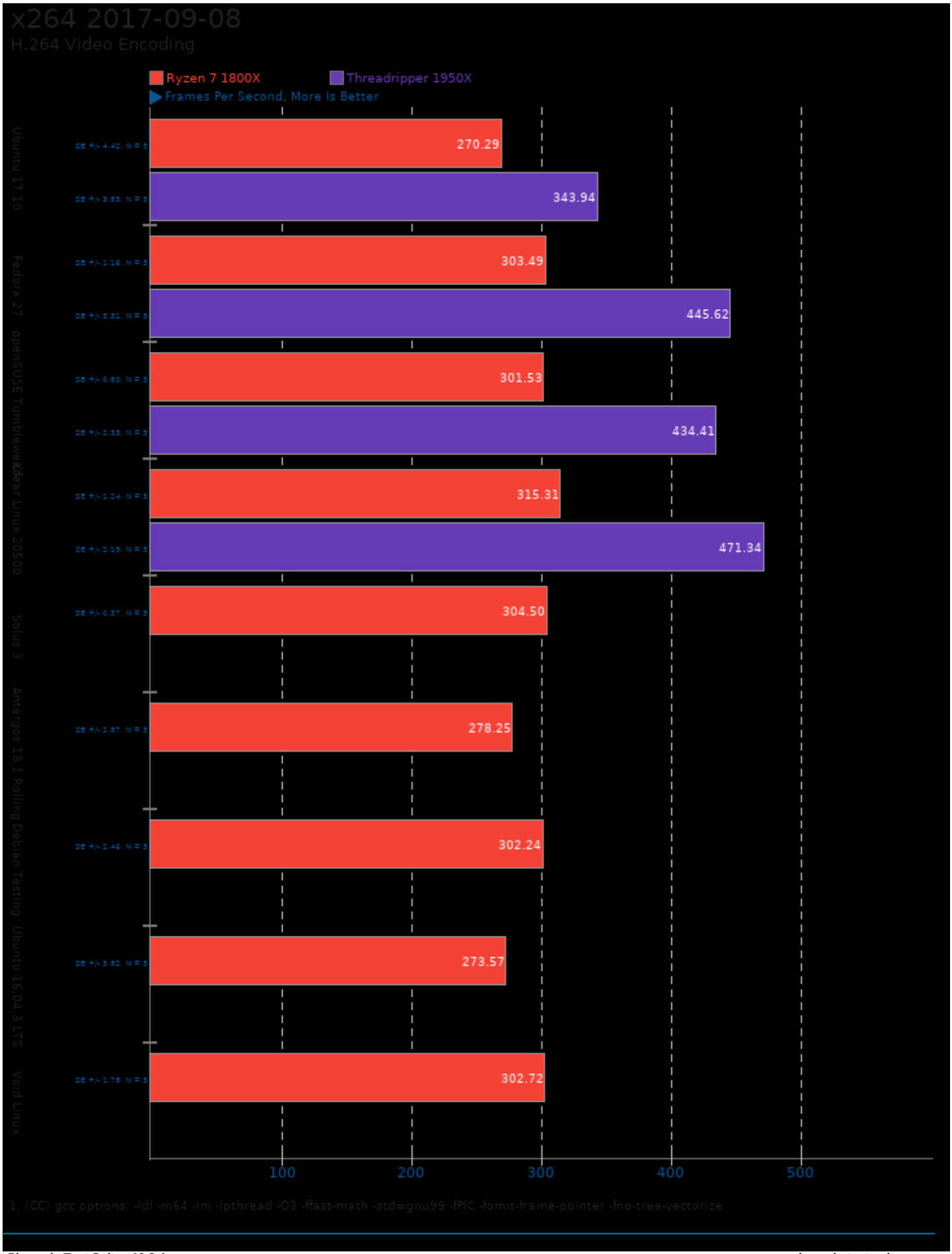

Rodinia 2.4
Test: OpenMP LavaMD
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
82.42
46.49
82.24
45.43
82.92
45.36
36.94
20.40
85.89
83.74
82.74
79.98
83.99
20
40
60
80
100
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CXX) g++ options:

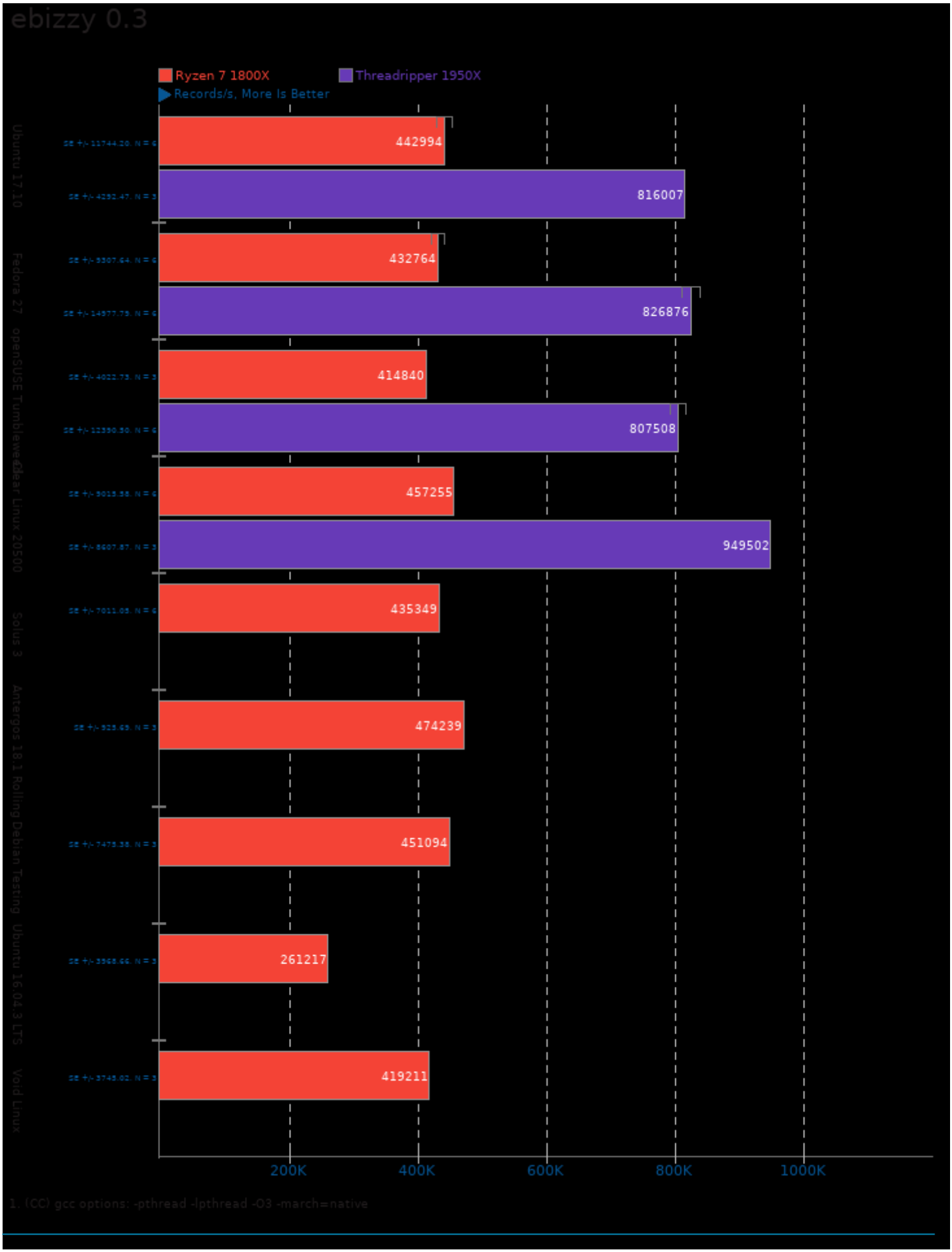

Rodinia 2.4
Test: OpenMP CFD Solver
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
31.63
72.88
31.69
13.68
32.06
13.65
31.44
13.57
32.20
31.23
31.27
37.47
33.50
16
32
48
64
80
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CXX) g++ options:

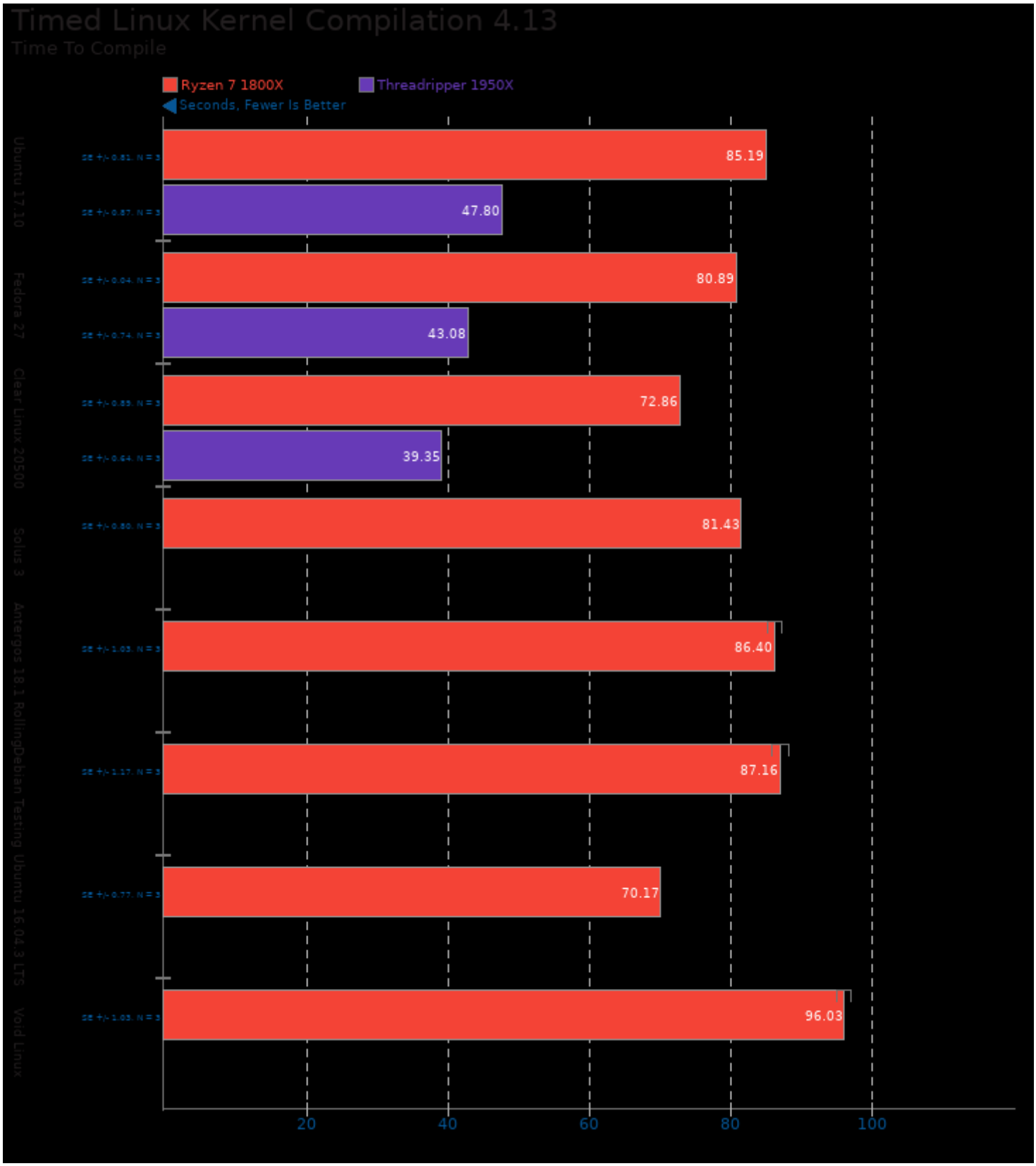

Timed HMMer Search 2.3.2
Pfam Database Search
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
8.19
8.17
7.02
5.43
7.12
5.70
6.50
4.98
7.12
9.47
7.06
8.18
7.41
3
6
9
12
15
1. (CC) gcc options: -pthread -lhmmer -lsquid -lm

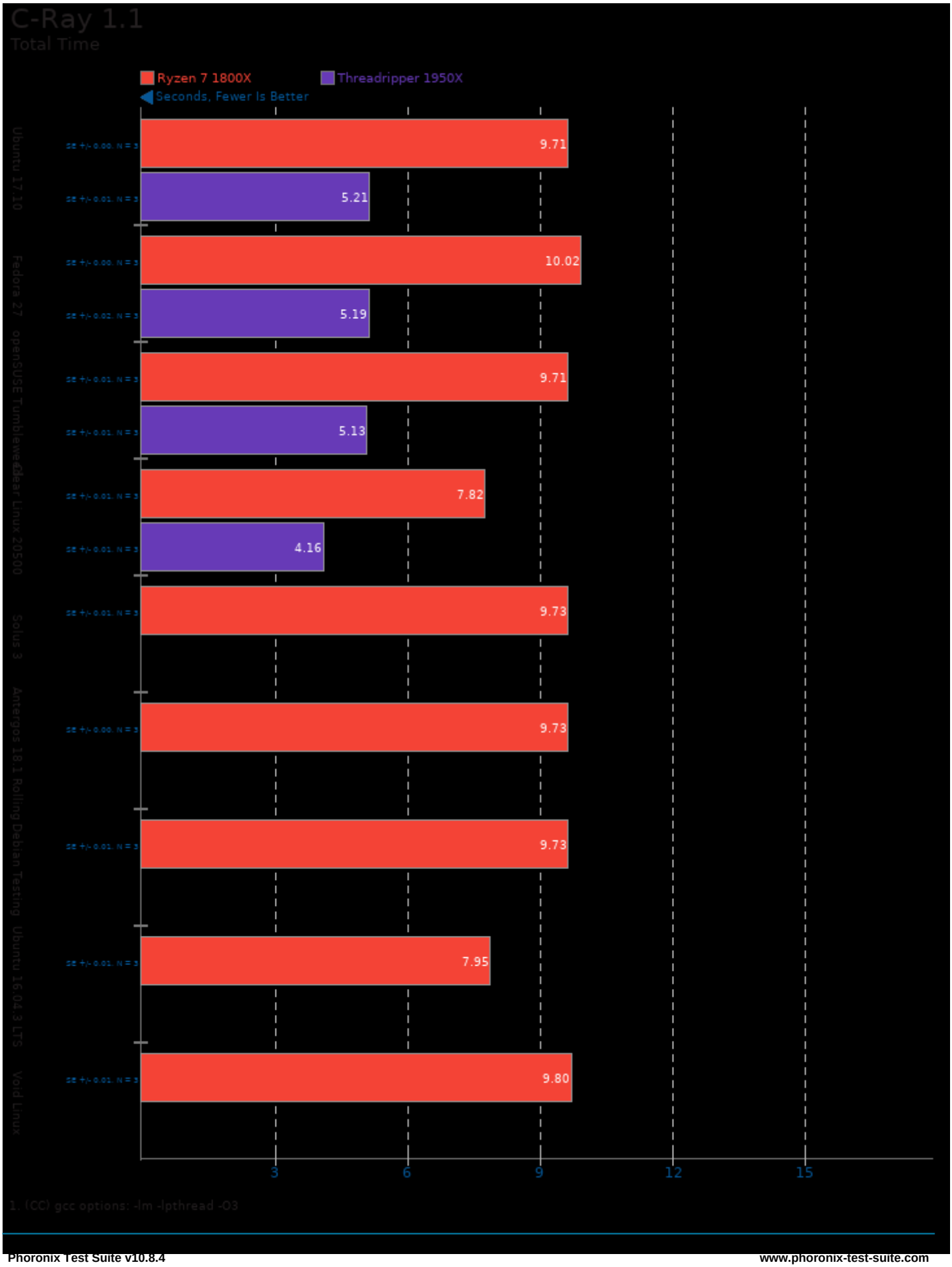

John The Ripper 1.8.0
Test: Blowfish
Ryzen 7 1800X
Threadripper 1950X
Real C/S, More Is Better
12457
12889
12422
23933
12256
23789
12546
24137
12414
12441
12460
12725
12036
5K
10K
15K
20K
25K
1. (CC) gcc options: -fopenmp -lcrypt

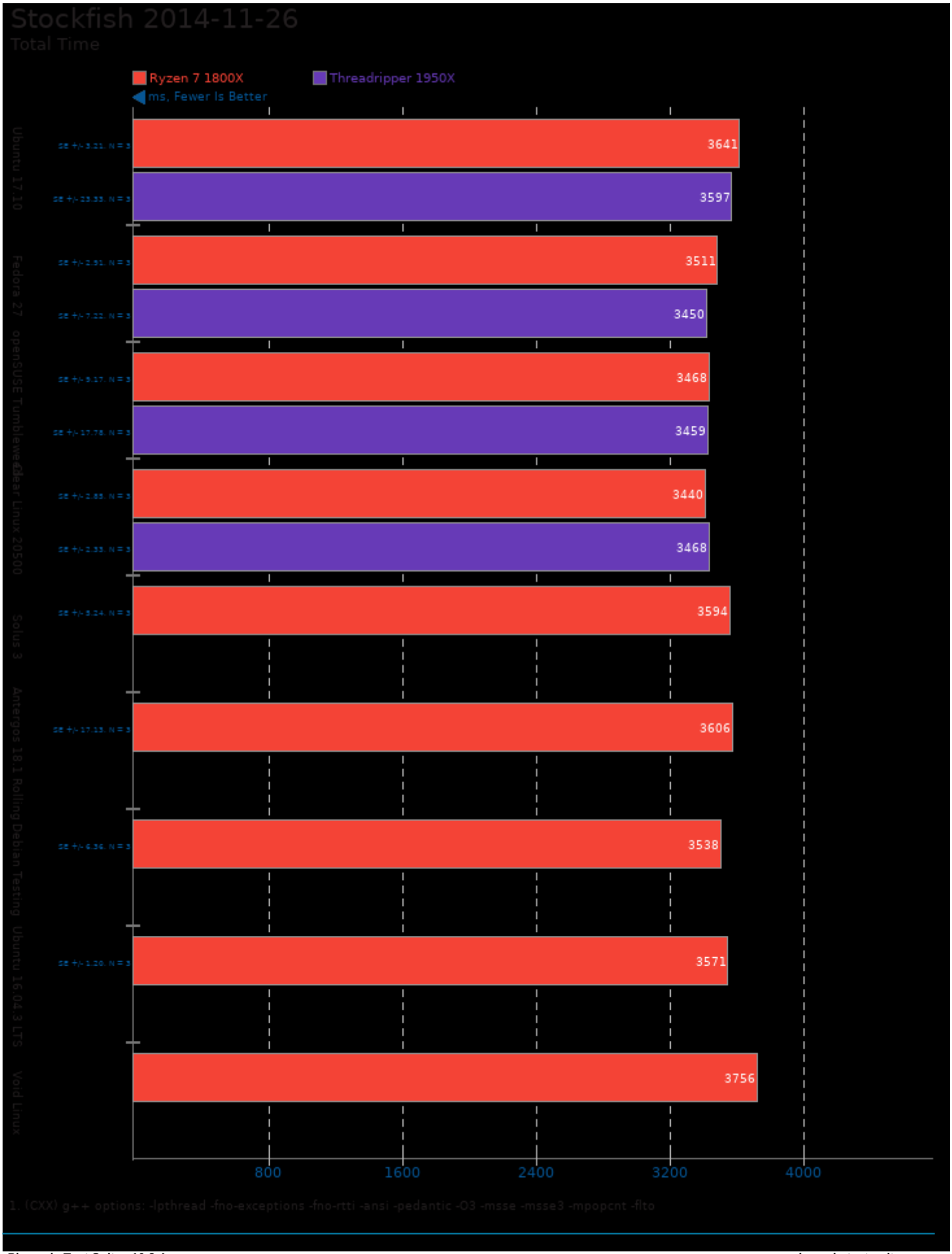

TTSIOD 3D Renderer 2.3a
Phong Rendering With Soft-Shadow Mapping
Ryzen 7 1800X
Threadripper 1950X
FPS, More Is Better
312.34
453.75
338.57
514.85
320.23
487.77
361.73
521.94
330.81
339.70
319.78
305.30
332.28
110
220
330
440
550
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CXX) g++ options: -O3 -fomit-frame-pointer -ffast-math -mtune=native -flto -msse -mrecip -mfpmath=sse -msse2 -mssse3 -lSDL -lstdc++

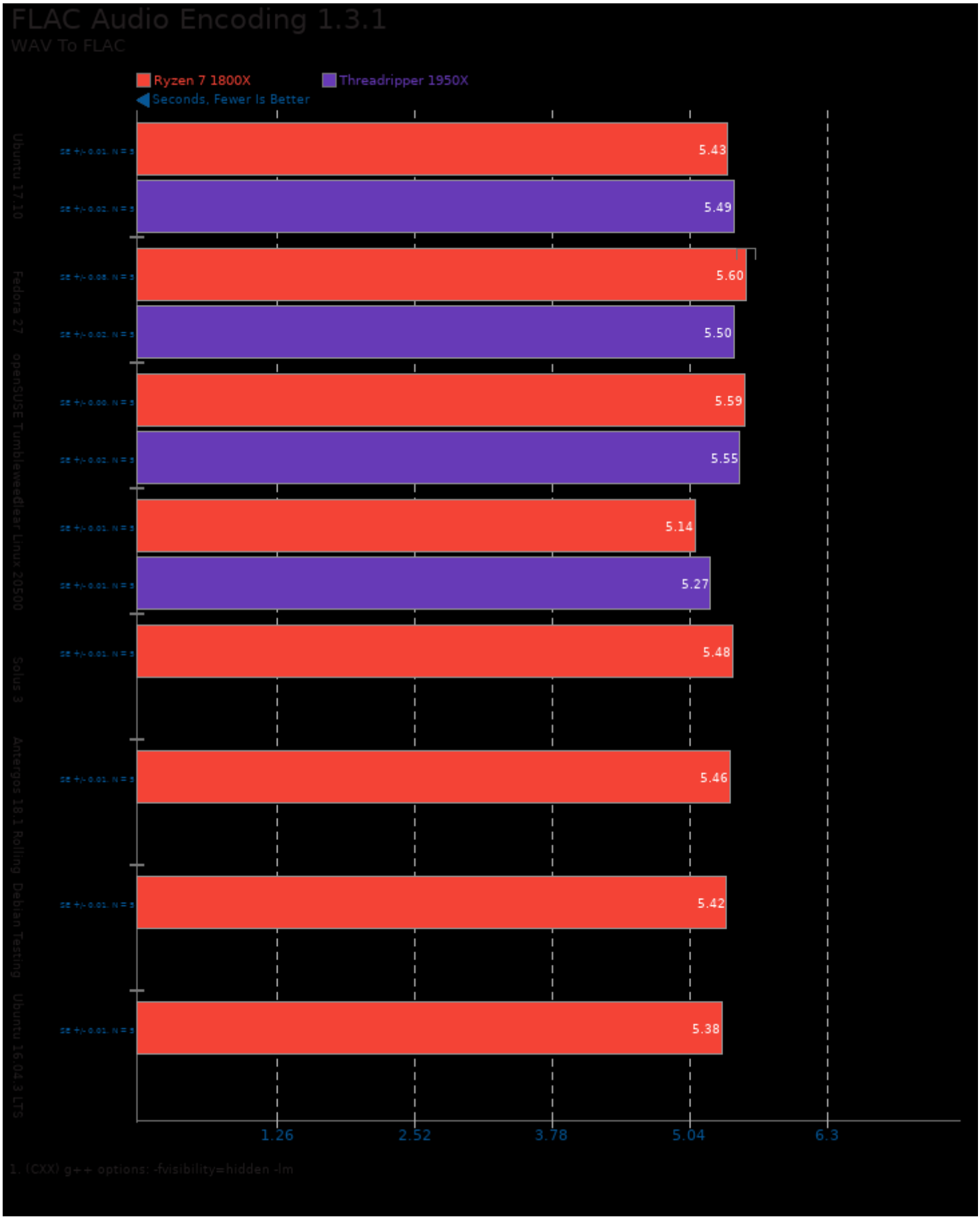

x264 2017-09-08
H.264 Video Encoding
Ryzen 7 1800X
Threadripper 1950X
Frames Per Second, More Is Better
270.29
343.94
303.49
445.62
301.53
434.41
315.31
471.34
304.50
278.25
302.24
273.57
302.72
100
200
300
400
500
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

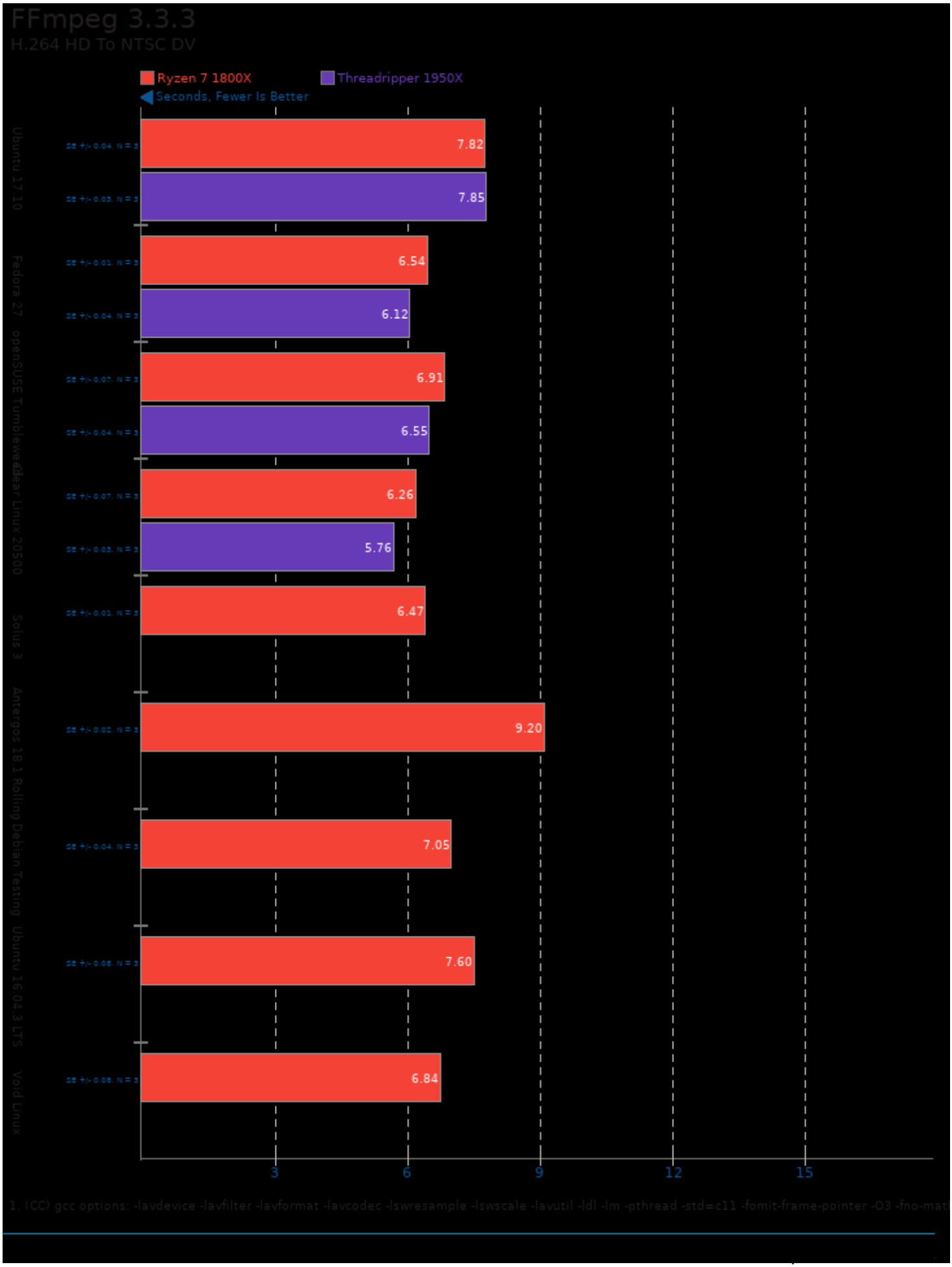

ebizzy 0.3
Ryzen 7 1800X
Threadripper 1950X
Records/s, More Is Better
442994
816007
432764
826876
414840
807508
457255
949502
435349
474239
451094
261217
419211
200K
400K
600K
800K
1000K
1. (CC) gcc options: -pthread -lpthread -O3 -march=native

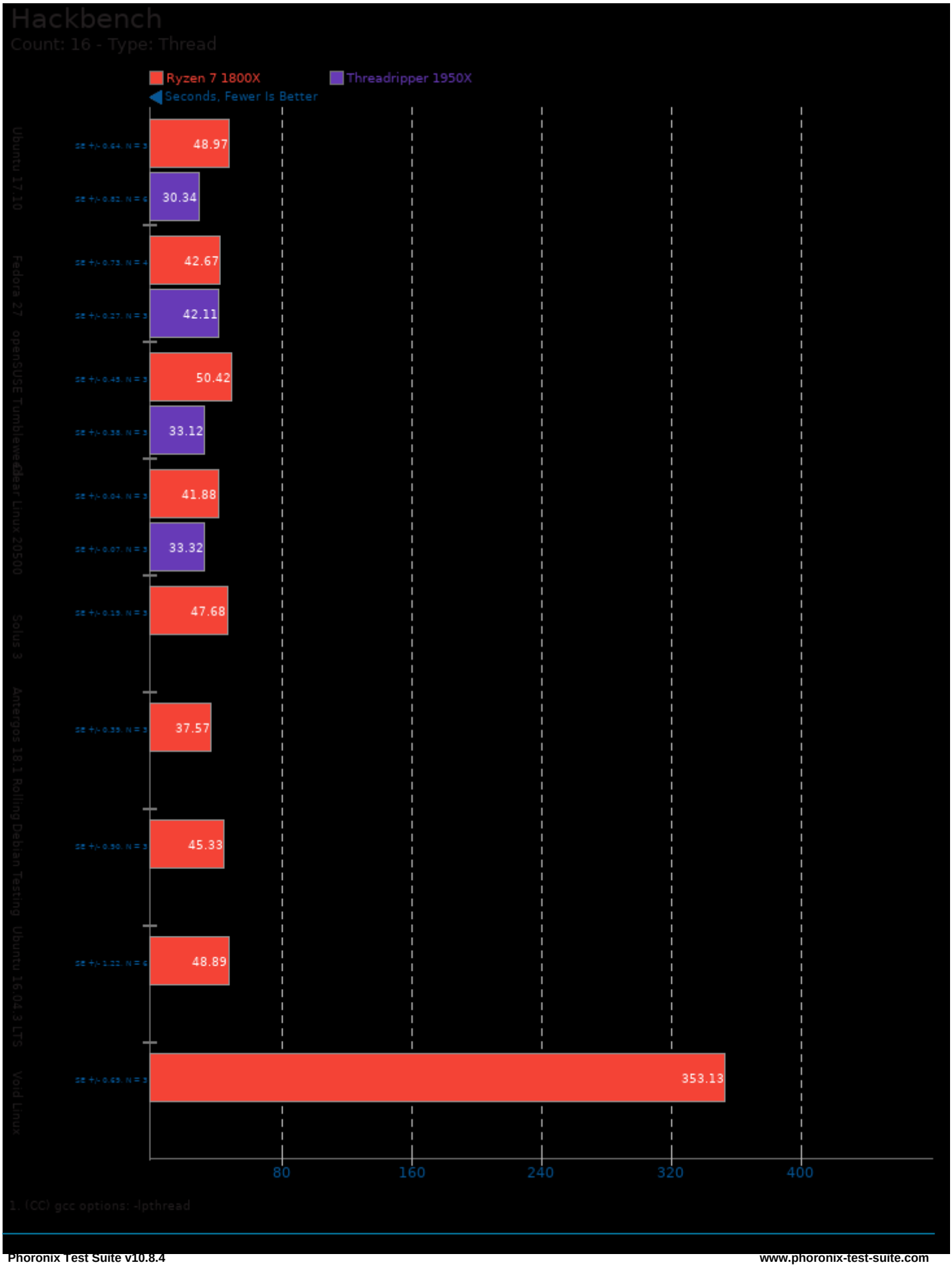

Timed Linux Kernel Compilation 4.13
Time To Compile
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
Ubuntu 17.10
Fedora 27
Clear Linux 20500
Solus 3
Antergos 18.1 RollingDebian Testing Ubuntu 16.04.3 LTS
Void Linux
85.19
47.80
80.89
43.08
72.86
39.35
81.43
86.40
87.16
70.17
96.03
20
40
60
80
100

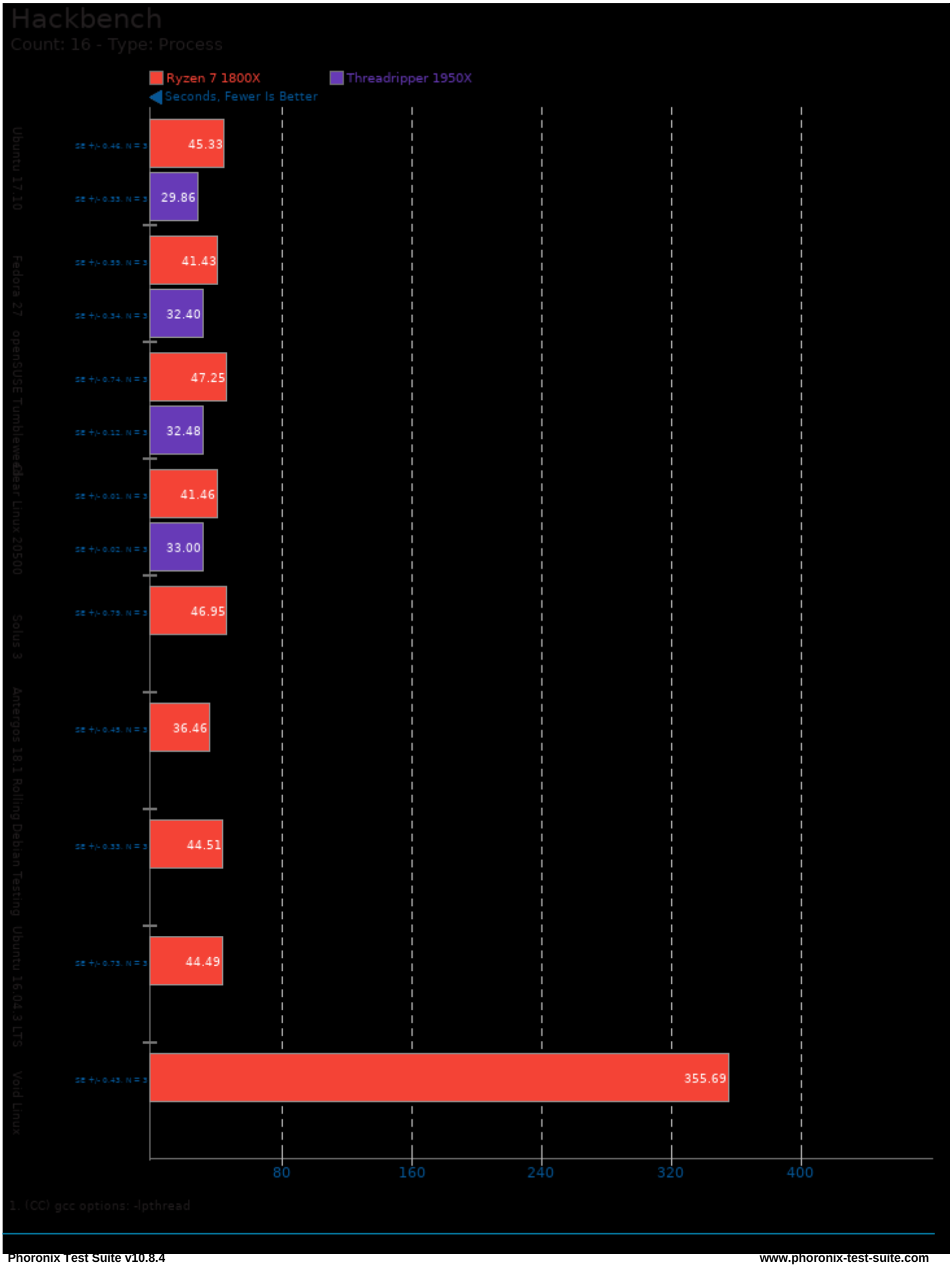

C-Ray 1.1
Total Time
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
9.71
5.21
10.02
5.19
9.71
5.13
7.82
4.16
9.73
9.73
9.73
7.95
9.80
3
6
9
12
15
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CC) gcc options: -lm -lpthread -O3

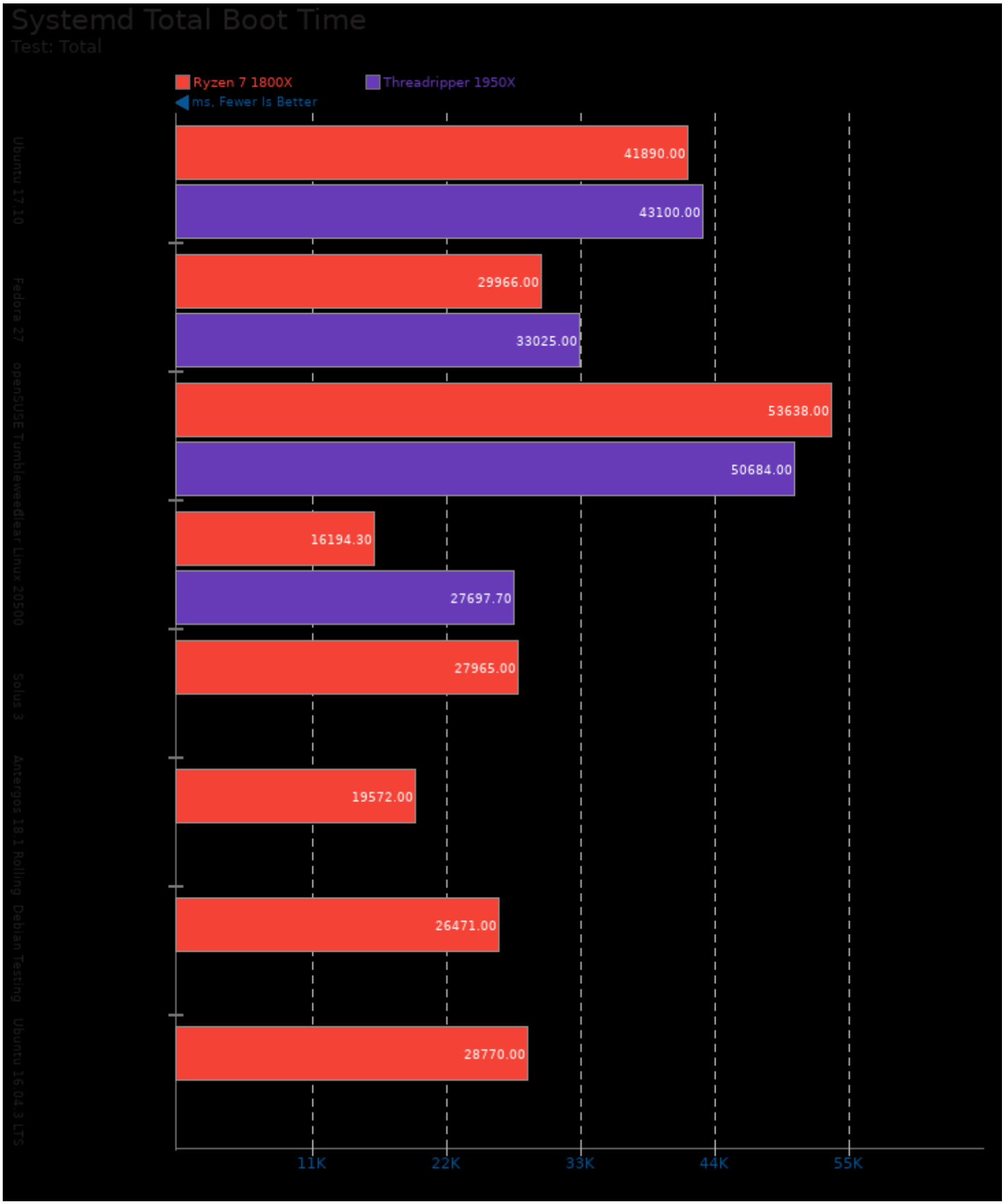

Stockfish 2014-11-26
Total Time
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
3641
3597
3511
3450
3468
3459
3440
3468
3594
3606
3538
3571
3756
800
1600
2400
3200
4000
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1. (CXX) g++ options: -lpthread -fno-exceptions -fno-rtti -ansi -pedantic -O3 -msse -msse3 -mpopcnt -flto

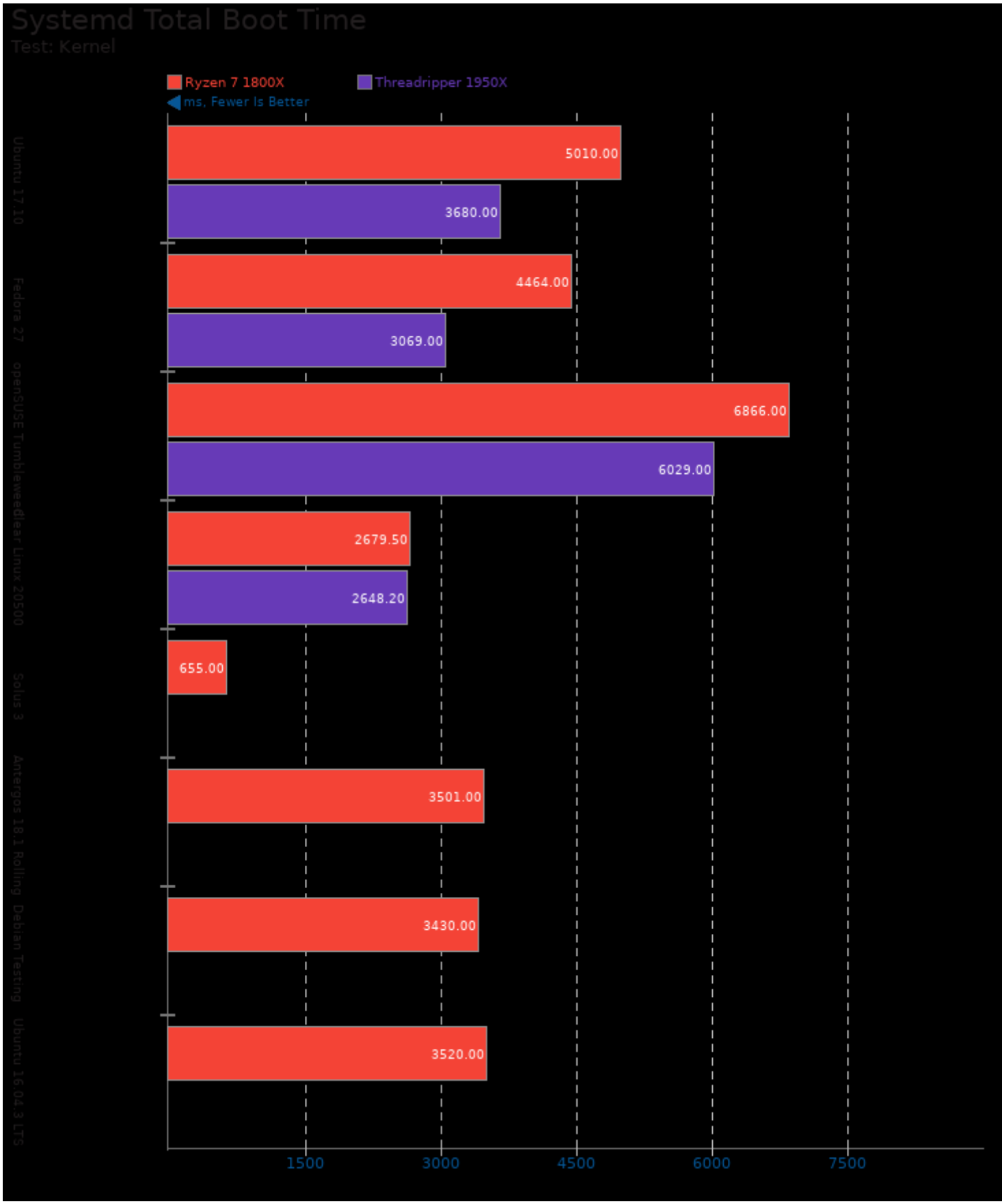

FLAC Audio Encoding 1.3.1
WAV To FLAC
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
5.43
5.49
5.60
5.50
5.59
5.55
5.14
5.27
5.48
5.46
5.42
5.38
1.26
2.52
3.78
5.04
6.3
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
1. (CXX) g++ options: -fvisibility=hidden -lm

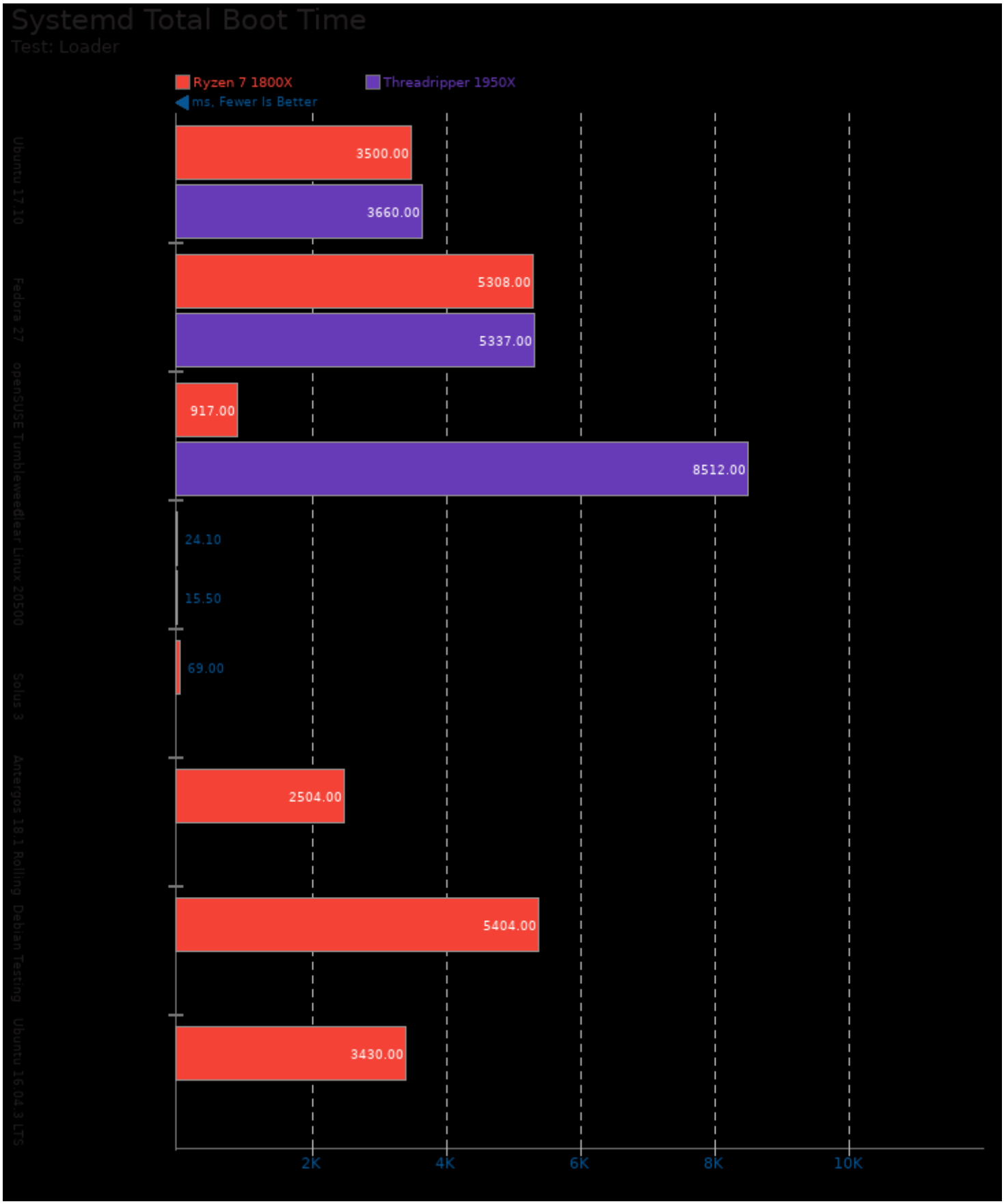

FFmpeg 3.3.3
H.264 HD To NTSC DV
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
7.82
7.85
6.54
6.12
6.91
6.55
6.26
5.76
6.47
9.20
7.05
7.60
6.84
3
6
9
12
15
1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -ldl -lm -pthread -std=c11 -fomit-frame-pointer -O3 -fno-mat

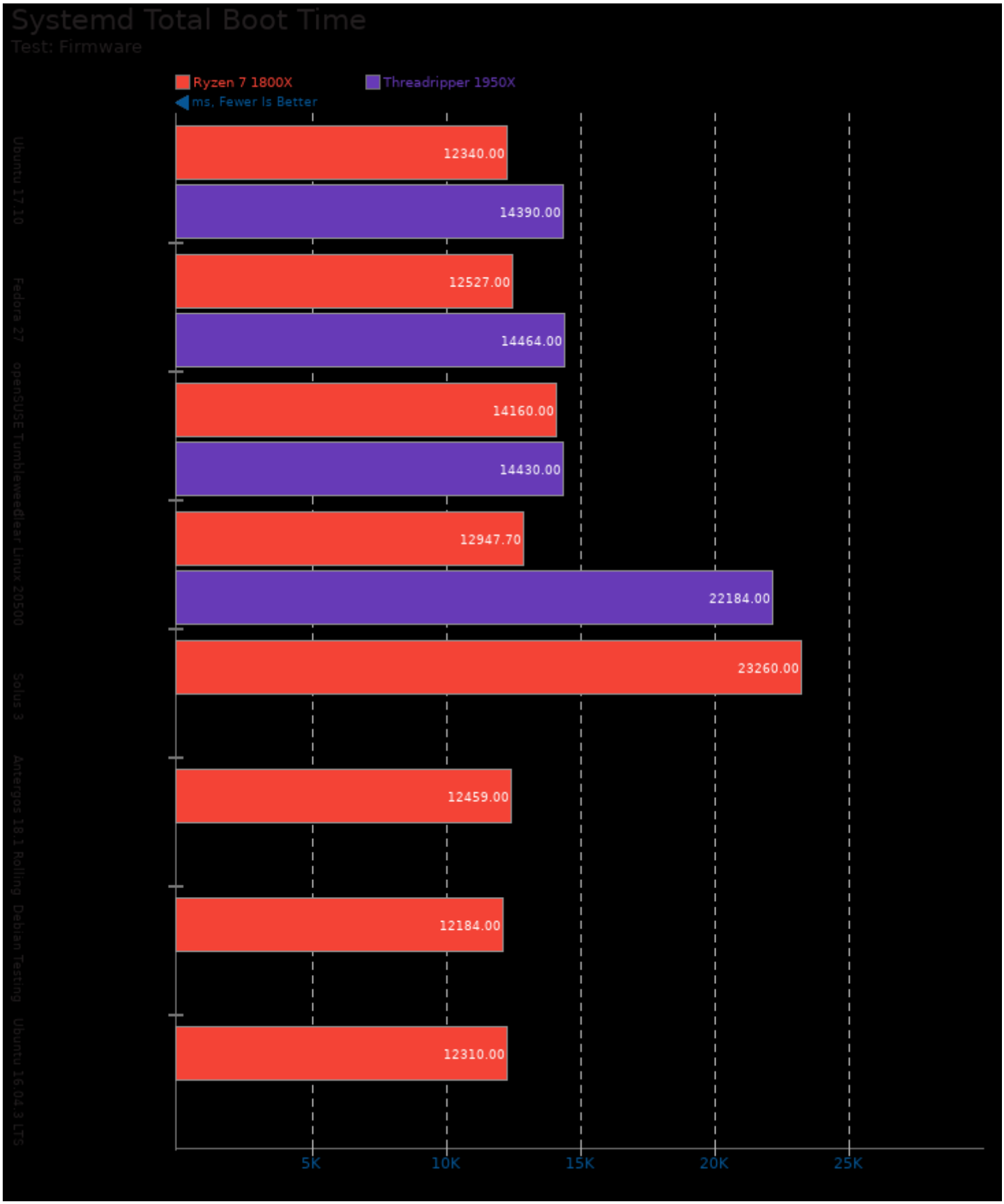

Hackbench
Count: 16 - Type: Thread
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
48.97
30.34
42.67
42.11
50.42
33.12
41.88
33.32
47.68
37.57
45.33
48.89
353.13
80
160
240
320
400
1. (CC) gcc options: -lpthread

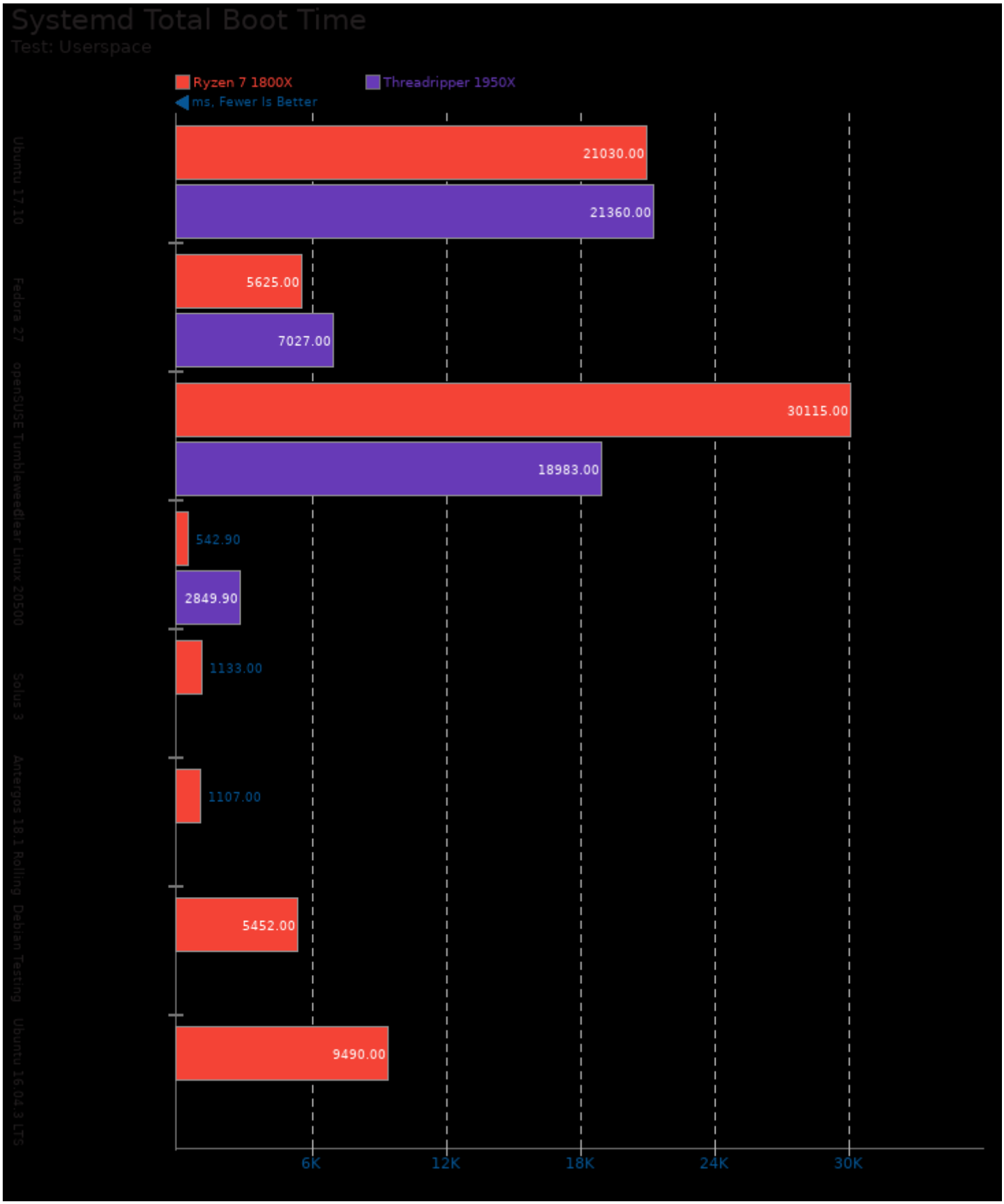

Hackbench
Count: 16 - Type: Process
Ryzen 7 1800X
Threadripper 1950X
Seconds, Fewer Is Better
45.33
29.86
41.43
32.40
47.25
32.48
41.46
33.00
46.95
36.46
44.51
44.49
355.69
80
160
240
320
400
1. (CC) gcc options: -lpthread

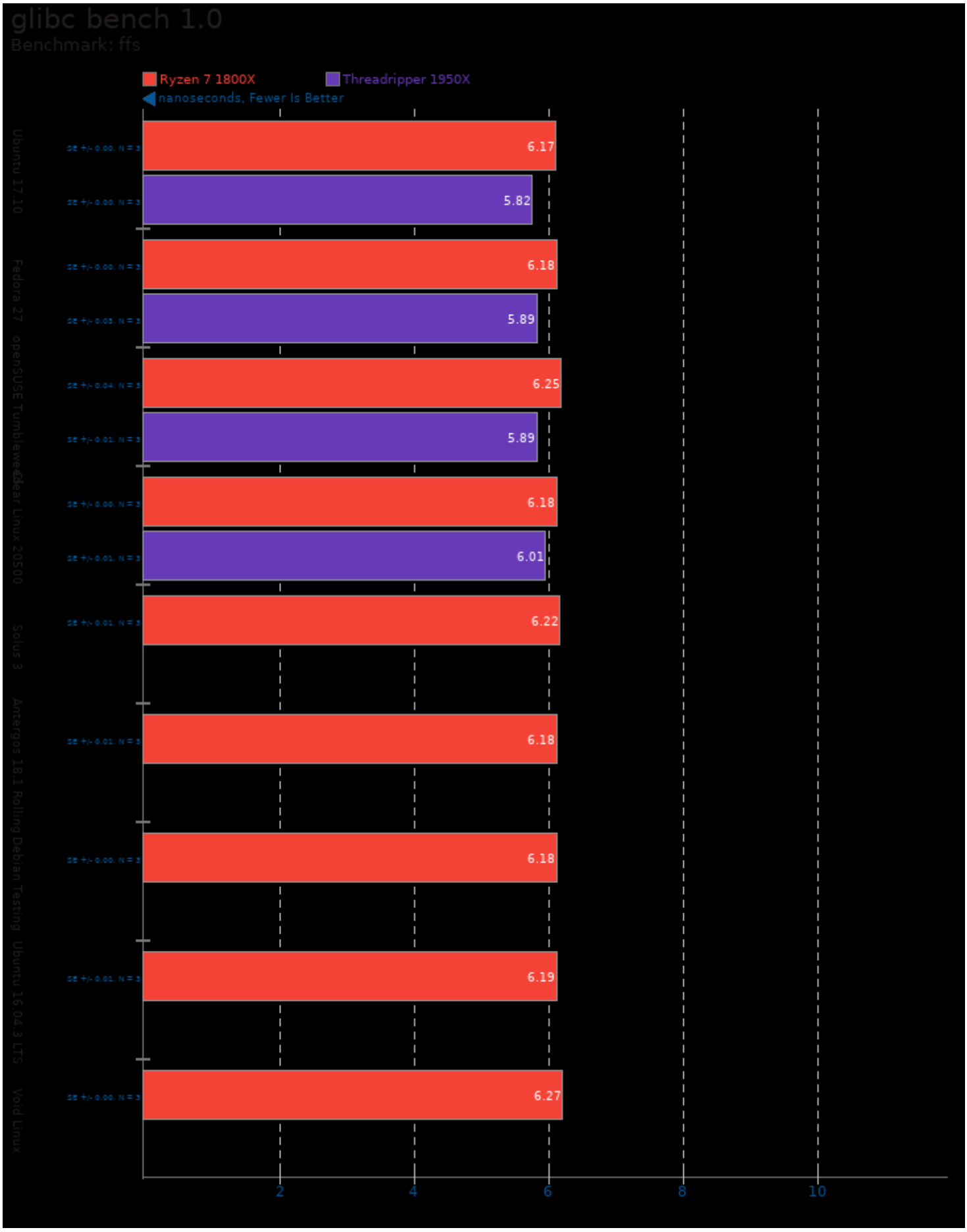

Systemd Total Boot Time
Test: Total
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
41890.00
43100.00
29966.00
33025.00
53638.00
50684.00
16194.30
27697.70
27965.00
19572.00
26471.00
28770.00
11K
22K
33K
44K
55K

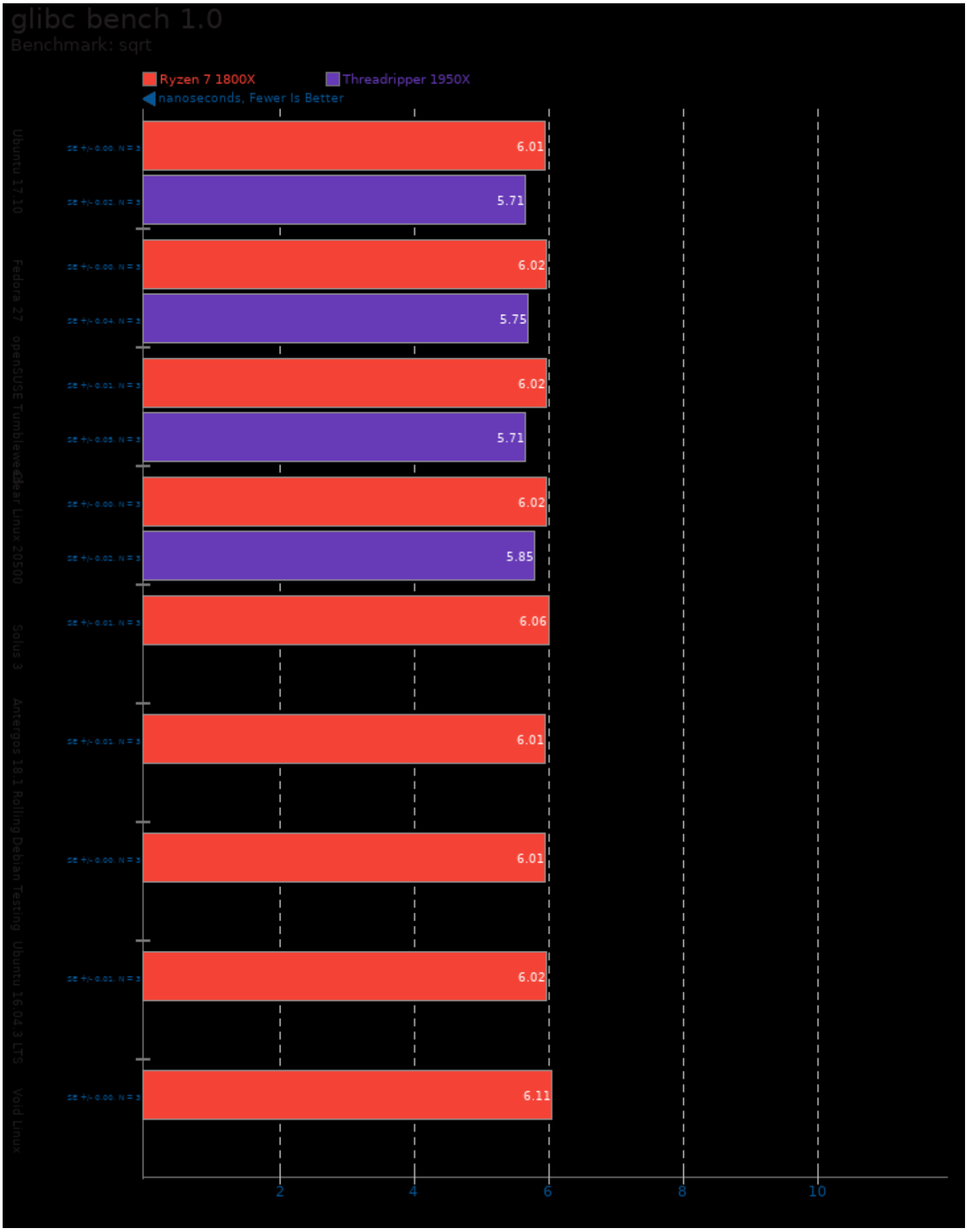

Systemd Total Boot Time
Test: Kernel
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
5010.00
3680.00
4464.00
3069.00
6866.00
6029.00
2679.50
2648.20
655.00
3501.00
3430.00
3520.00
1500
3000
4500
6000
7500

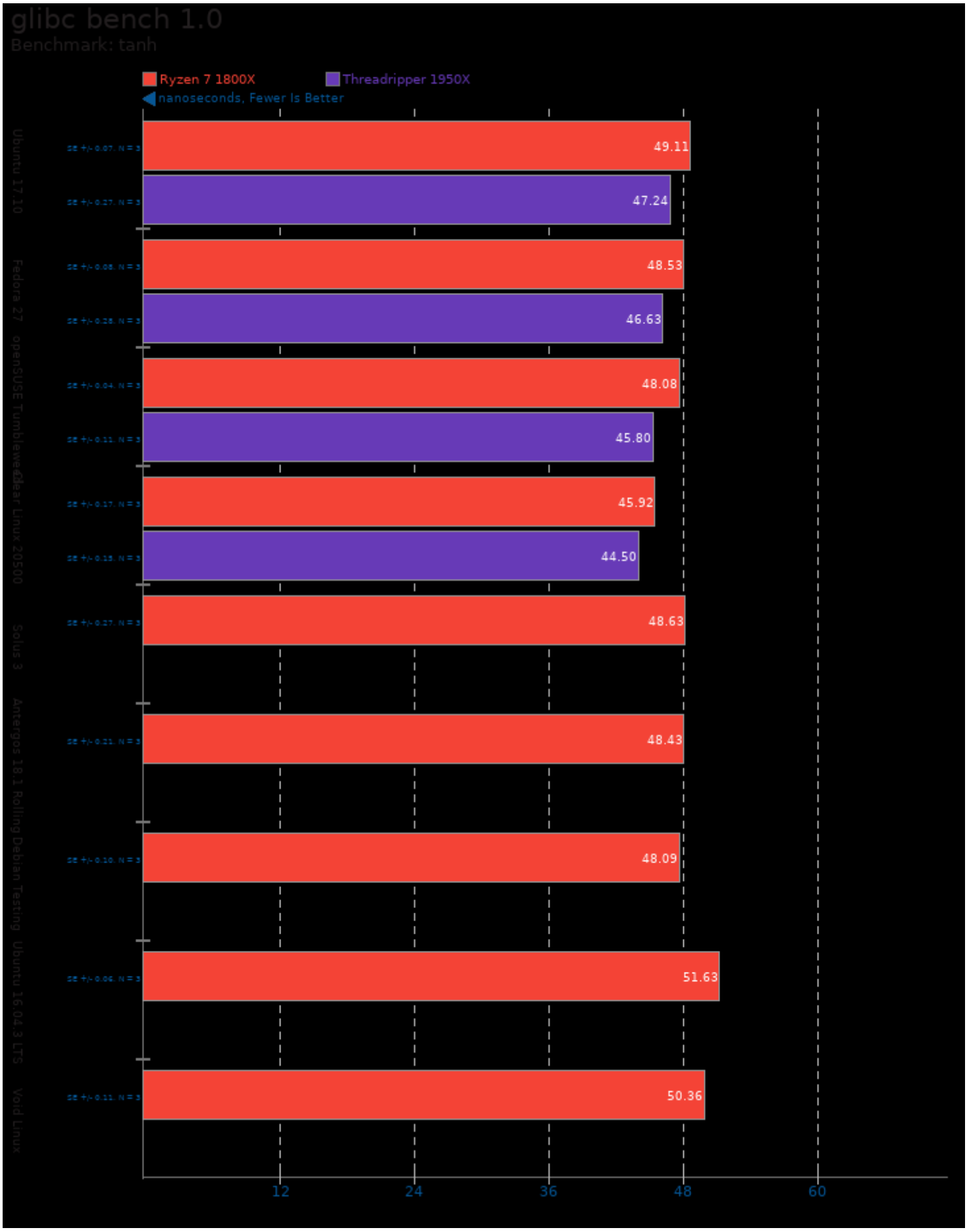

Systemd Total Boot Time
Test: Loader
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
3500.00
3660.00
5308.00
5337.00
917.00
8512.00
24.10
15.50
69.00
2504.00
5404.00
3430.00
2K
4K
6K
8K
10K
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS

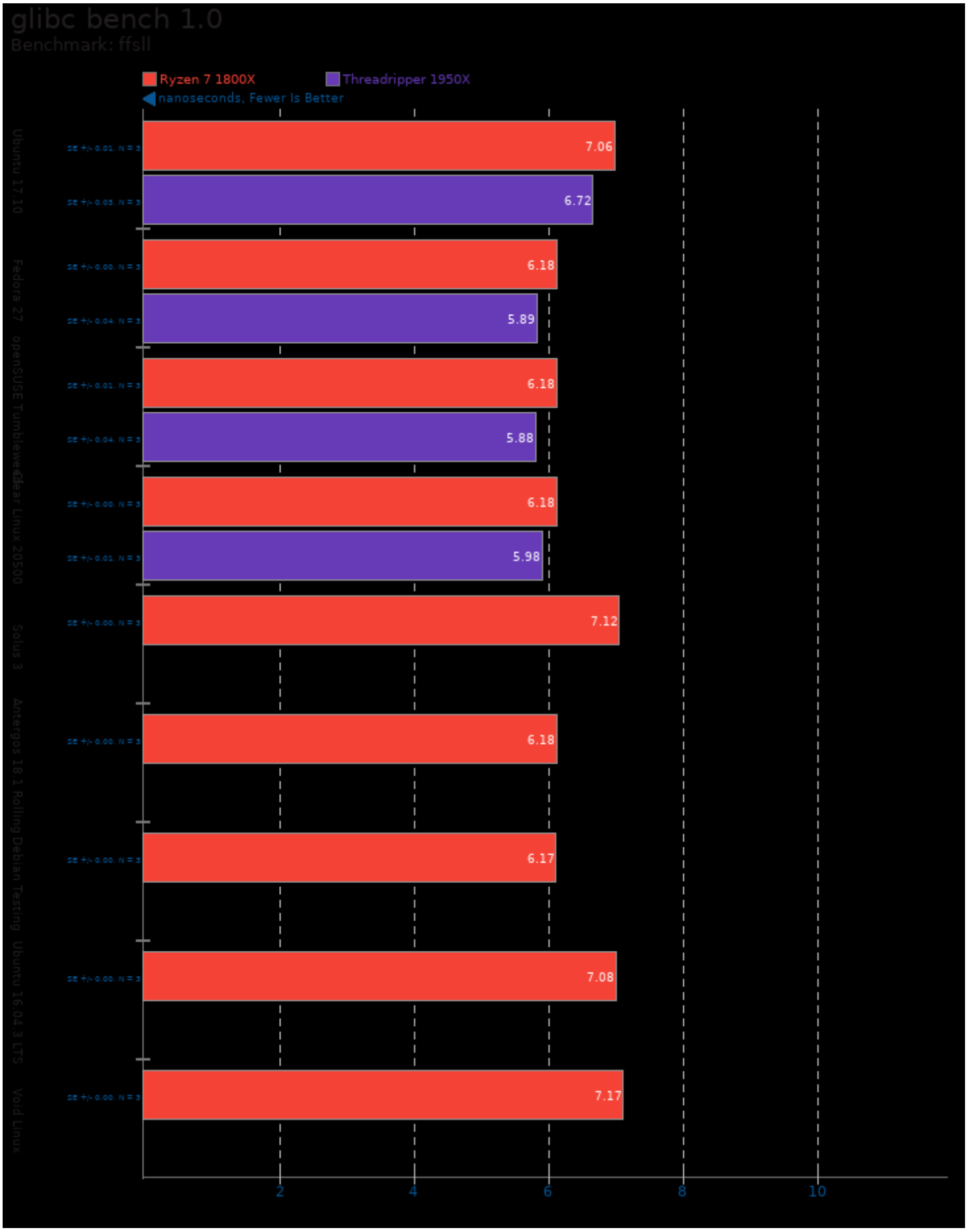

Systemd Total Boot Time
Test: Firmware
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
Ubuntu 17.10
12340.00
Fedora 27
14390.00
openSUSE Tumbleweed
12527.00
Clear Linux 20500
14464.00
Solus 3
14160.00
Antergos 18.1 Rolling
14430.00
Debian Testing
12947.70
Ubuntu 16.04.3 LTS
22184.00
23260.00
12459.00
12184.00
12310.00
5K
10K
15K
20K
25K

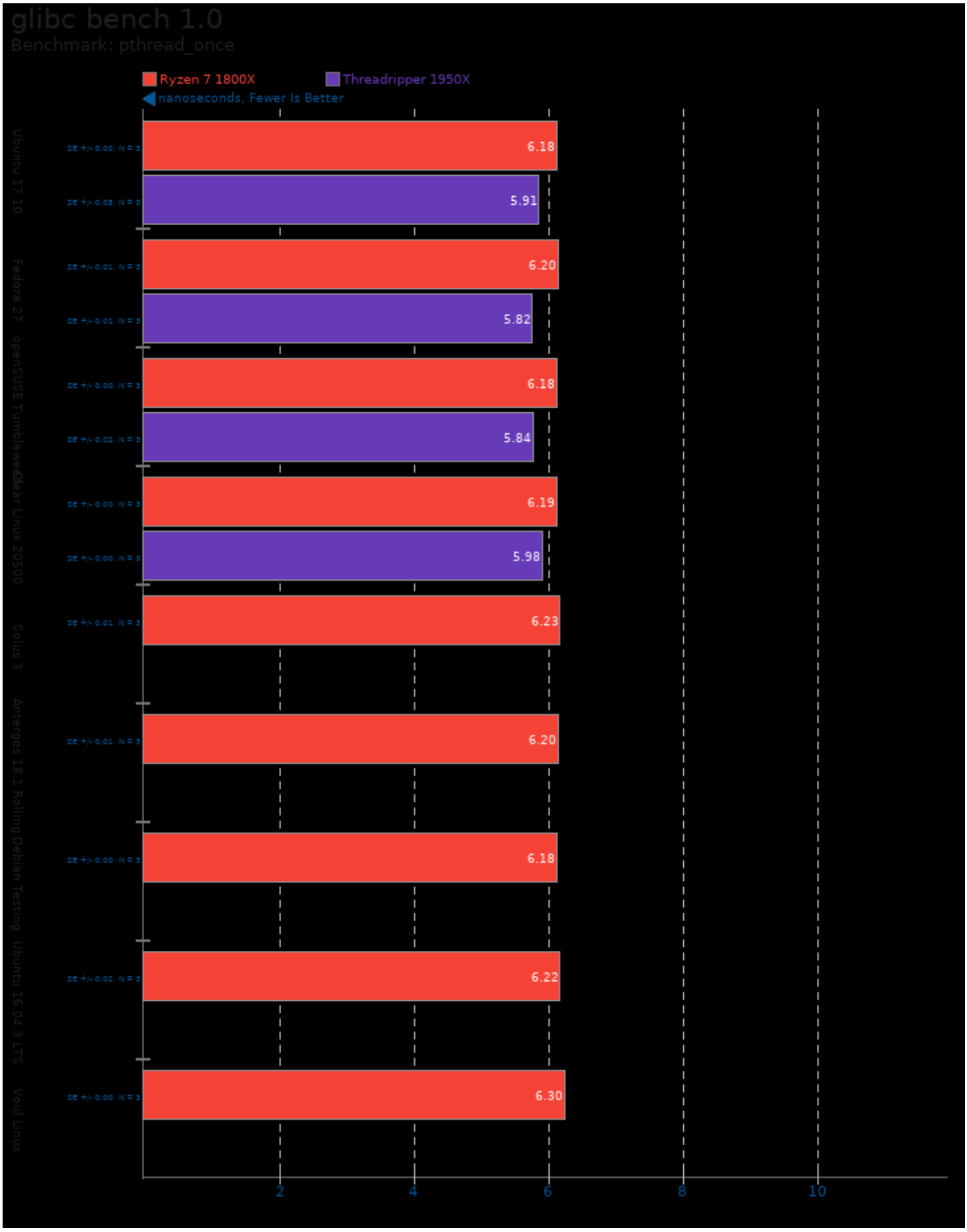

Systemd Total Boot Time
Test: Userspace
Ryzen 7 1800X
Threadripper 1950X
ms, Fewer Is Better
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
21030.00
21360.00
5625.00
7027.00
30115.00
18983.00
542.90
2849.90
1133.00
1107.00
5452.00
9490.00
6K
12K
18K
24K
30K

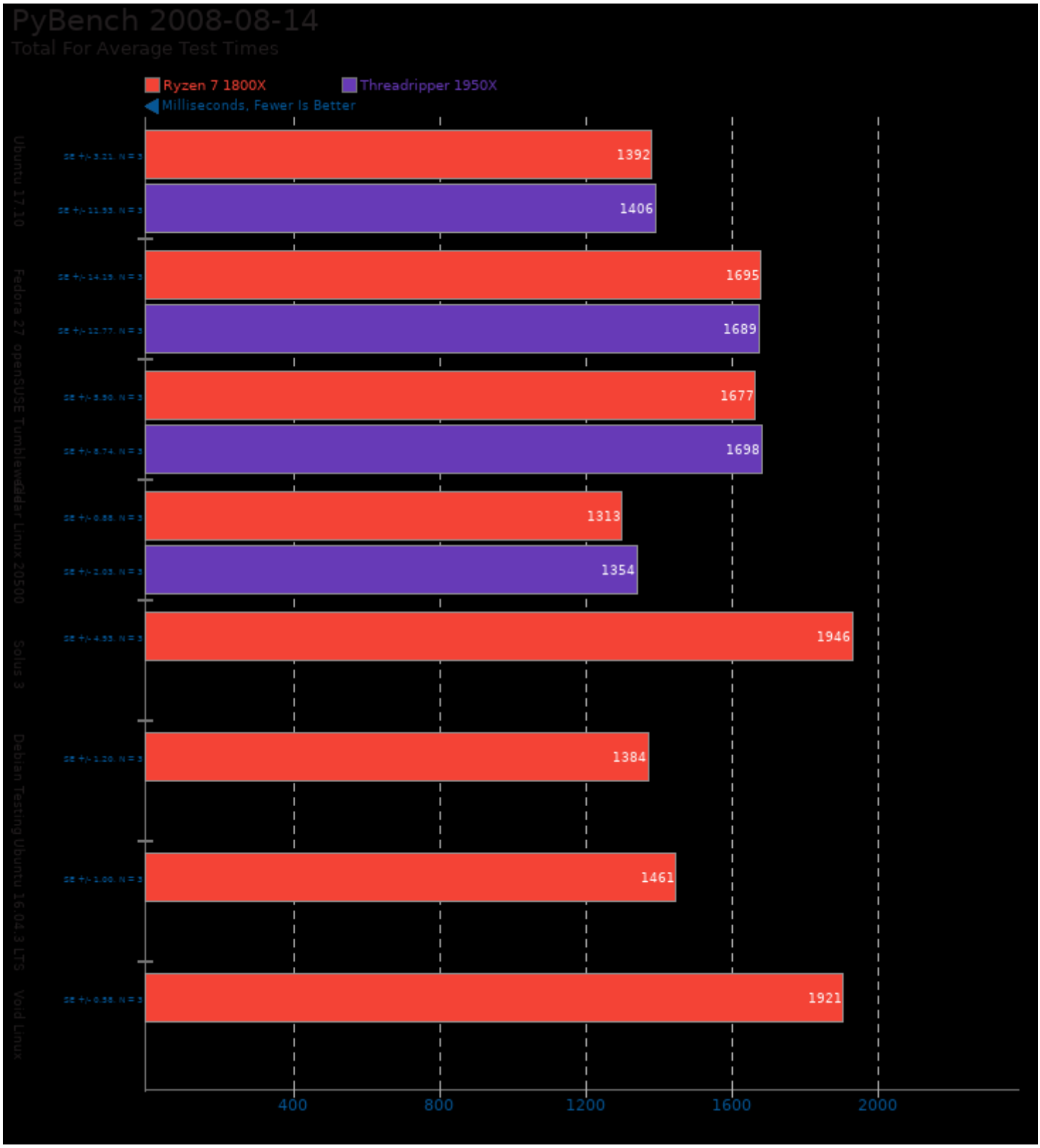

glibc bench 1.0
Benchmark: ffs
Ryzen 7 1800X
Threadripper 1950X
nanoseconds, Fewer Is Better
6.17
5.82
6.18
5.89
6.25
5.89
6.18
6.01
6.22
6.18
6.18
6.19
6.27
2
4
6
8
10
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux

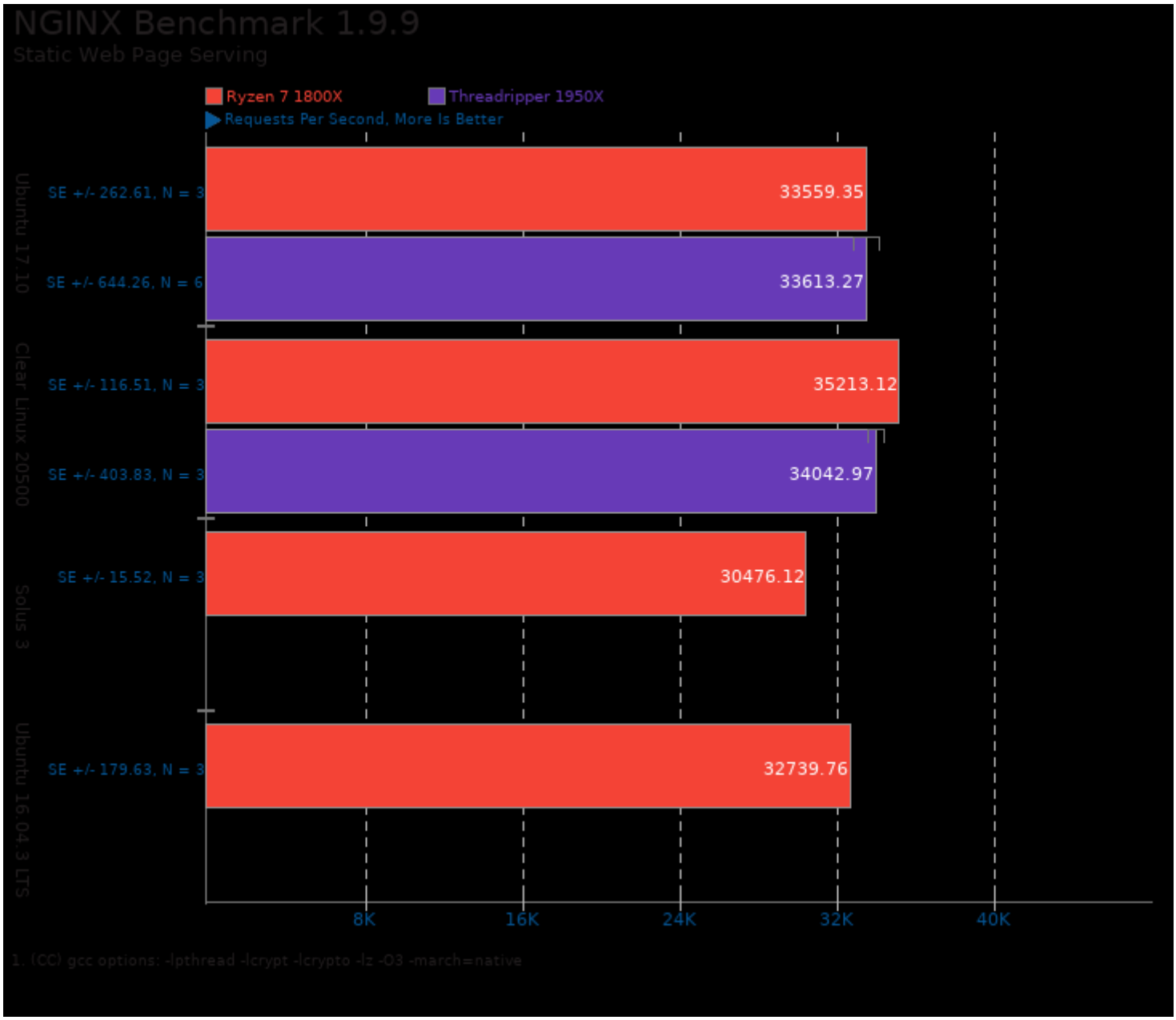

glibc bench 1.0
Benchmark: sqrt
Ryzen 7 1800X
Threadripper 1950X
nanoseconds, Fewer Is Better
6.01
5.71
6.02
5.75
6.02
5.71
6.02
5.85
6.06
6.01
6.01
6.02
6.11
2
4
6
8
10
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux


glibc bench 1.0
Benchmark: tanh
Ryzen 7 1800X
Threadripper 1950X
nanoseconds, Fewer Is Better
49.11
47.24
48.53
46.63
48.08
45.80
45.92
44.50
48.63
48.43
48.09
51.63
50.36
12
24
36
48
60
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux

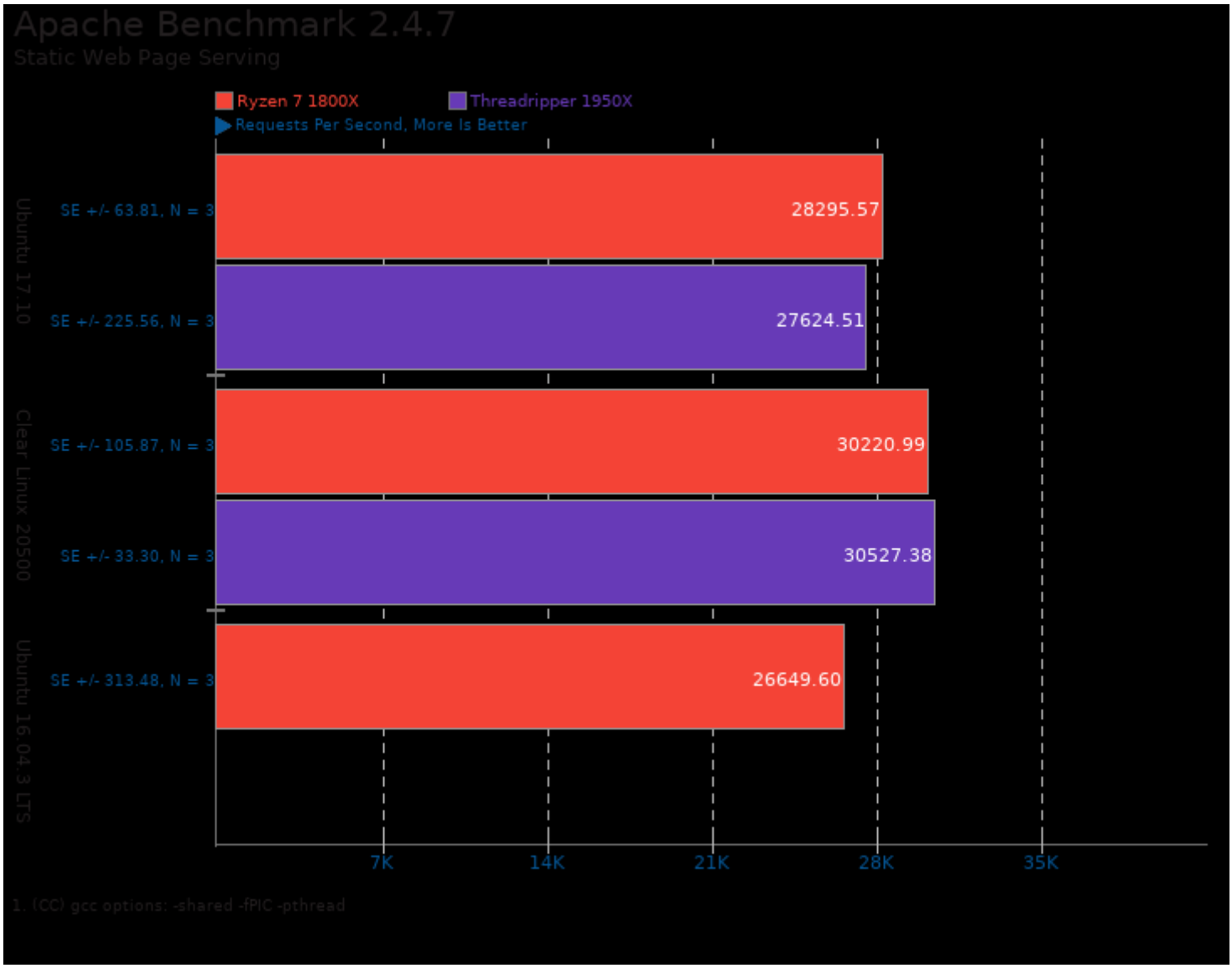

glibc bench 1.0
Benchmark: ffsll
Ryzen 7 1800X
Threadripper 1950X
nanoseconds, Fewer Is Better
7.06
6.72
6.18
5.89
6.18
5.88
6.18
5.98
7.12
6.18
6.17
7.08
7.17
2
4
6
8
10
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux


glibc bench 1.0
Benchmark: pthread_once
Ryzen 7 1800X
Threadripper 1950X
nanoseconds, Fewer Is Better
6.18
5.91
6.20
5.82
6.18
5.84
6.19
5.98
6.23
6.20
6.18
6.22
6.30
2
4
6
8
10
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Antergos 18.1 Rolling
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux

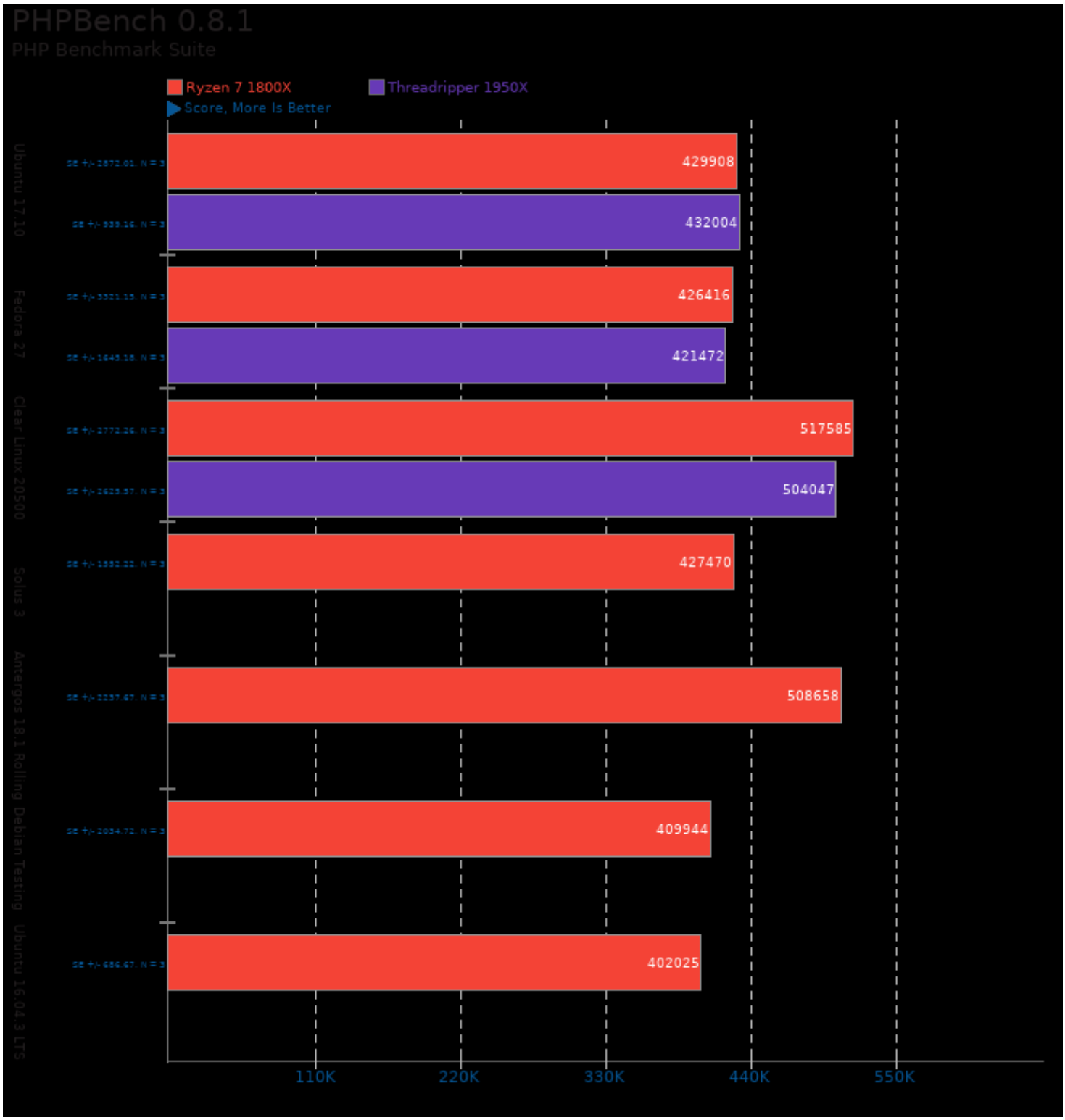

PyBench 2008-08-14
Total For Average Test Times
Ryzen 7 1800X
Threadripper 1950X
Milliseconds, Fewer Is Better
Ubuntu 17.10
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Solus 3
Debian Testing
Ubuntu 16.04.3 LTS
Void Linux
1392
1406
1695
1689
1677
1698
1313
1354
1946
1384
1461
1921
400
800
1200
1600
2000


NGINX Benchmark 1.9.9
Static Web Page Serving
Ryzen 7 1800X
Threadripper 1950X
Requests Per Second, More Is Better
Ubuntu 17.10
Clear Linux 20500
Solus 3
Ubuntu 16.04.3 LTS
SE +/- 262.61, N = 3
33559.35
SE +/- 644.26, N = 6
33613.27
SE +/- 116.51, N = 3
35213.12
SE +/- 403.83, N = 3
34042.97
SE +/- 15.52, N = 3
30476.12
SE +/- 179.63, N = 3
32739.76
8K
16K
24K
32K
40K
1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native

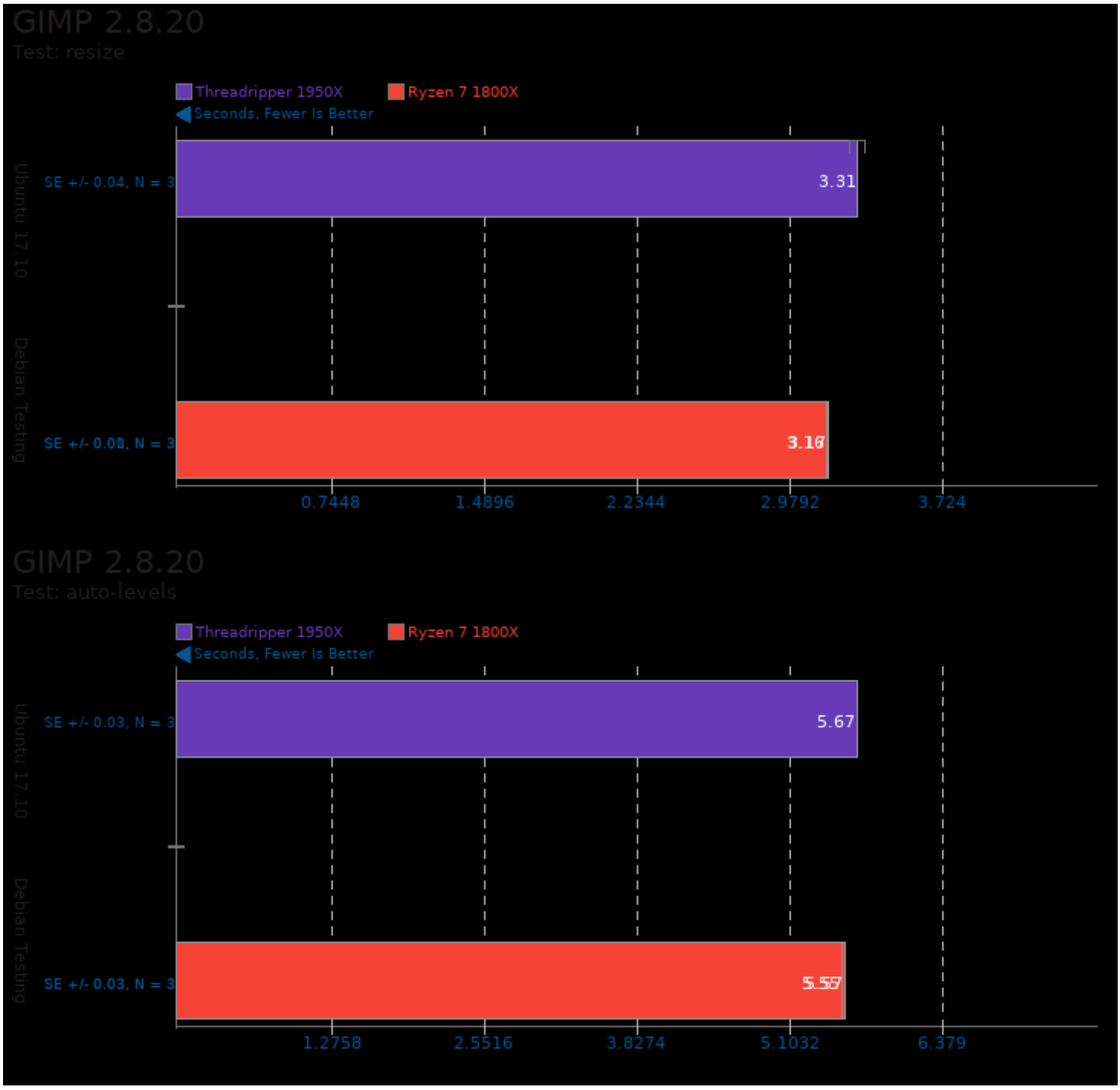
Ubuntu 17.10 AMD Ryzen



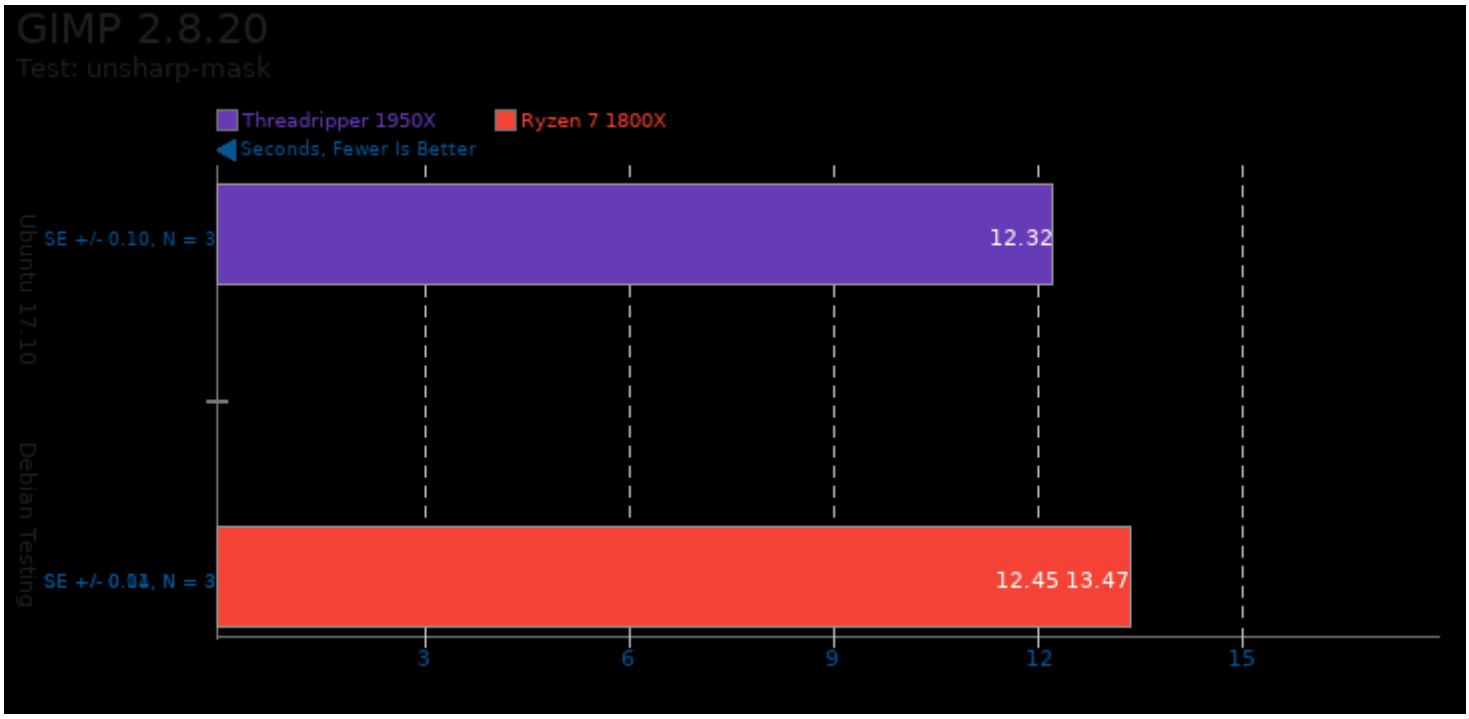
Ubuntu 17.10 AMD Ryzen

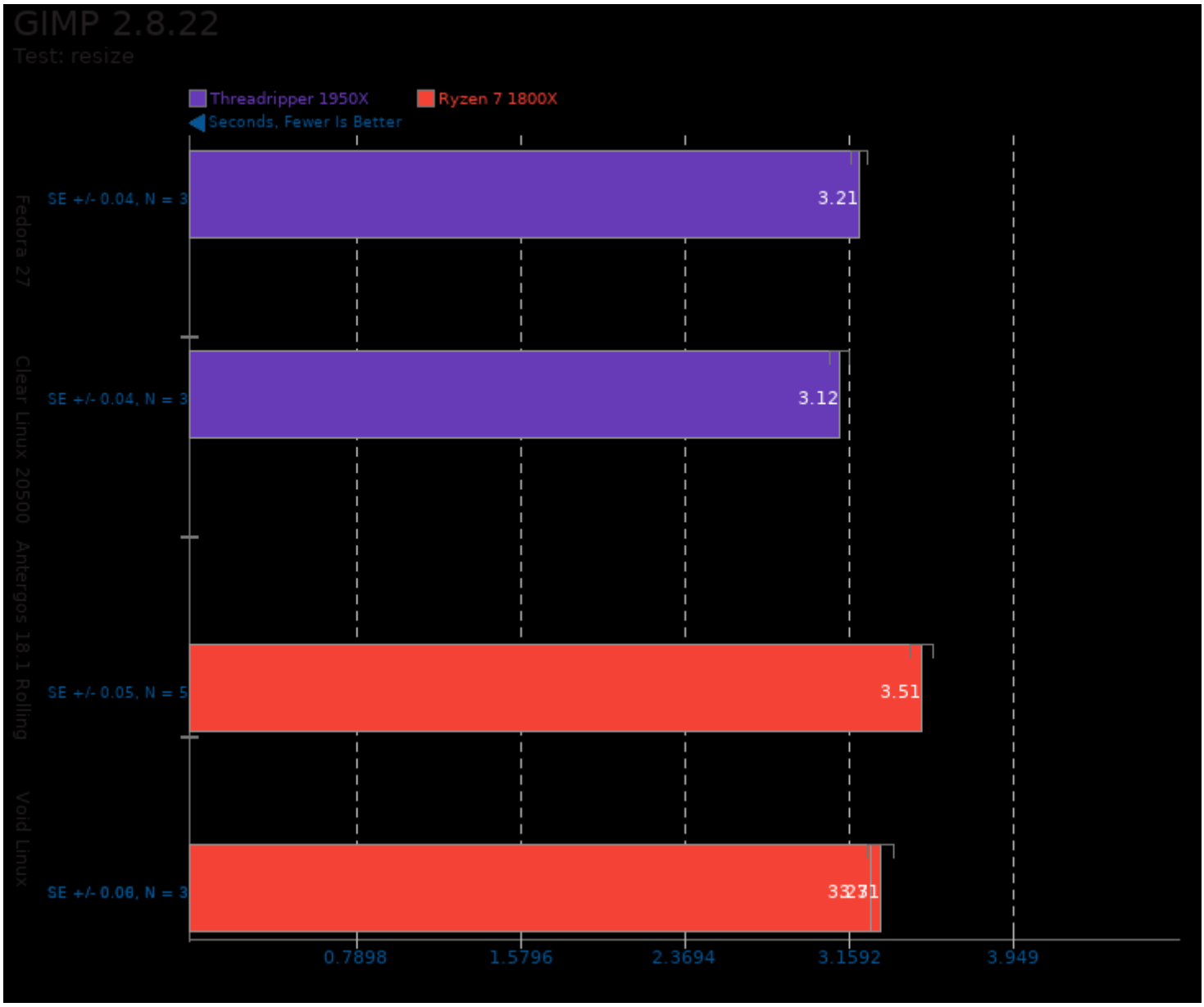


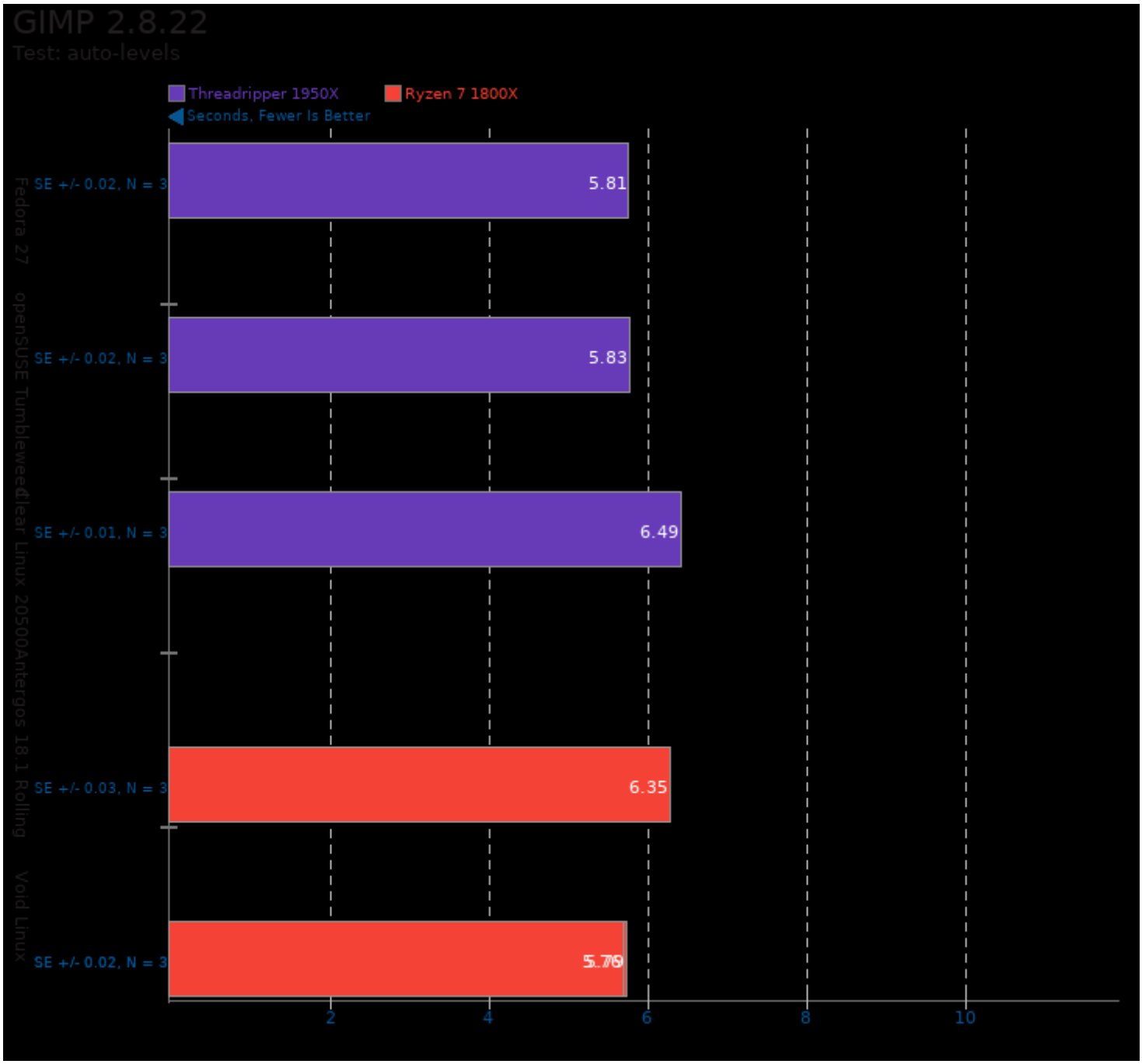
Ubuntu 17.10 AMD Ryzen

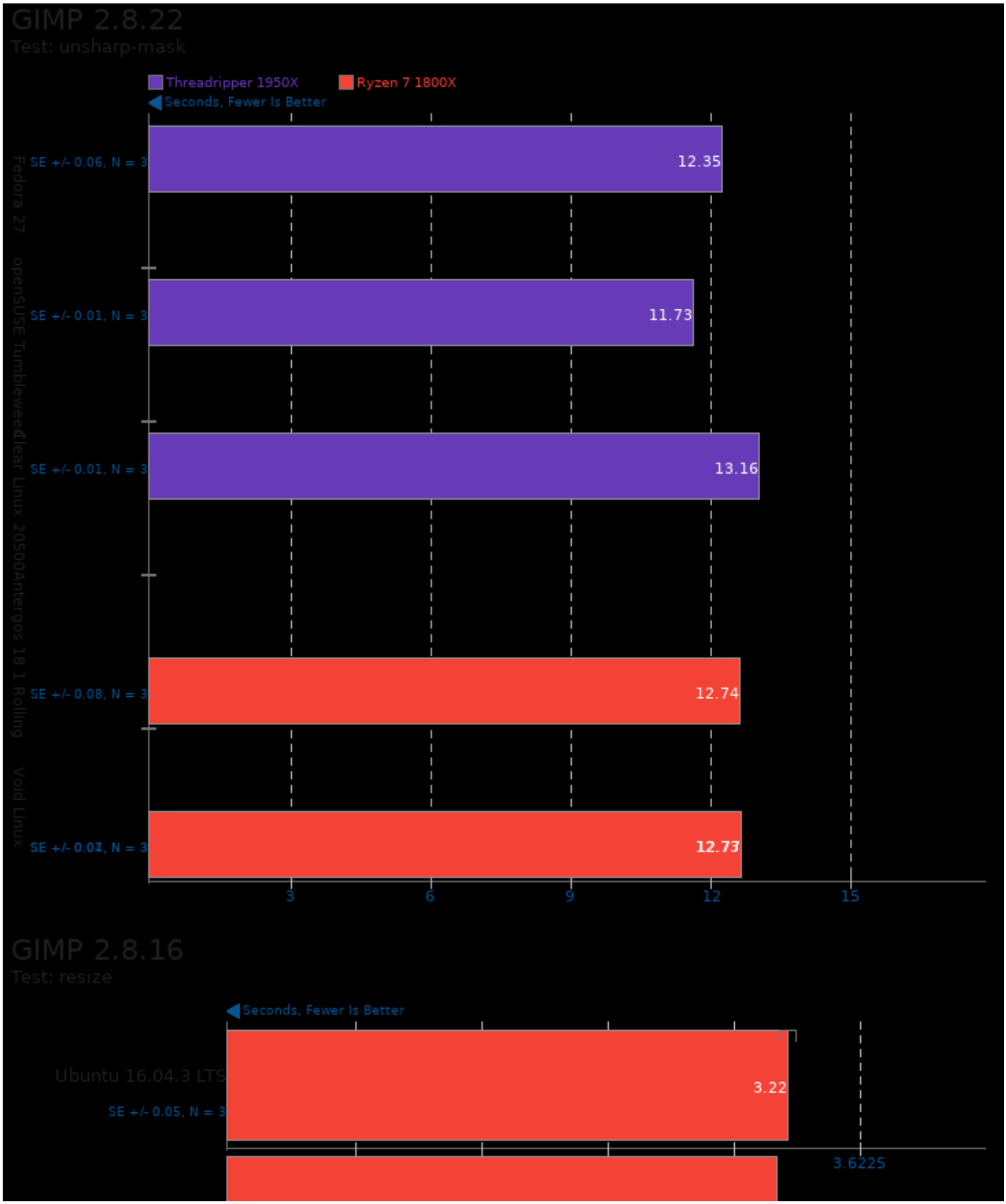


Ubuntu 17.10 AMD Ryzen

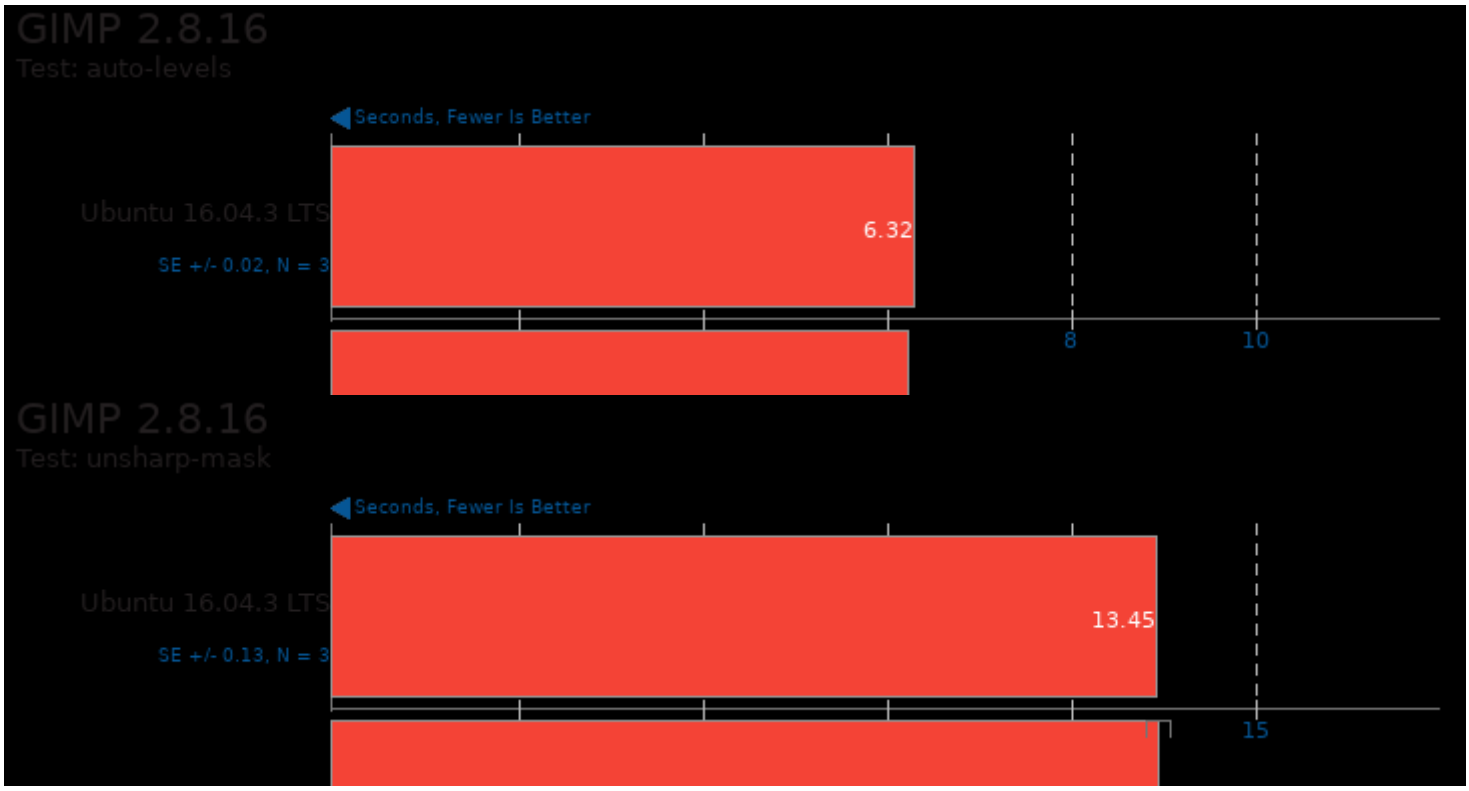



GIMP 2.8.22
Test: resize
Threadripper 1950X
Ryzen 7 1800X
Seconds, Fewer Is Better
SE +/- 0.04, N = 3
3.21
SE +/- 0.04, N = 3
3.12
SE +/- 0.05, N = 5
3.51
SE +/- 0.08, N = 3
3.31
Fedora 27
Clear Linux 20500
Antergos 18.1 Rolling
Void Linux
0.7898
1.5796
2.3694
3.1592
3.949

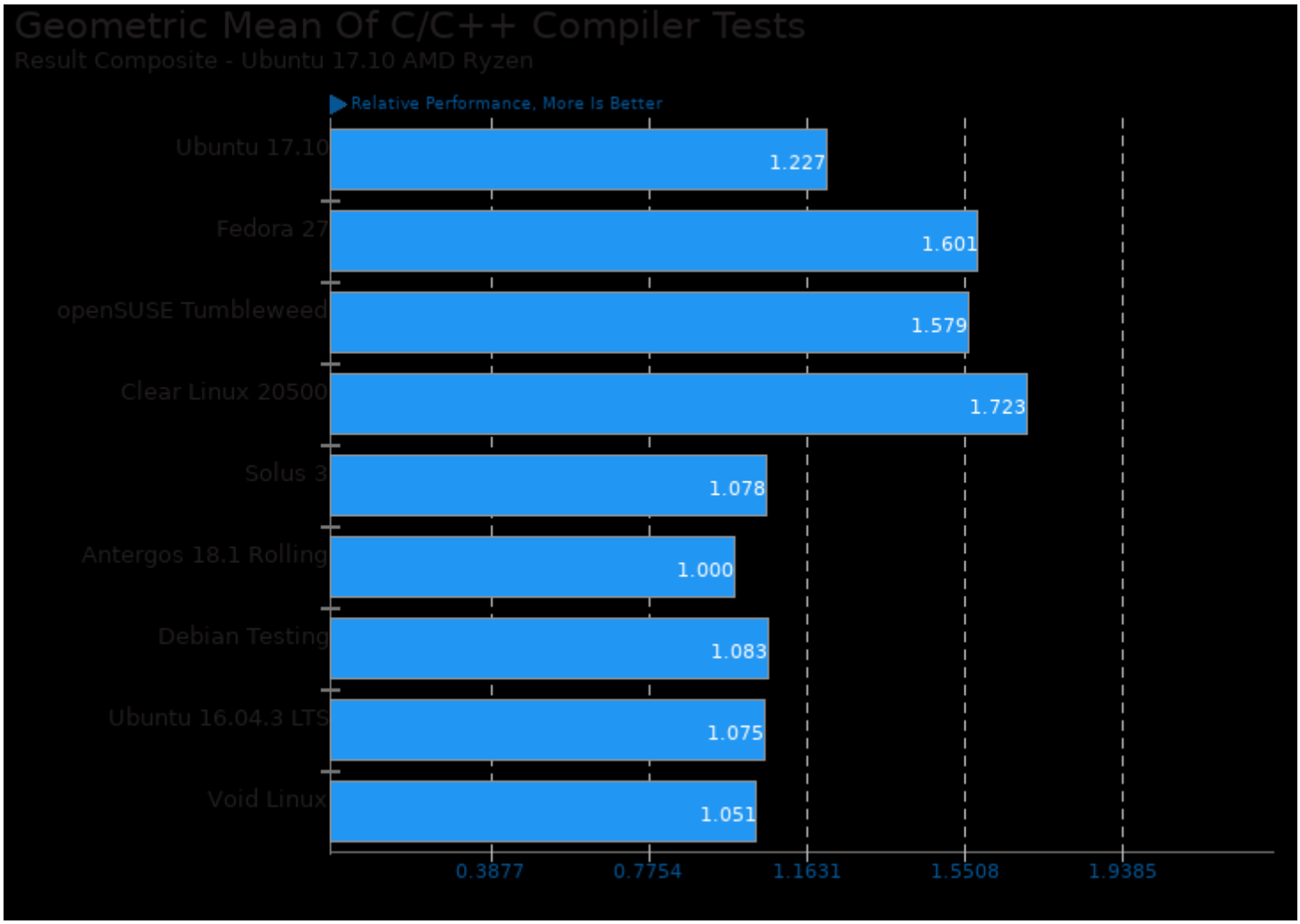

GIMP 2.8.22
Test: auto-levels
Threadripper 1950X
Ryzen 7 1800X
Seconds, Fewer Is Better
SE +/- 0.02, N = 3
5.81
SE +/- 0.02, N = 3
5.83
SE +/- 0.01, N = 3
6.49
SE +/- 0.03, N = 3
6.35
SE +/- 0.02, N = 3
5.76
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Antergos 18.1 Rolling
Void Linux
2
4
6
8
10


GIMP 2.8.22
Test: unsharp-mask
Threadripper 1950X
Ryzen 7 1800X
Seconds, Fewer Is Better
Fedora 27
openSUSE Tumbleweed
Clear Linux 20500
Antergos 18.1 Rolling
Void Linux
SE +/- 0.06, N = 3
12.35
SE +/- 0.01, N = 3
11.73
SE +/- 0.01, N = 3
13.16
SE +/- 0.08, N = 3
12.74
SE +/- 0.03, N = 3
12.73
3
6
9
12
15
GIMP 2.8.16
Test: resize
Seconds, Fewer Is Better
Ubuntu 16.04.3 LTS
SE +/- 0.05, N = 3
3.22
3.6225

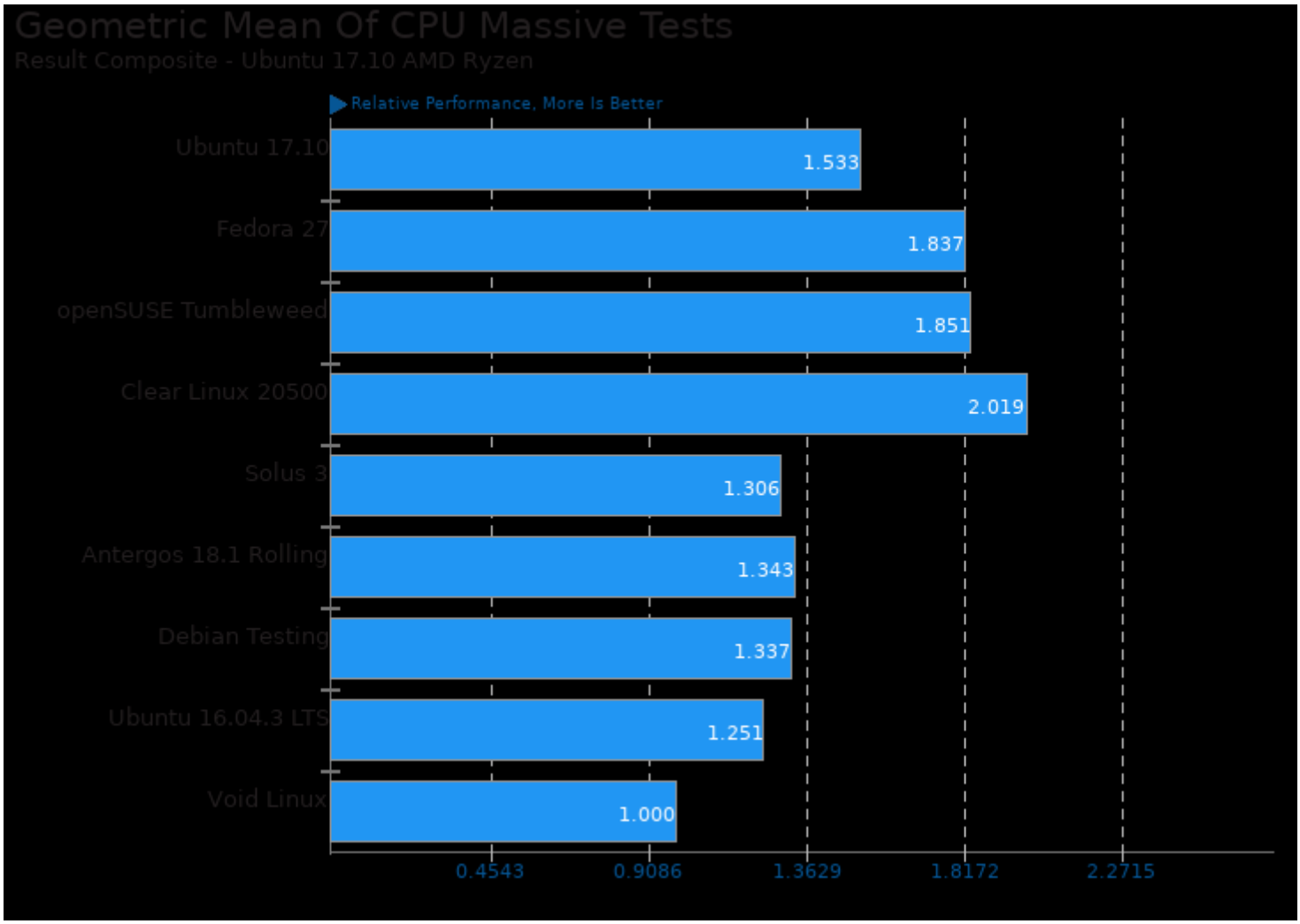
Ubuntu 17.10 AMD Ryzen



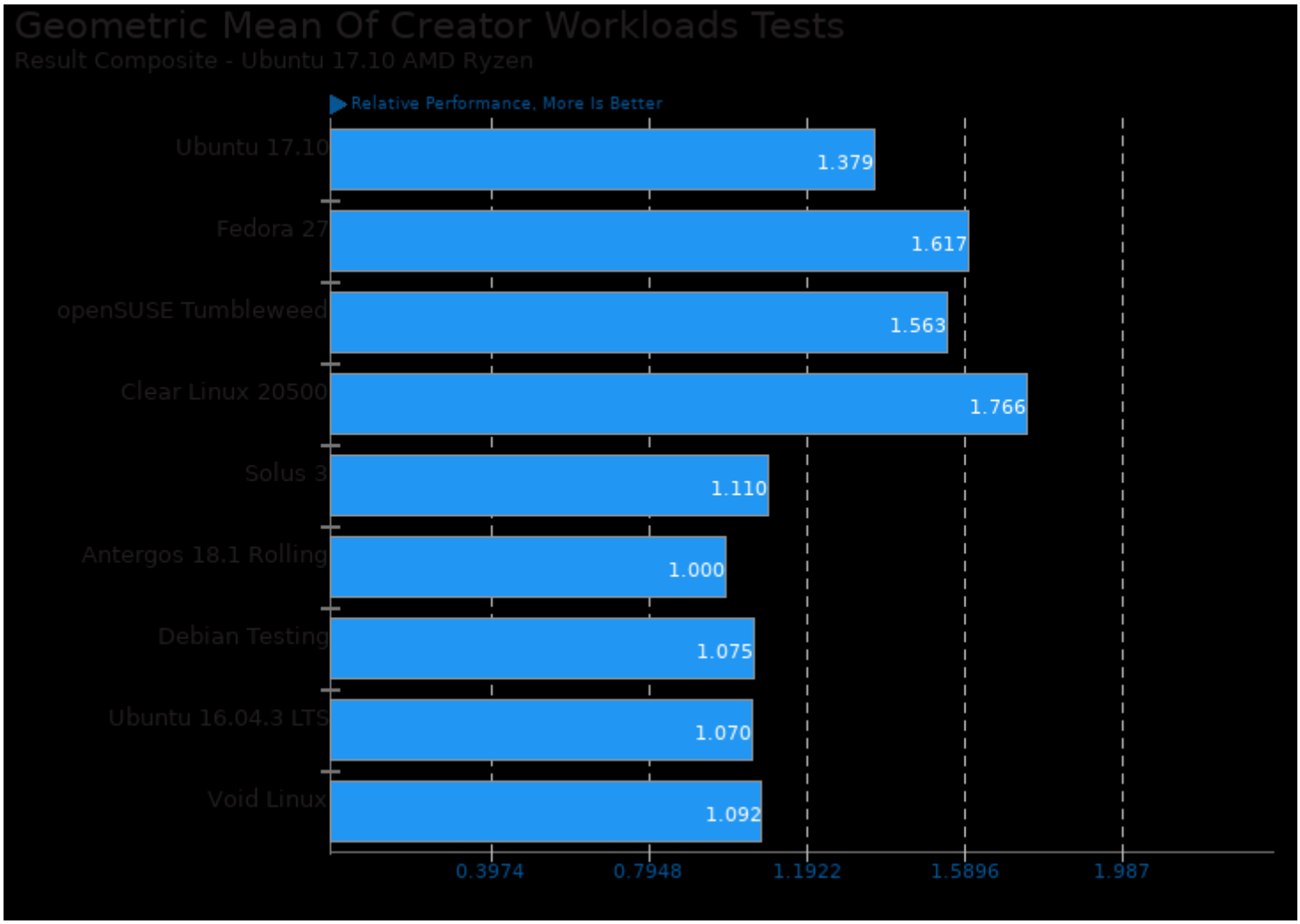
These geometric means are based upon test groupings / test suites for this result file.



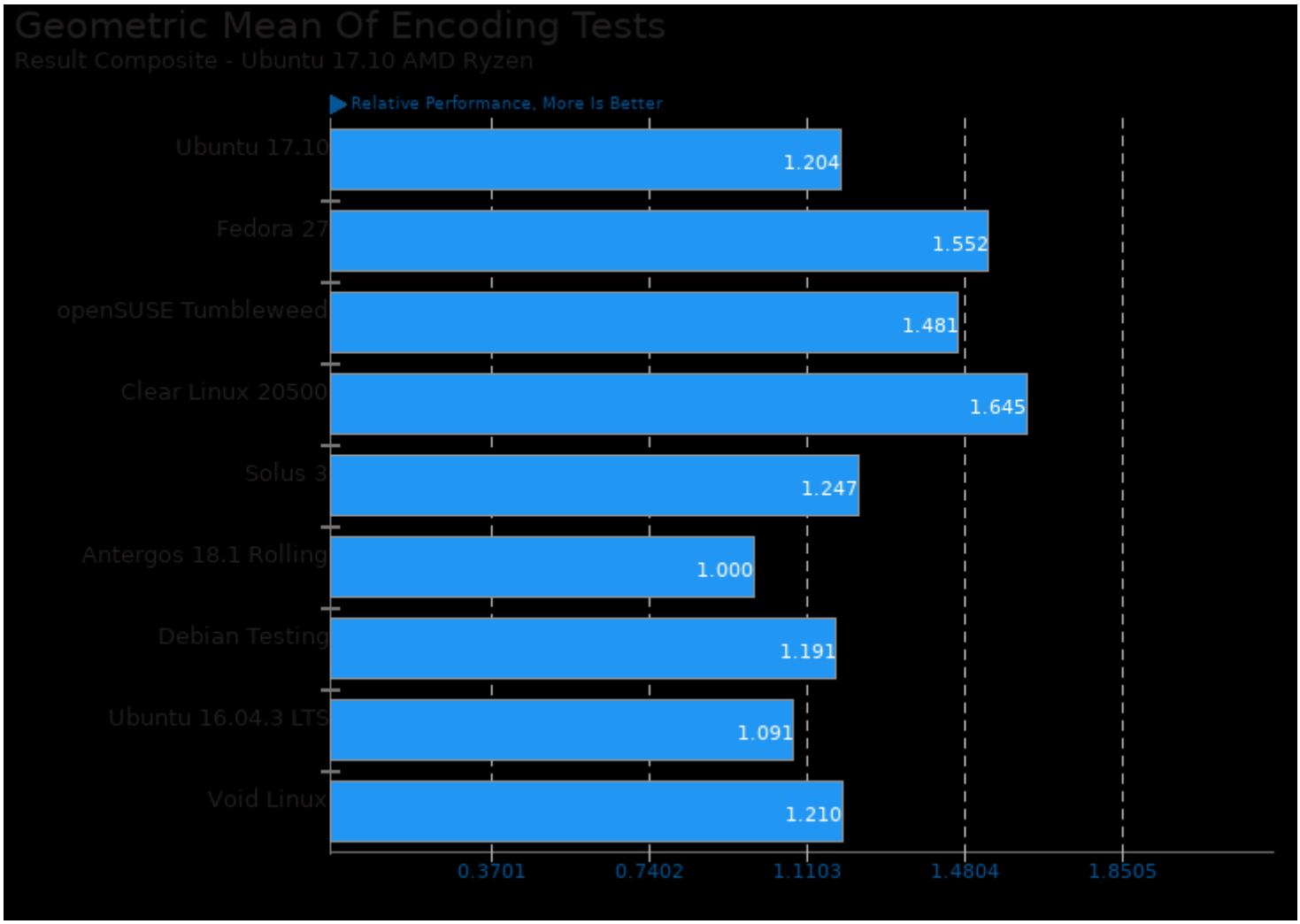
Geometric mean based upon tests: pts/stockfish, pts/hmmer, pts/c-ray, pts/encode-flac, pts/apache, pts/john-the-ripper, pts/x264 and pts/nginx



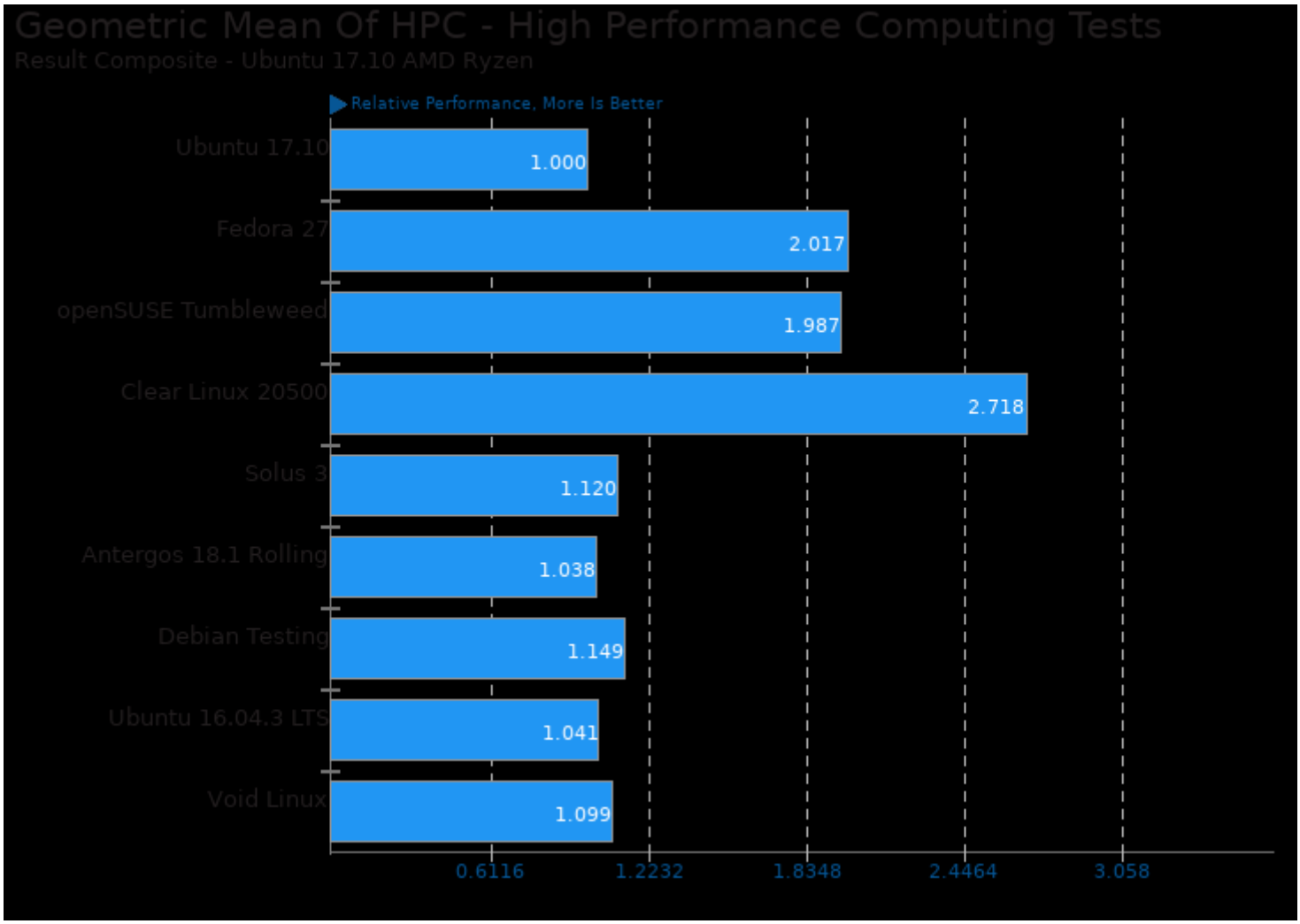
Geometric mean based upon tests: pts/apache, pts/build-linux-kernel, pts/c-ray, pts/compilebench, pts/x264, pts/ebizzy, pts/encode-flac, pts/glibc-bench, pts/hackbench, pts/hmmer, pts/john-the-ripper, pts/nginx, pts/parboil, pts/phpbench, pts/rodinia, pts/stockfish and pts/ttsiod-renderer



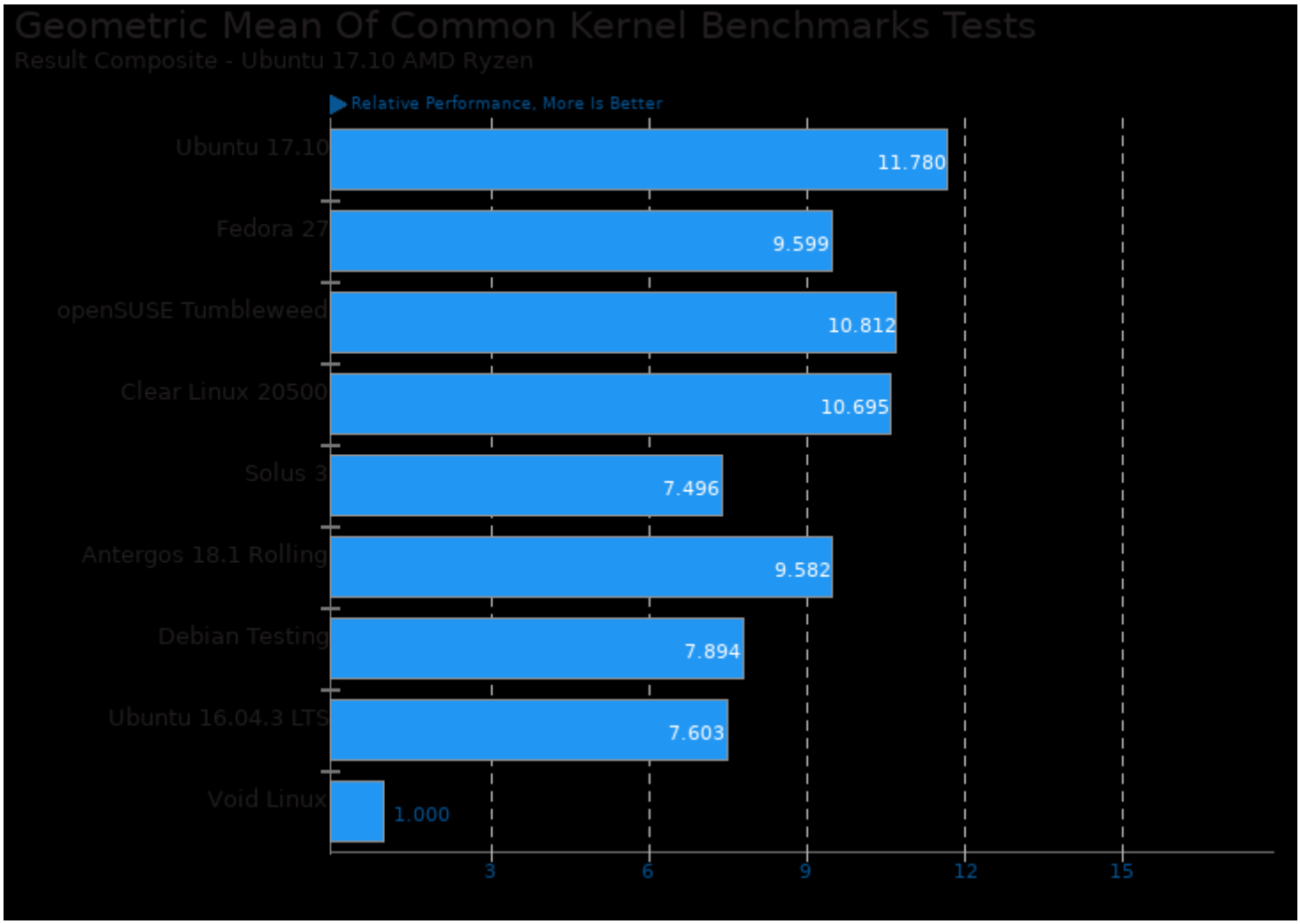
Geometric mean based upon tests: pts/c-ray, pts/ttsiod-renderer, pts/x264, pts/ffmpeg, pts/encode-flac and system/gimp



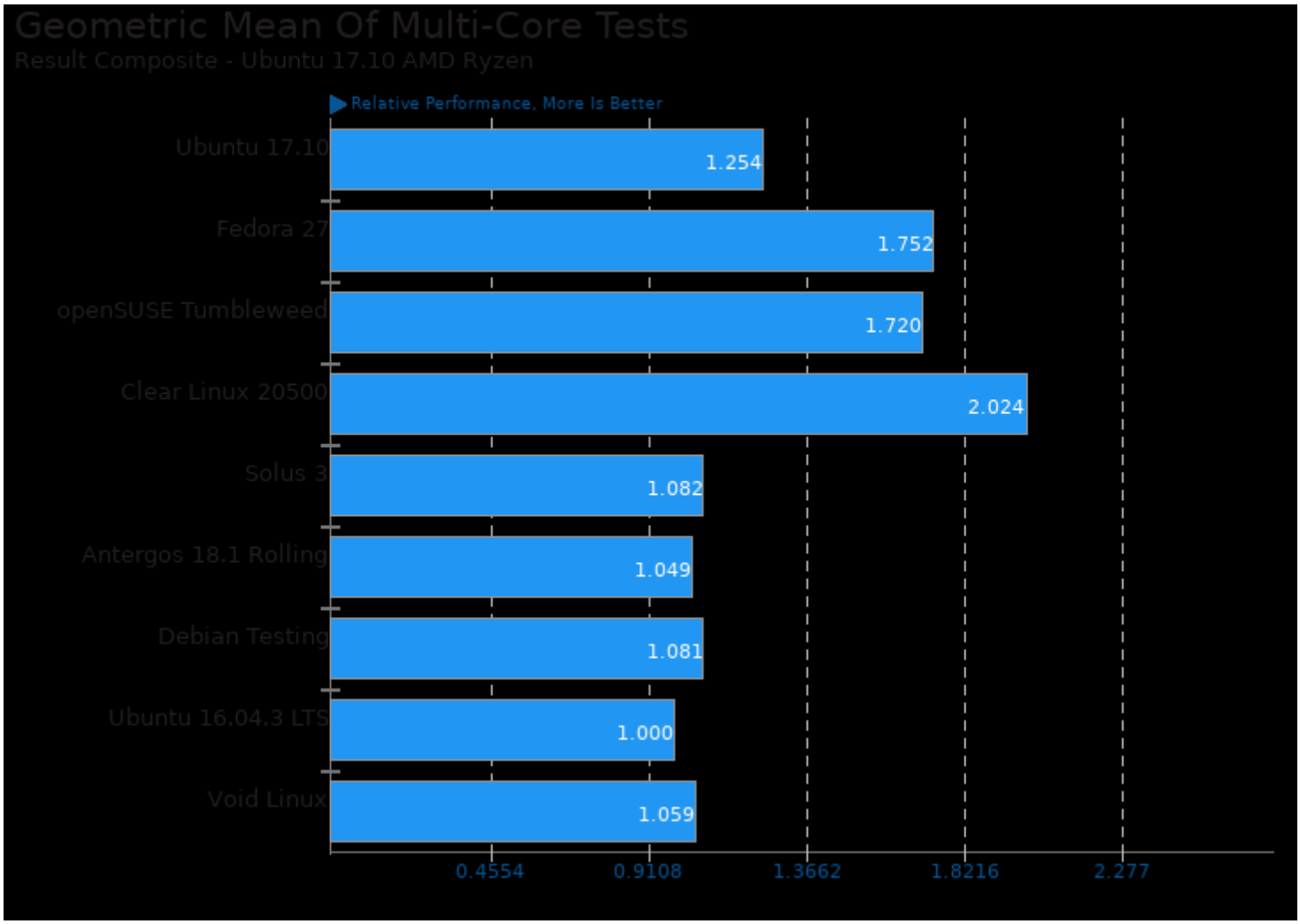
Geometric mean based upon tests: pts/encode-flac, pts/x264 and pts/ffmpeg



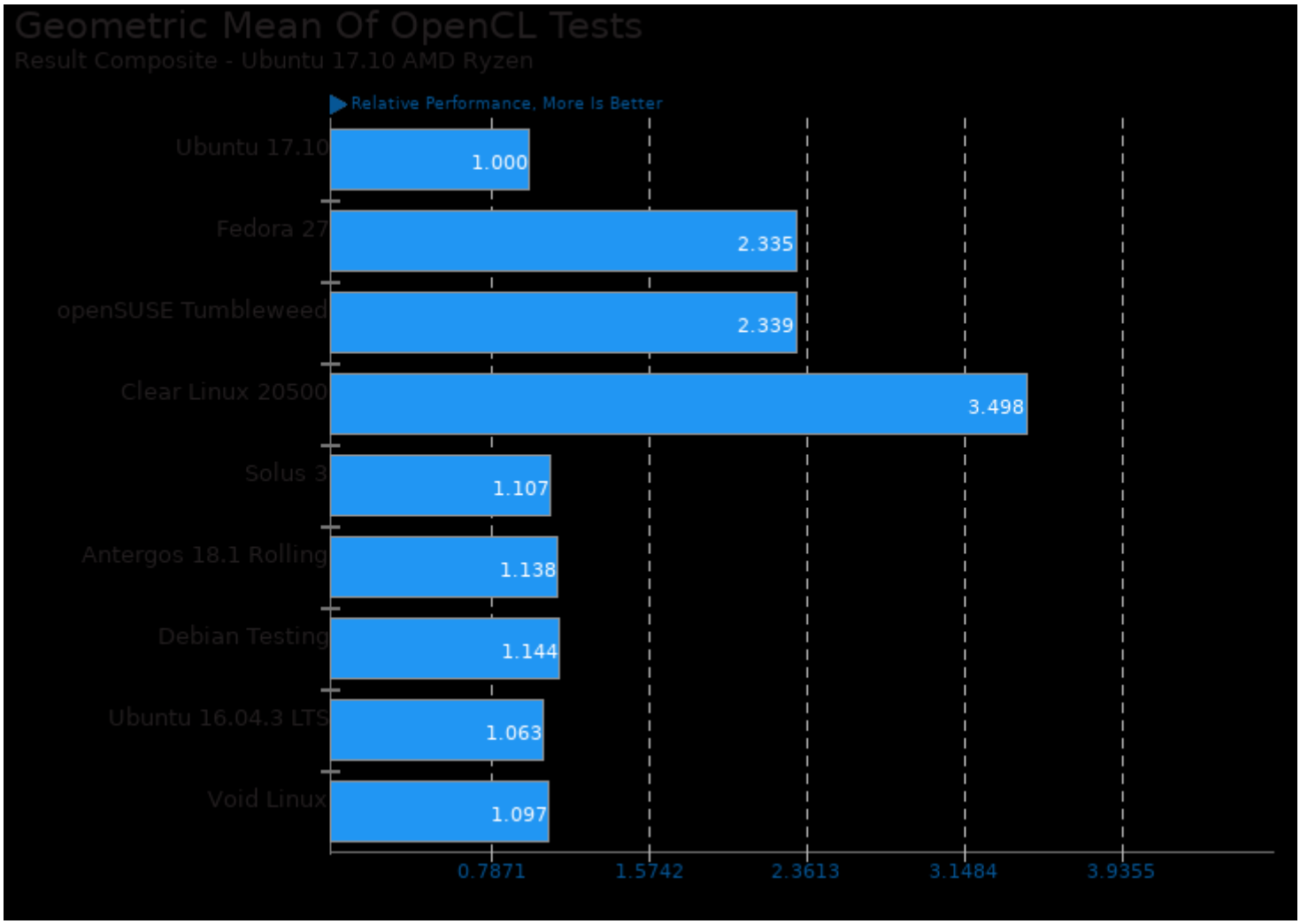
Geometric mean based upon tests: pts/rodinia, pts/parboil and pts/hmmer



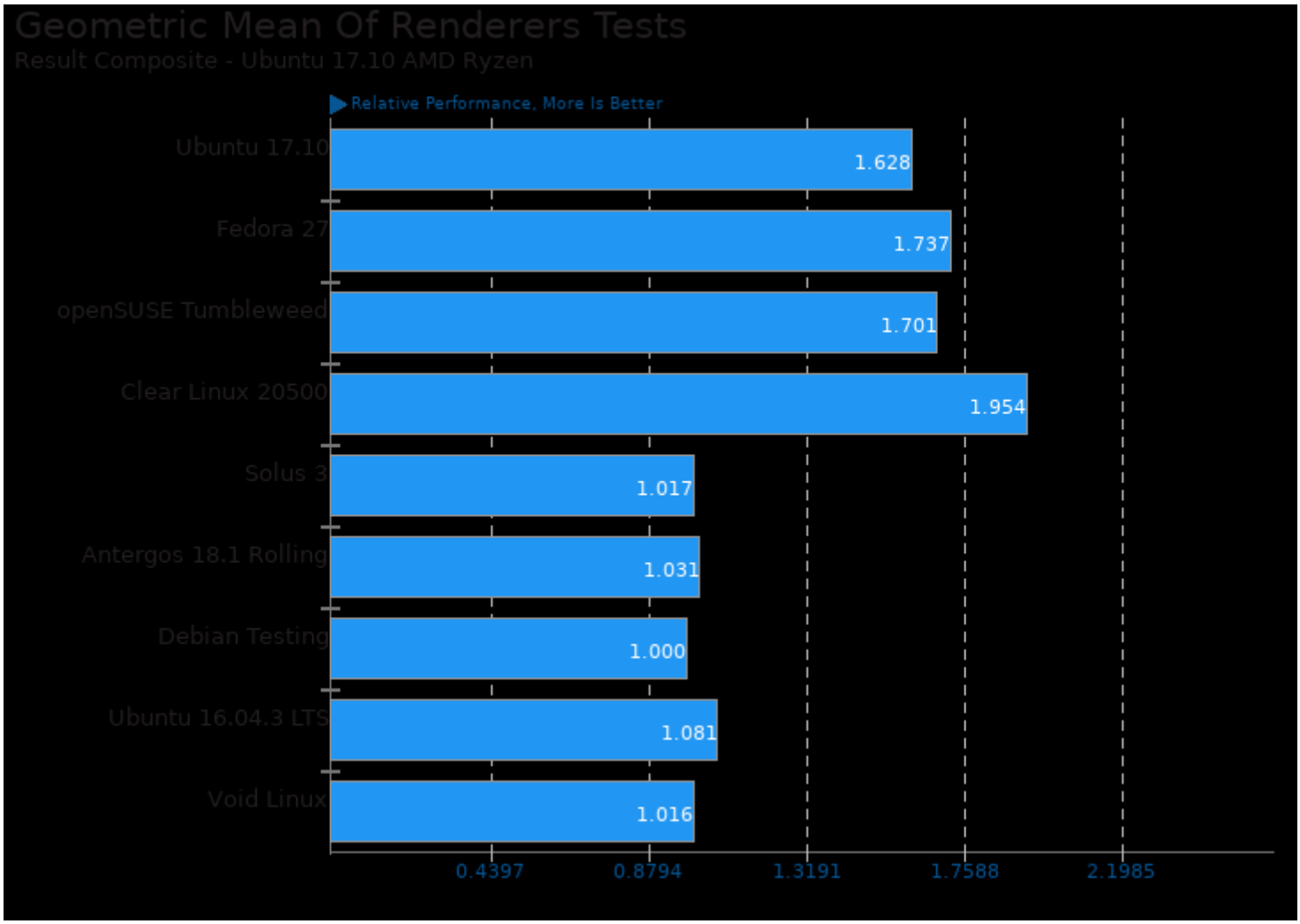
Geometric mean based upon tests: pts/apache and pts/hackbench



Geometric mean based upon tests: pts/c-ray, pts/stockfish, pts/x264, pts/ffmpeg, pts/rodinia, pts/parboil, pts/john-the-ripper, pts/ebizzy, pts/build-linux-kernel and pts/ttsiod-renderer

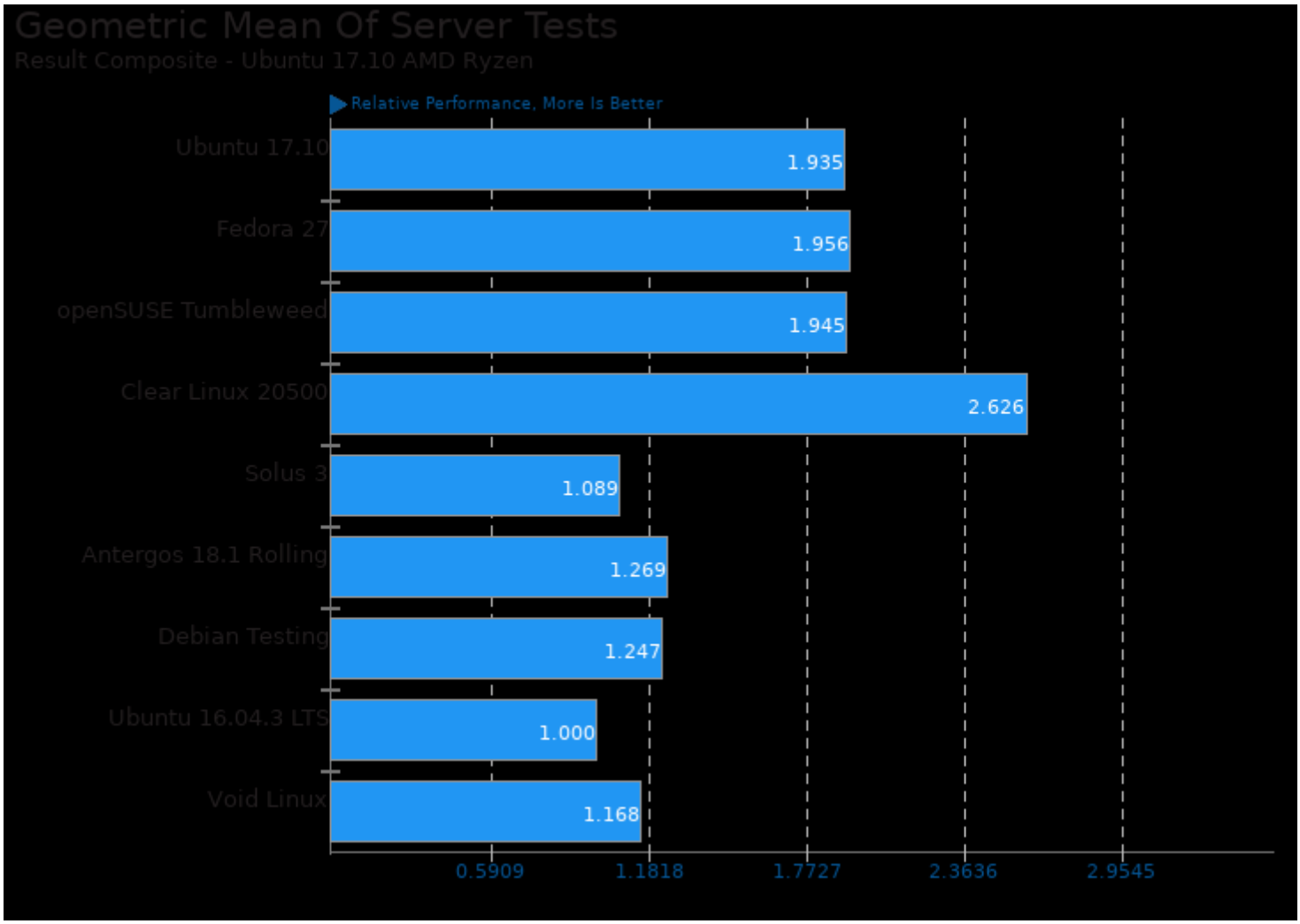


Geometric mean based upon tests: pts/rodinia and pts/parboil

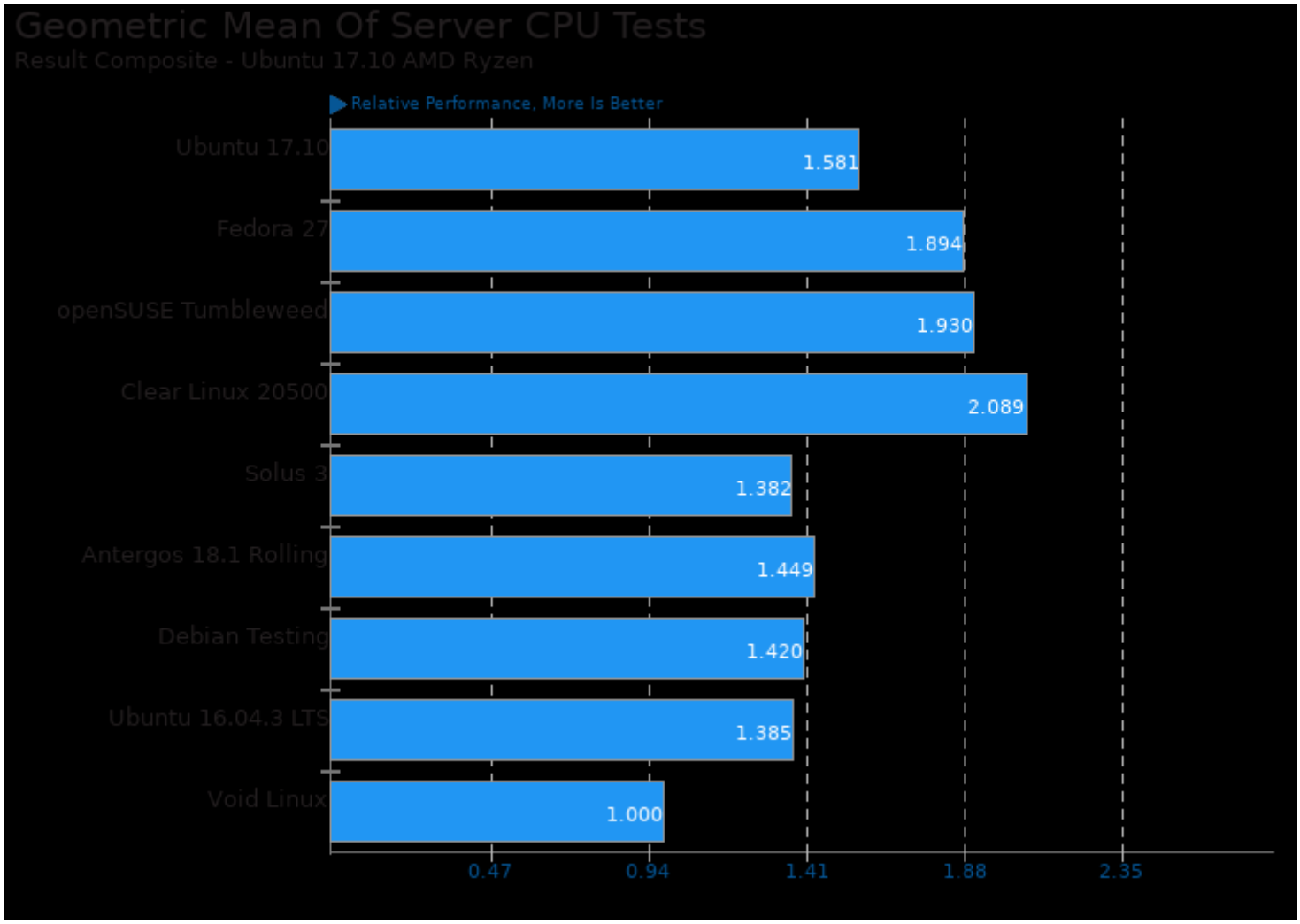


Geometric mean based upon tests: pts/c-ray and pts/ttsiod-renderer

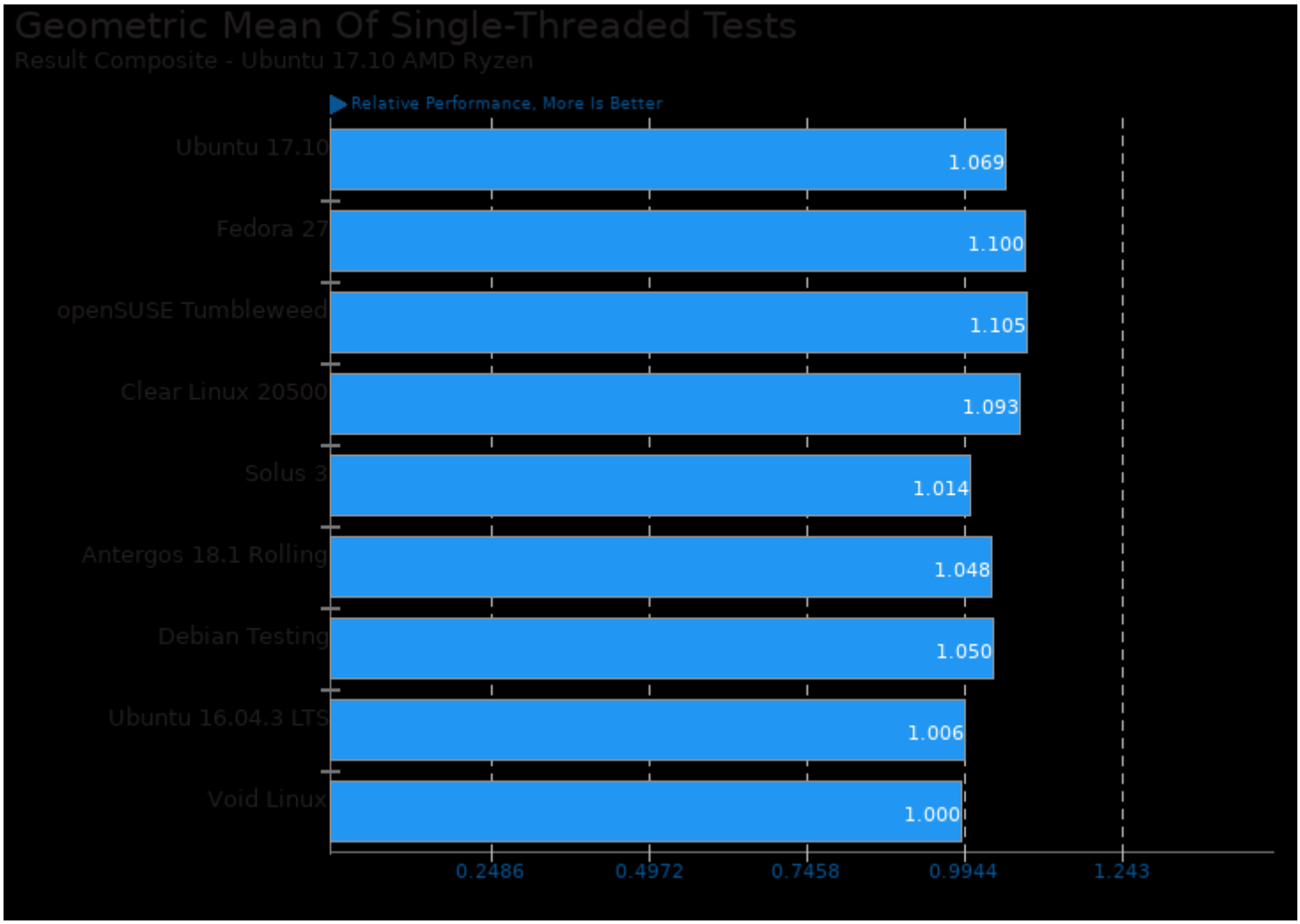
Ubuntu 17.10 AMD Ryzen



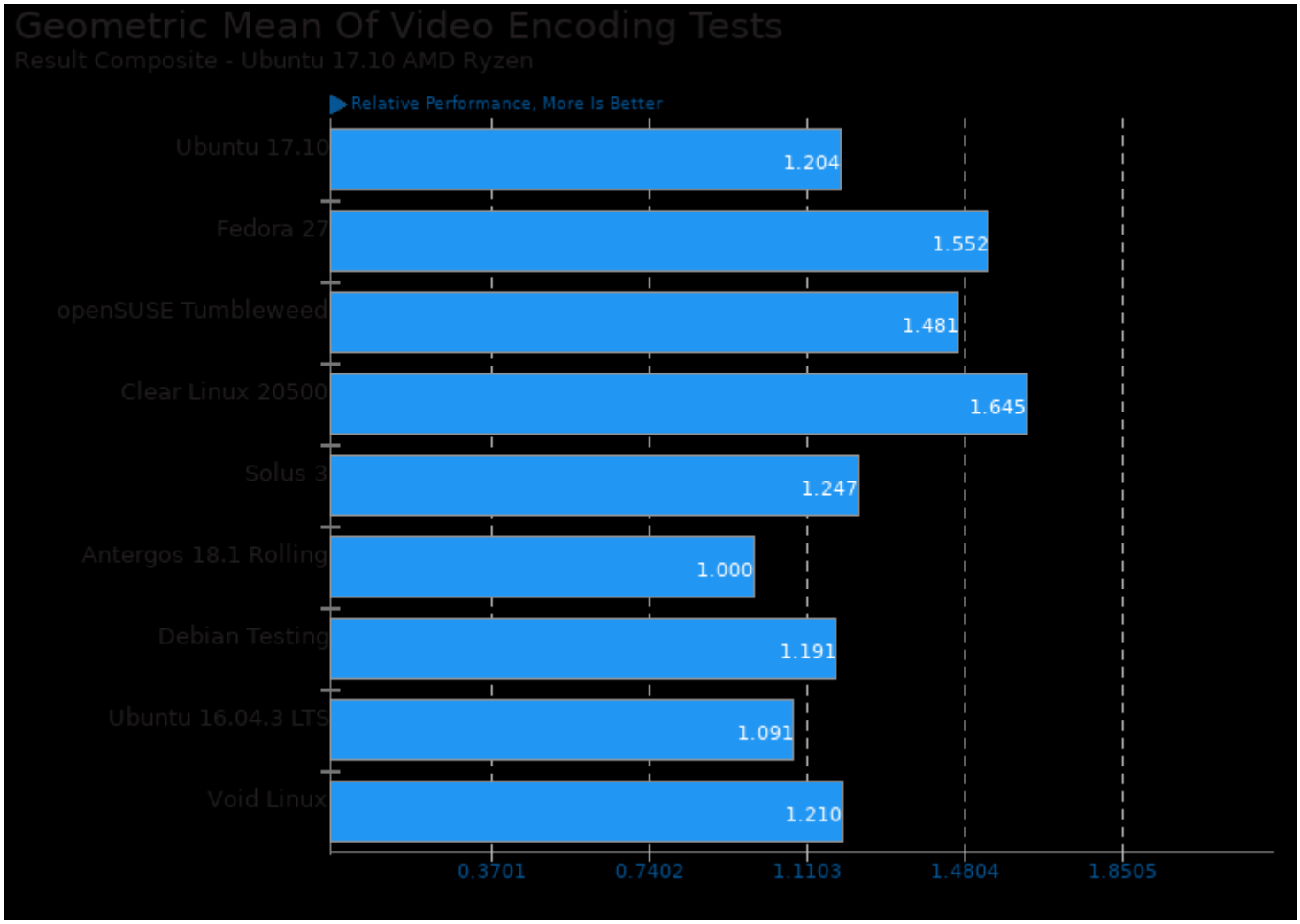
Geometric mean based upon tests: pts/apache, pts/nginx, pts/ebizzy, pts/phpbench and pts/sqlite



Geometric mean based upon tests: pts/rodinia, pts/john-the-ripper, pts/x264, pts/stockfish, pts/build-linux-kernel, pts/c-ray, pts/hackbench, pts/glibc-bench, system/gimp, pts/pybench and pts/phpbench

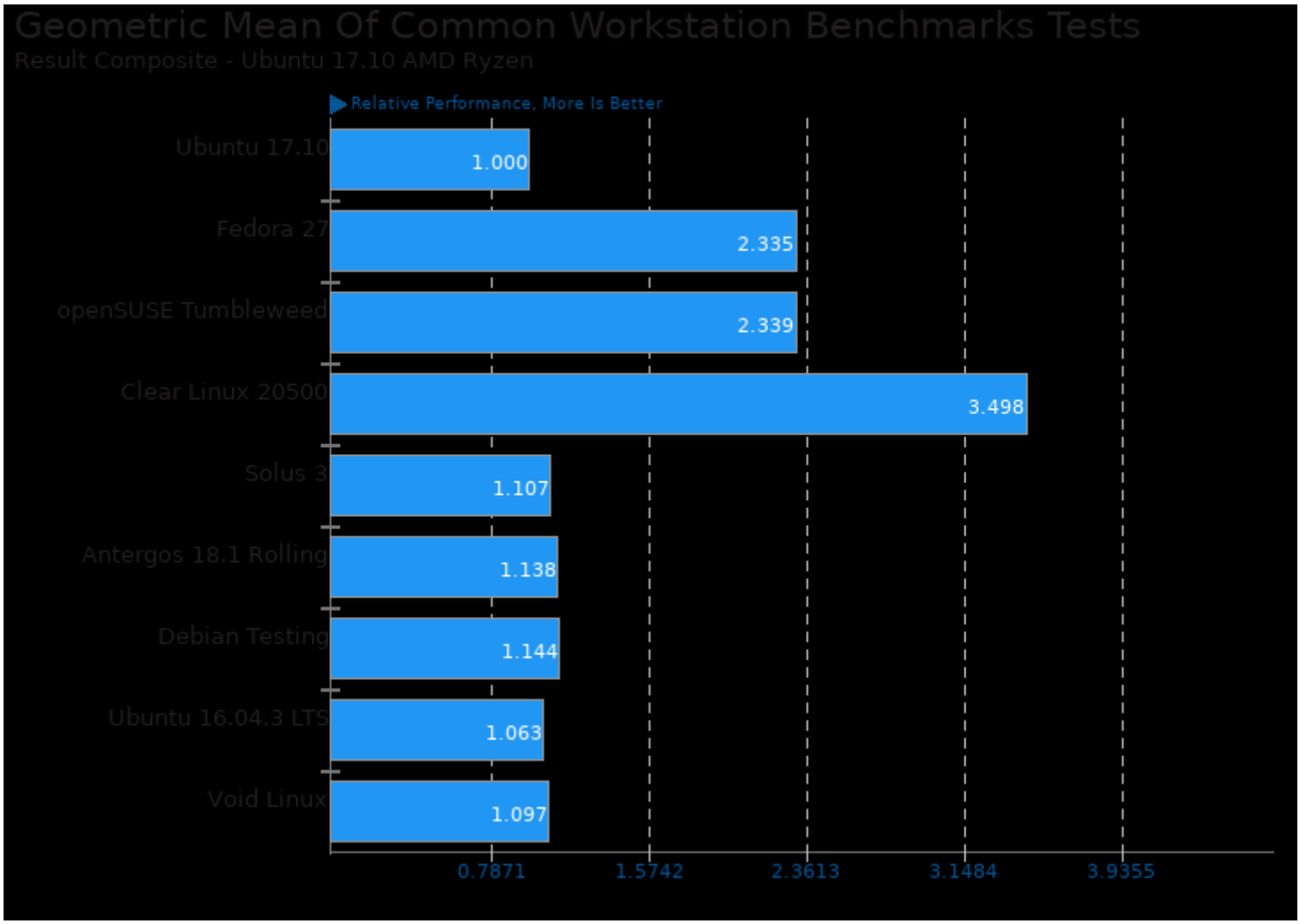


Geometric mean based upon tests: pts/encode-flac, pts/glibc-bench, pts/pybench, pts/phpbench and pts/nginx



Geometric mean based upon tests: pts/x264 and pts/ffmpeg

Ubuntu 17.10 AMD Ryzen



Geometric mean based upon tests: pts/rodinia and pts/parboil

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 15:09.