

www.phoronix-test-suite.com

Ryzen 9 5950X Linux 5.11 Regress Test

AMD Ryzen 9 5950X 16-Core testing with a ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3202 BIOS) and AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

Linux 5.11 Git + Patch had the most wins, coming in first place for 84% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 5.11 Git + Patch) was 1.26x the speed of the slowest (Linux 5.11 Git). Linux 5.10 was 0.926x the speed of Linux 5.11 Git + Patch and Linux 5.11 Git was 0.857x the speed of Linux 5.10.

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

Xonotic (Resolution: 3840 x 2160 - Effects Quality: High) at 1.853x
x265 (Video Input: Bosphorus 1080p) at 1.852x
Xonotic (Resolution: 3840 x 2160 - Effects Quality: Ultra) at 1.823x
dav1d (Video Input: Summer Nature 1080p) at 1.694x
Xonotic (Resolution: 3840 x 2160 - Effects Quality: Ultimate) at 1.628x
rav1e (Speed: 10) at 1.488x
Tesseract (Resolution: 3840 x 2160) at 1.203x
Selenium (Benchmark: PSPDFKit WASM - Browser: Firefox) at 1.201x

Selenium (Benchmark: Jetstream 2 - Browser: Firefox) at 1.191x
x265 (Video Input: Bosphorus 4K) at 1.13x.

Test Systems:

Linux 5.10

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3202 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600 + 2000GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.10.9-051009-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 21.0.0-devel (git-f01bca8 2021-01-08 groovy-oibaf-ppa) (LLVM 11.0.1), Vulkan: 1.2.164, Compiler: GCC 10.2.0, 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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Graphics Notes: GLAMOR
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Linux 5.11 Git

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3202 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600 + 2000GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.11.0-051100rc4daily20210121-generic (x86_64) 20210120, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 21.0.0-devel (git-f01bca8 2021-01-08 groovy-oibaf-ppa) (LLVM 11.0.1), Vulkan: 1.2.164, Compiler: GCC 10.2.0, 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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Graphics Notes: GLAMOR
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW

Ryzen 9 5950X Linux 5.11 Regress Test

STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Linux 5.11 Git + Patch

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3202 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600 + 2000GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.11.0-rc4-max-boost-inv-patch (x86_64) 20210121, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 21.0.0-devel (git-f01bca8 2021-01-08 groovy-oibaf-ppa) (LLVM 11.0.1), Vulkan: 1.2.164, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

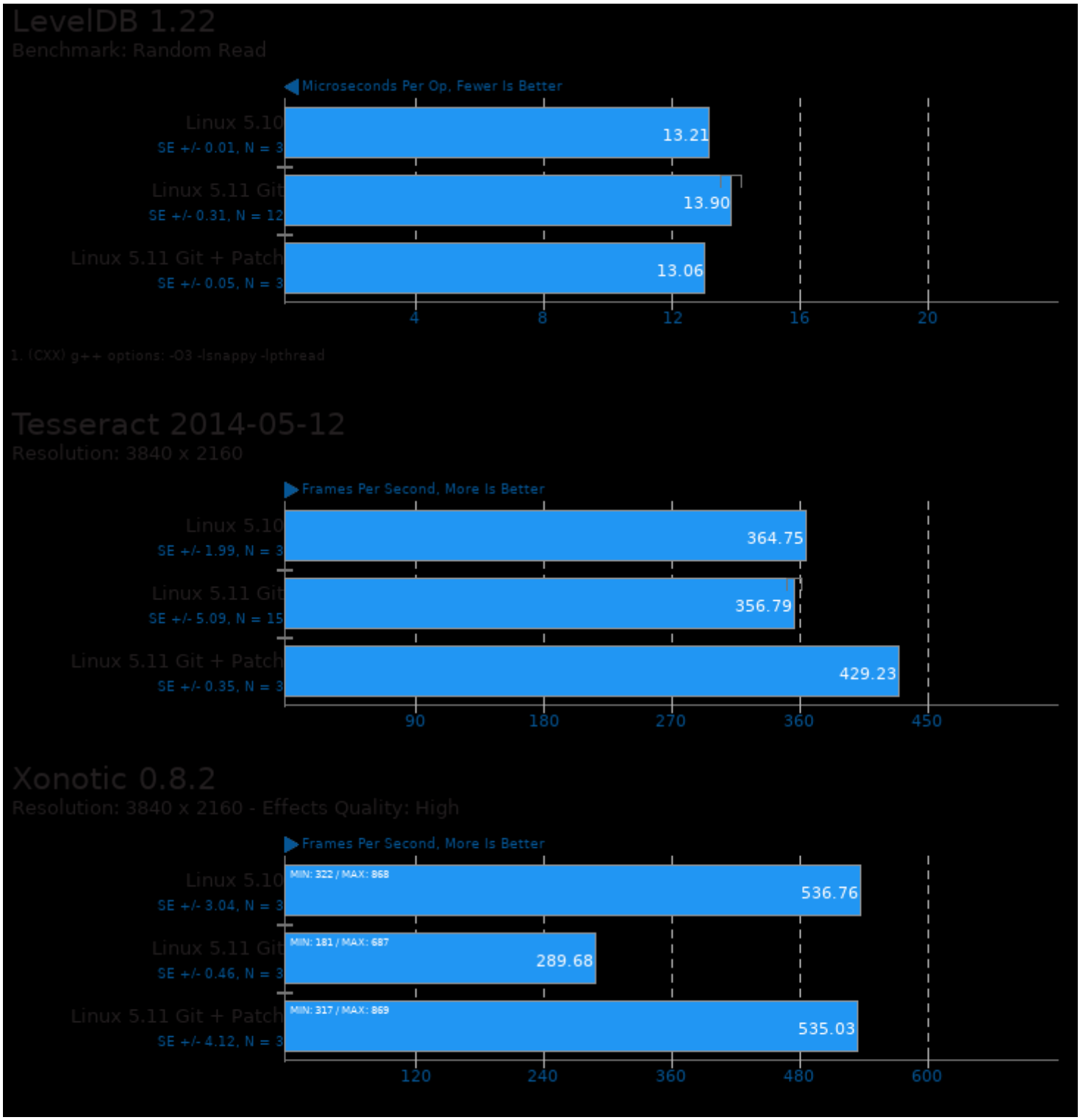
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Graphics Notes: GLAMOR
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Linux 5.10	Linux 5.11 Git	Linux 5.11 Git +
LevelDB - Rand Read (us/Op)	13.208	**13.902**	**13.057**
Normalized	98.86%	93.92%	100%
Standard Deviation	0.2%	7.6%	0.7%
Tesseract - 3840 x 2160 (FPS)	364.7529	**356.7933**	**429.2285**
Normalized	84.98%	83.12%	100%
Standard Deviation	0.9%	5.5%	0.1%
Xonotic - 3840 x 2160 - High (FPS)	**536.7567860**	**289.6838220**	535.0288151
Normalized	100%	53.97%	99.68%
Standard Deviation	1%	0.3%	1.3%
Xonotic - 3840 x 2160 - Ultra (FPS)	469.0778450	**259.8205225**	**473.6736132**
Normalized	99.03%	54.85%	100%
Standard Deviation	1.1%	0.9%	0.9%
Xonotic - 3840 x 2160 - Ultimate (FPS)	374.1388386	**232.5518100**	**378.5183088**
Normalized	98.84%	61.44%	100%
Standard Deviation	0.3%	1.2%	0.2%
WebP Image Encode - Q.1.L (Encode Time - sec)	12.731	**12.935**	**12.706**
Normalized	99.8%	98.23%	100%
Standard Deviation	2.1%	1.1%	2.5%
dav1d - Summer Nature 4K (FPS)	238.32	**234.33**	**241.78**
Normalized	98.57%	96.92%	100%
Standard Deviation	0.1%	0.6%	0.2%
dav1d - S.N.1 (FPS)	564.27	**541.53**	**917.42**
Normalized	61.51%	59.03%	100%

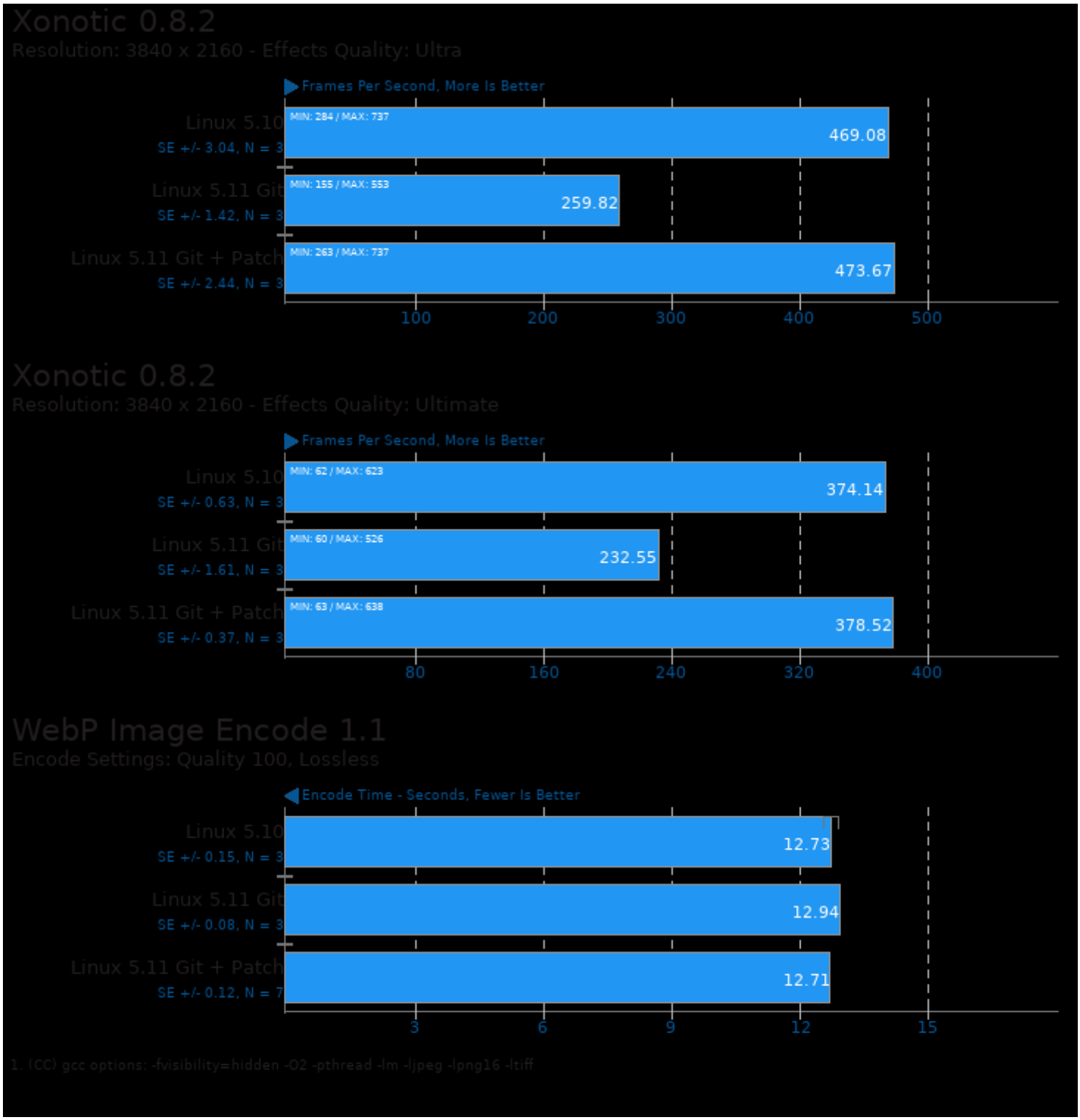
Ryzen 9 5950X Linux 5.11 Regress Test

Standard Deviation	2.4%	0.4%	1.9%
rav1e - 6 (FPS)	2.068	**1.971**	**2.192**
Normalized	94.34%	89.92%	100%
Standard Deviation	1.5%	0.7%	0.2%
rav1e - 10 (FPS)	4.497	**3.380**	**5.029**
Normalized	89.42%	67.21%	100%
Standard Deviation	1.8%	1.5%	0.4%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	50.580	**49.400**	**51.886**
Normalized	97.48%	95.21%	100%
Standard Deviation	0.9%	1.4%	0.8%
x265 - Bosphorus 4K (FPS)	27.26	**24.79**	**28.02**
Normalized	97.29%	88.47%	100%
Standard Deviation	0.2%	1%	0.5%
x265 - Bosphorus 1080p (FPS)	64.69	**48.19**	**89.25**
Normalized	72.48%	53.99%	100%
Standard Deviation	2.2%	0.3%	0.7%
Intel Open Image Denoise - Memorial (Images / Sec)	**14.53**	**12.84**	14.50
Normalized	100%	88.37%	99.79%
Standard Deviation	0.2%	17.3%	0.1%
Gcrypt Library (sec)	170.571	**172.033**	**168.817**
Normalized	98.97%	98.13%	100%
Standard Deviation	1.4%	0.4%	2.2%
RawTherapee - T.B.T (sec)	**46.980**	46.877	**46.378**
Normalized	98.72%	98.94%	100%
Standard Deviation	0.5%	0%	0.1%
Basemark GPU - OpenGL - 3840 x 2160 - Medium (FPS)	**223.73**	**207.98**	222.59
Normalized	100%	92.96%	99.49%
Standard Deviation	7.6%	1.5%	8.6%
Selenium - Jetstream 2 - Firefox (Score)	85.688	**79.424**	**94.619**
Normalized	90.56%	83.94%	100%
Standard Deviation	1.1%	2.4%	1.5%
Selenium - PSPDFKit WASM - Firefox (Score)	3172	**3419**	**2847**
Normalized	89.75%	83.27%	100%
Standard Deviation	1.3%	0.4%	0.6%

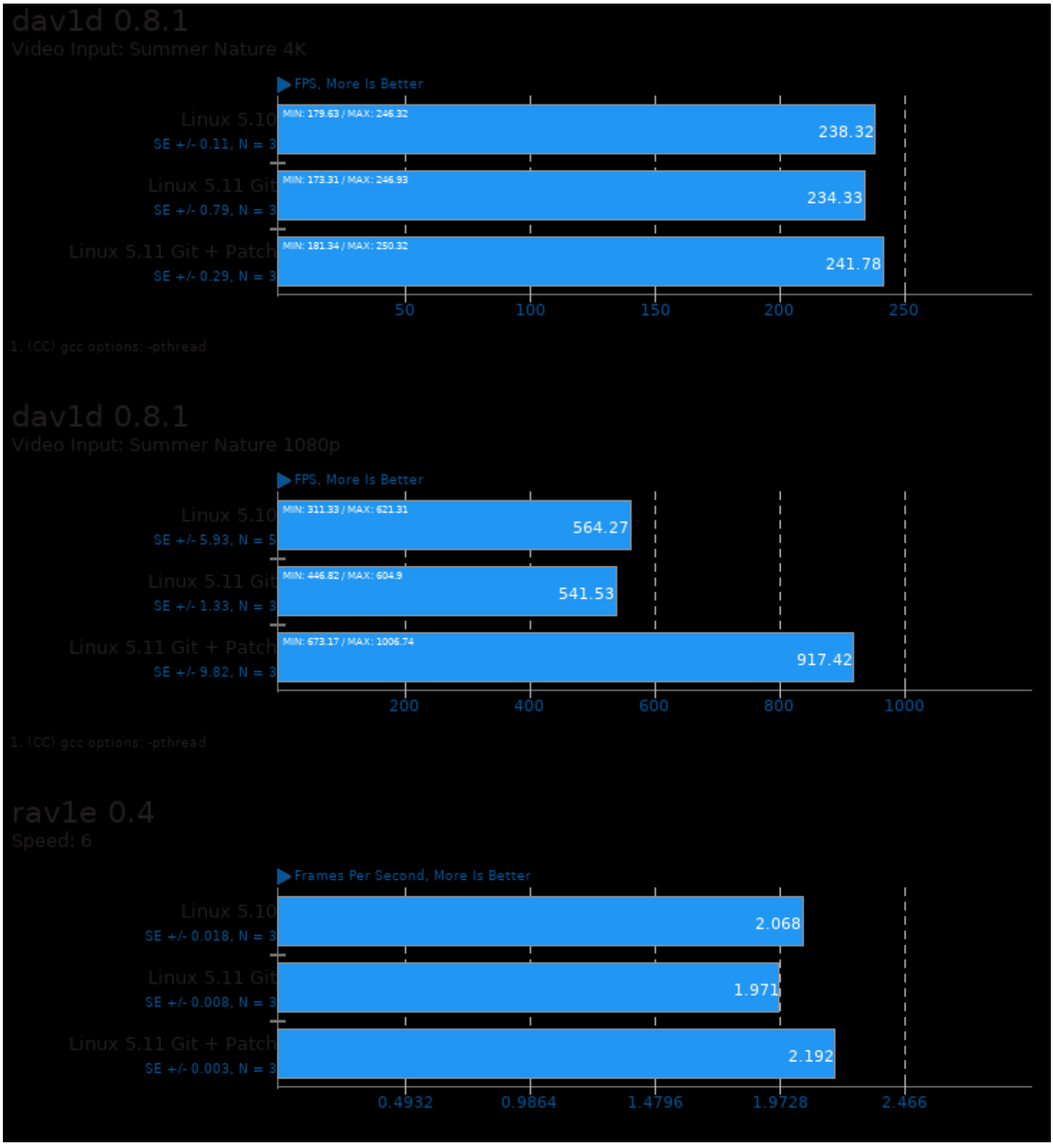
Ryzen 9 5950X Linux 5.11 Regress Test



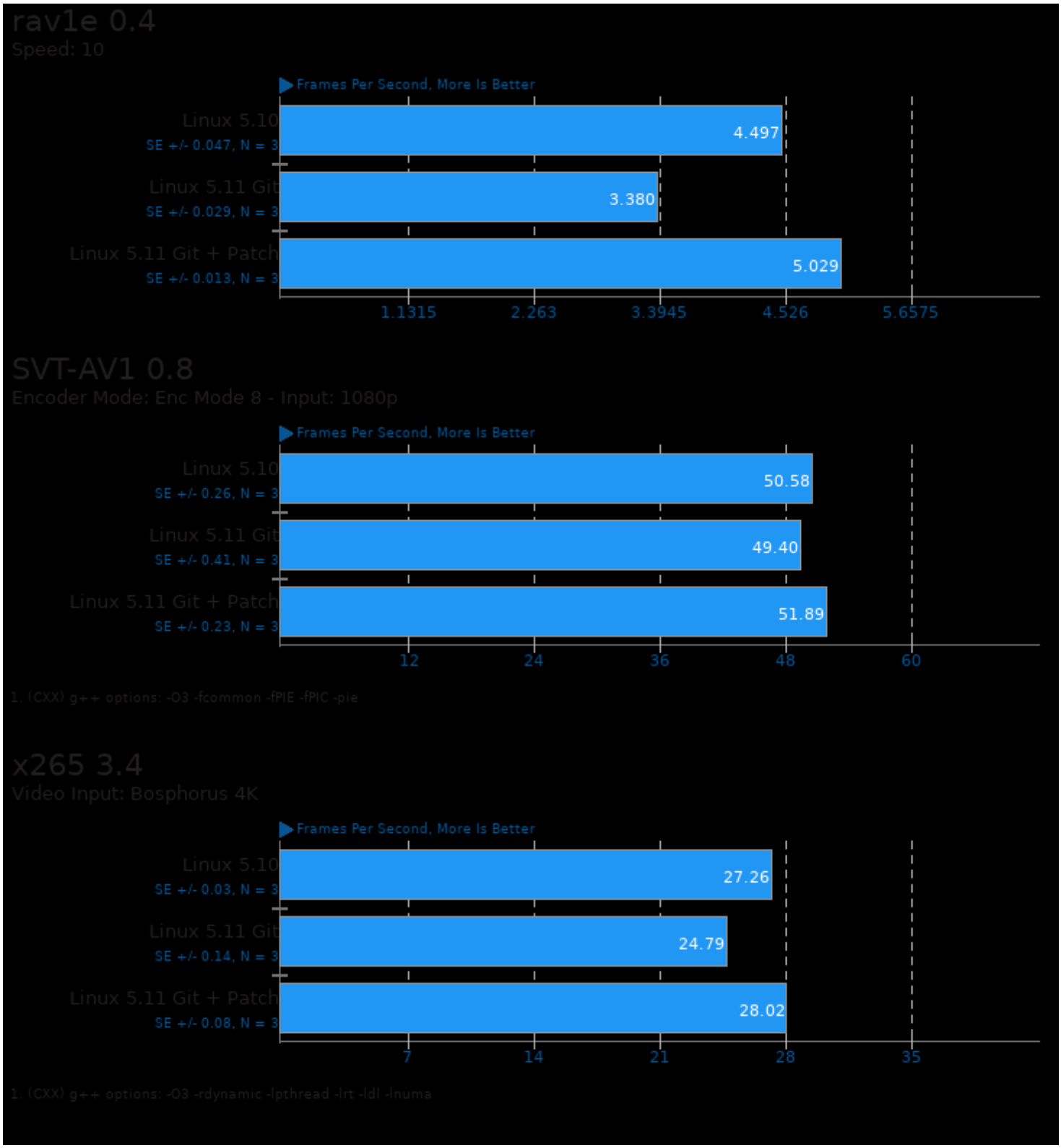
Ryzen 9 5950X Linux 5.11 Regress Test



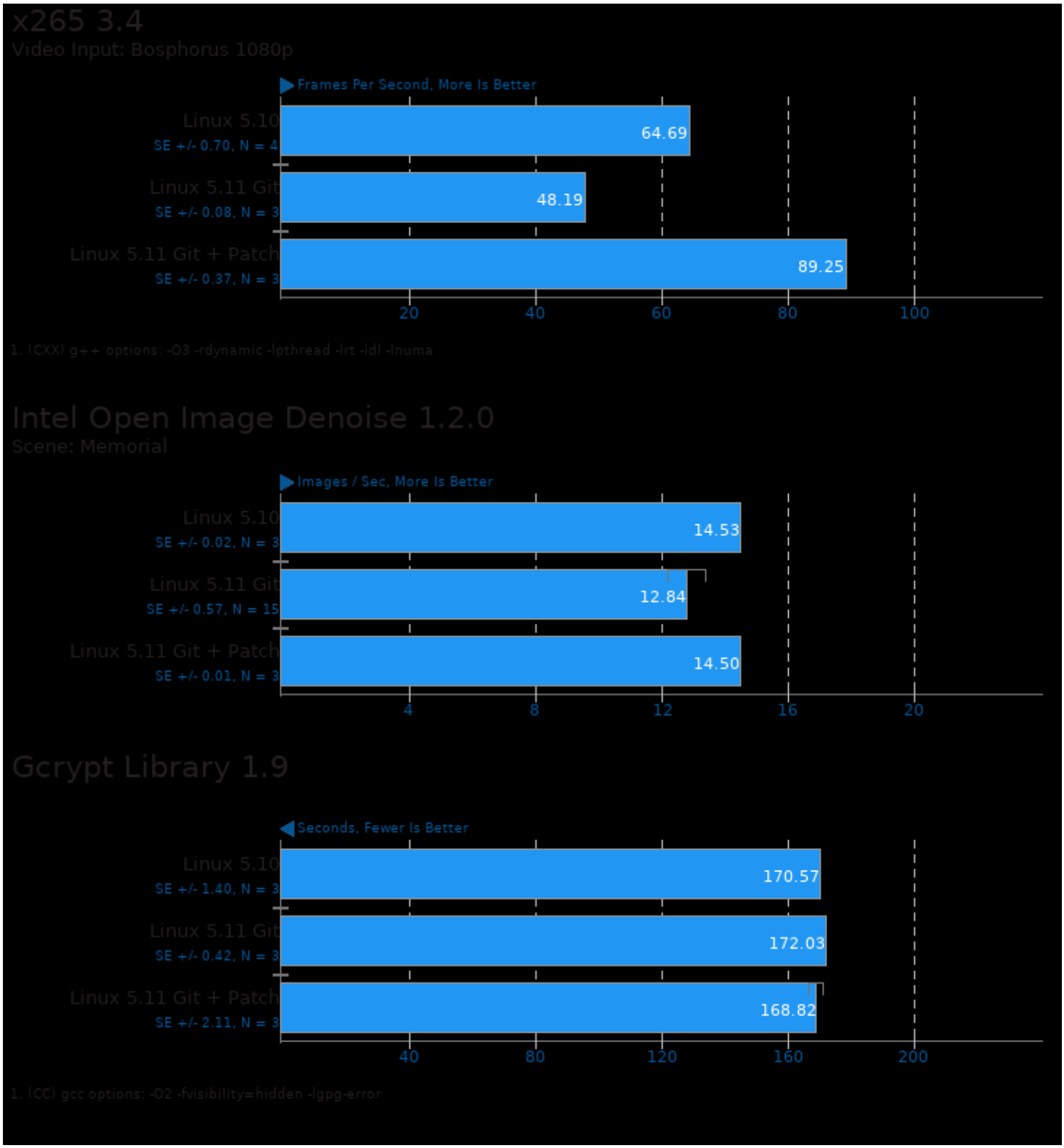
Ryzen 9 5950X Linux 5.11 Regress Test



Ryzen 9 5950X Linux 5.11 Regress Test



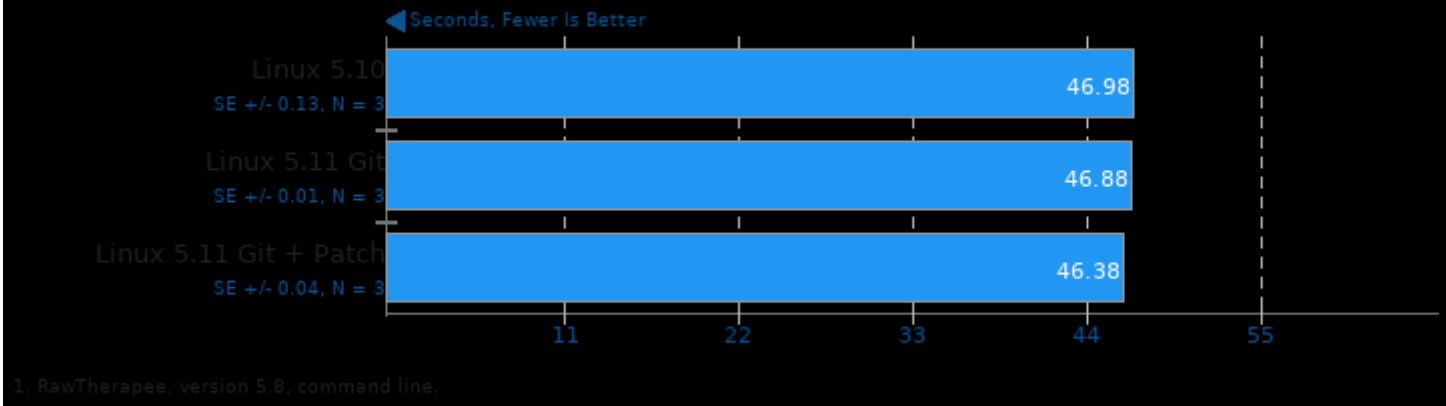
Ryzen 9 5950X Linux 5.11 Regress Test



Ryzen 9 5950X Linux 5.11 Regress Test

RawTherapee

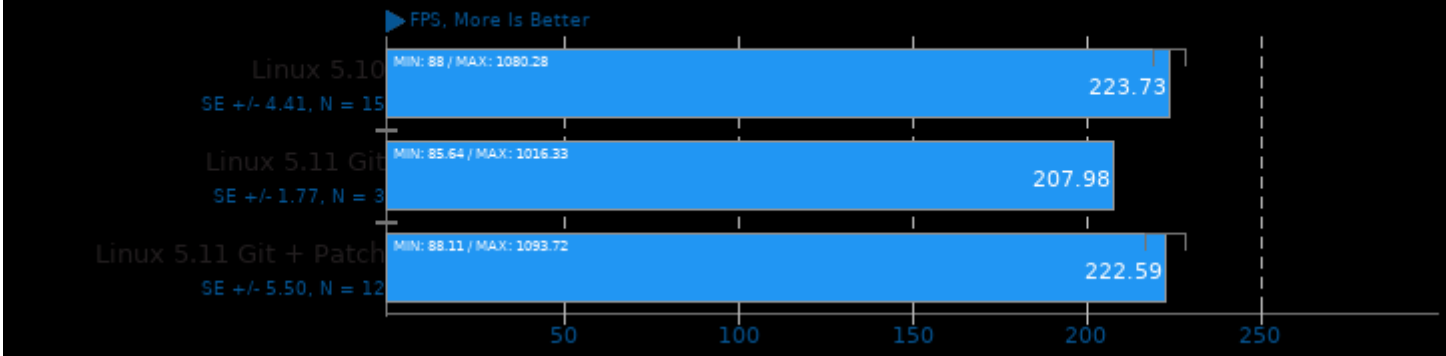
Total Benchmark Time



1. RawTherapee, version 5.8, command line.

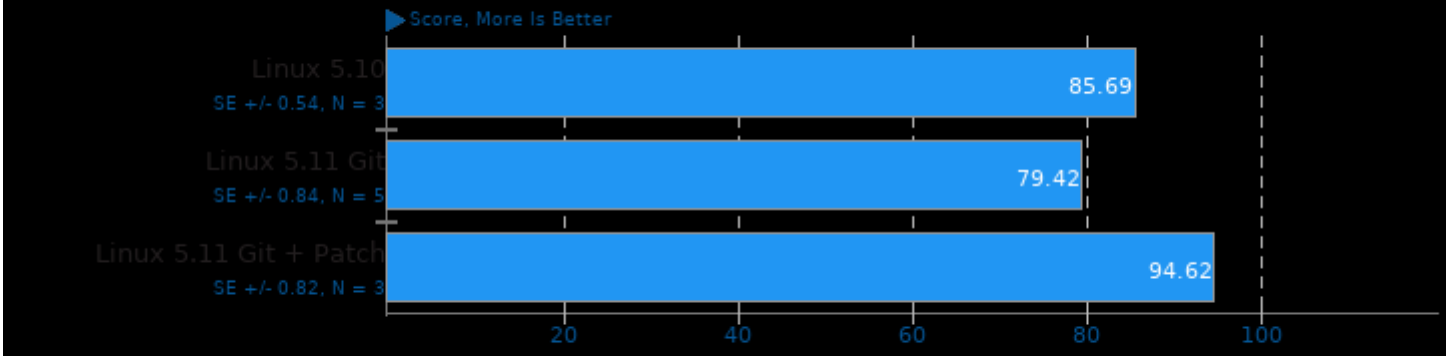
Basemark GPU 1.2

Renderer: OpenGL - Resolution: 3840 x 2160 - Graphics Preset: Medium



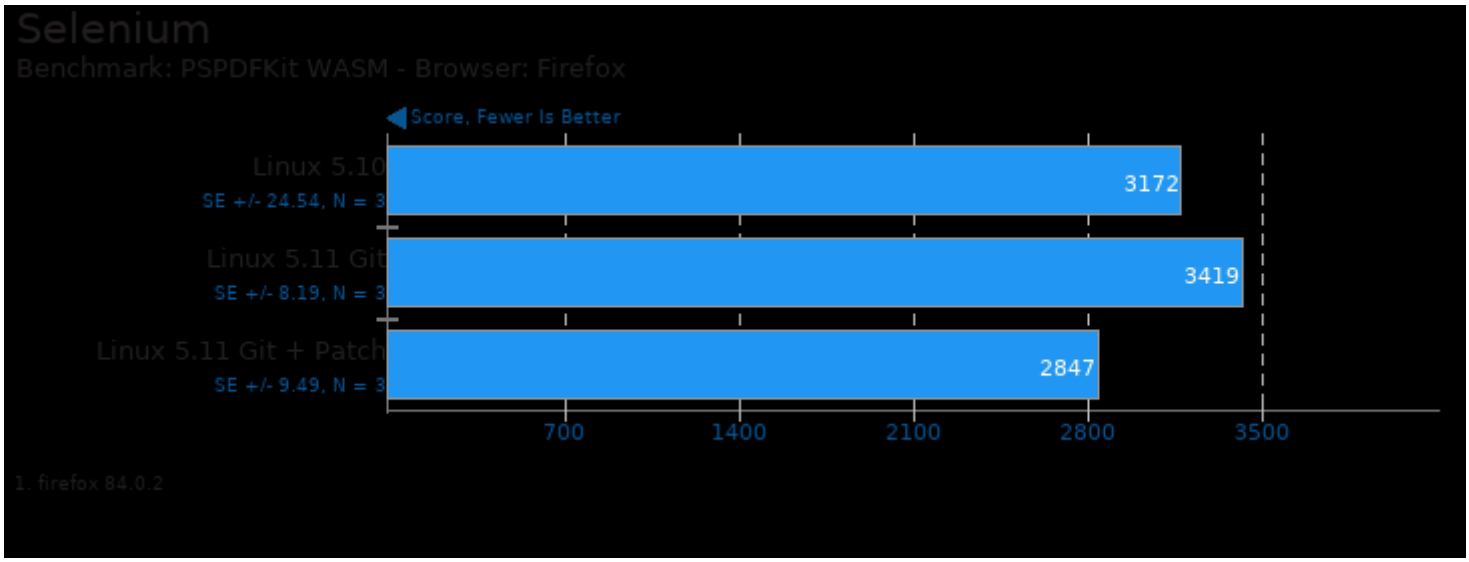
Selenium

Benchmark: Jetstream 2 - Browser: Firefox



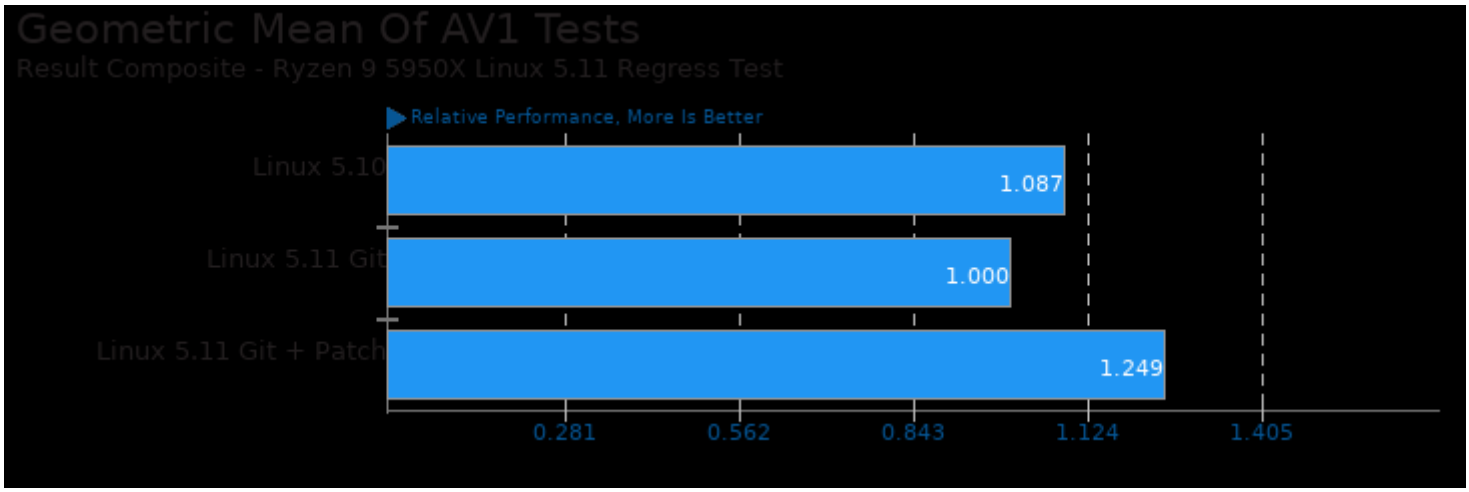
1. firefox 84.0.2

Ryzen 9 5950X Linux 5.11 Regress Test

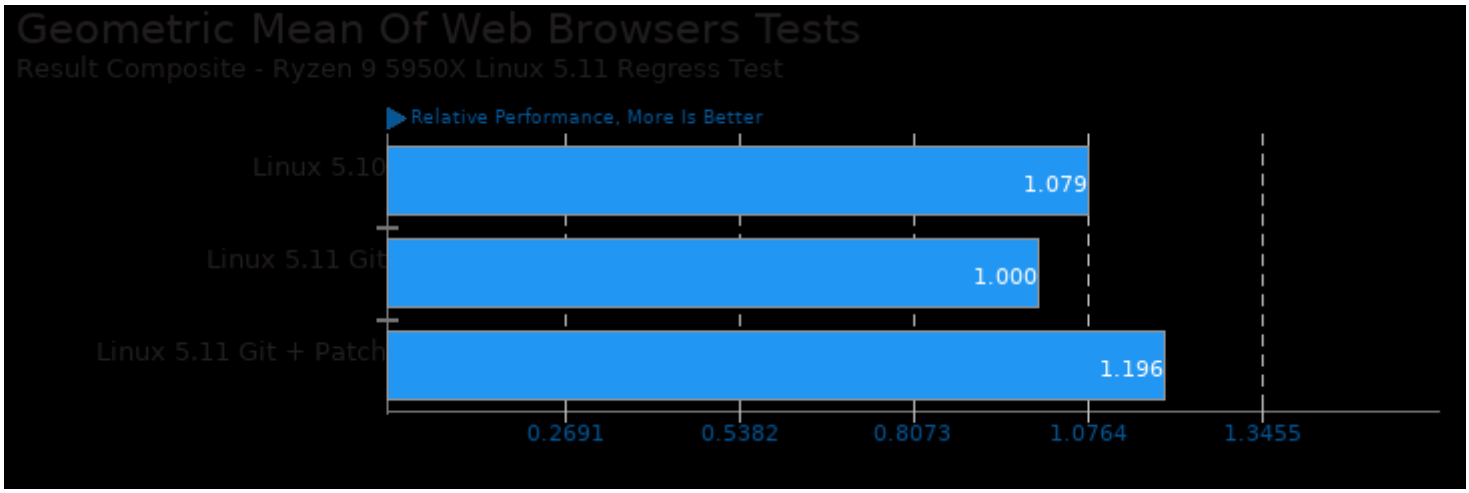


Ryzen 9 5950X Linux 5.11 Regress Test

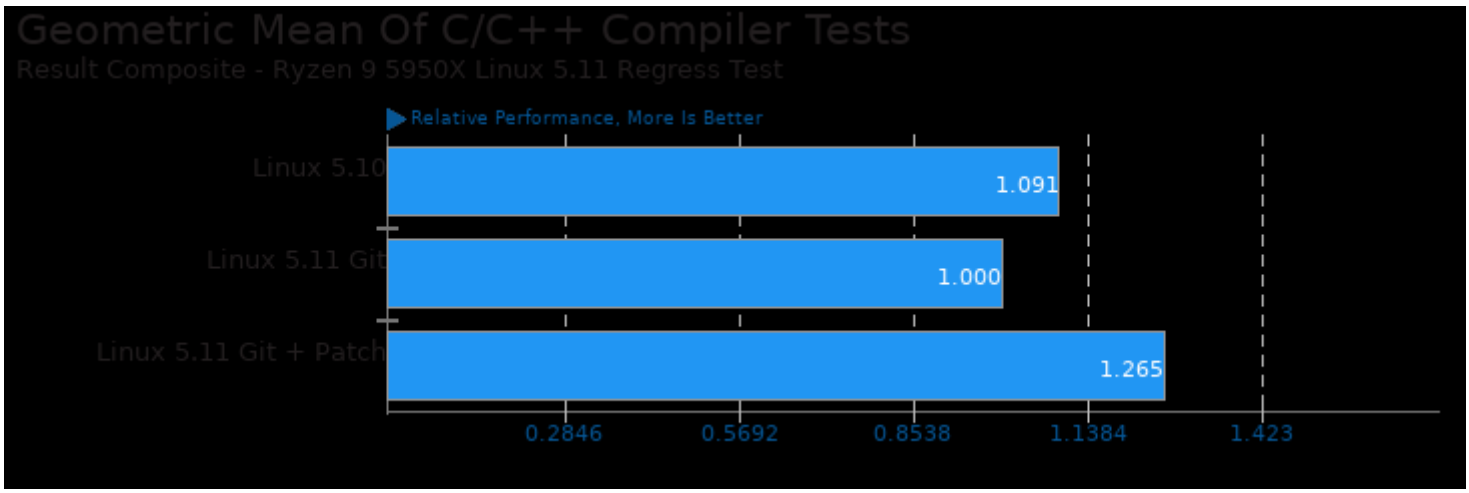
These geometric means are based upon test groupings / test suites for this result file.



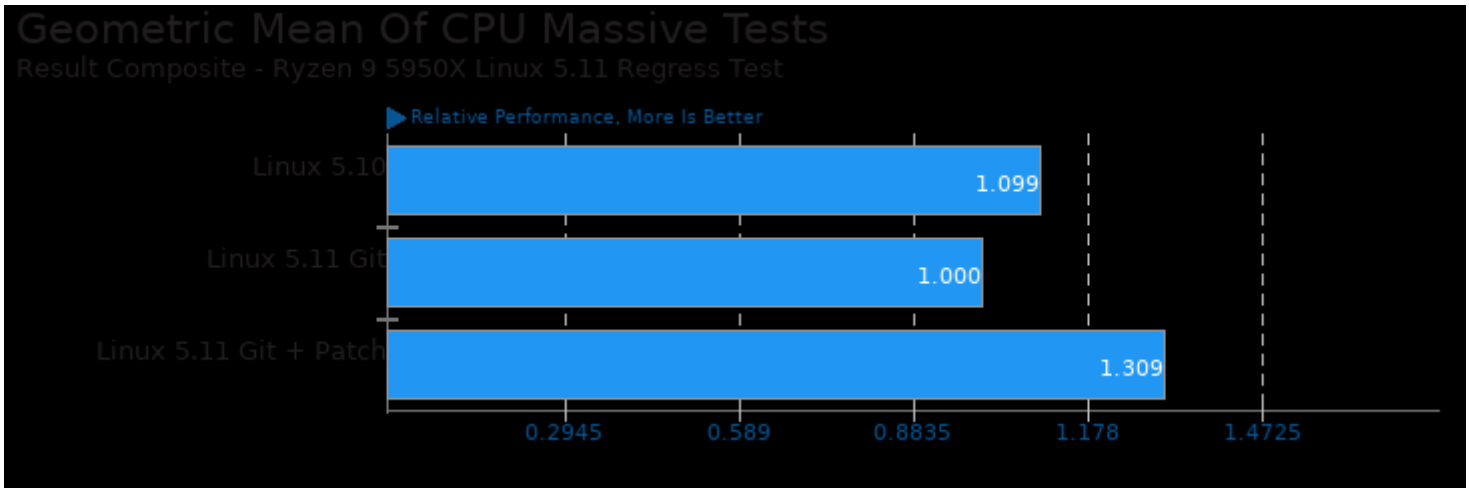
Geometric mean based upon tests: pts/dav1d, pts/svt-av1 and pts/rav1e



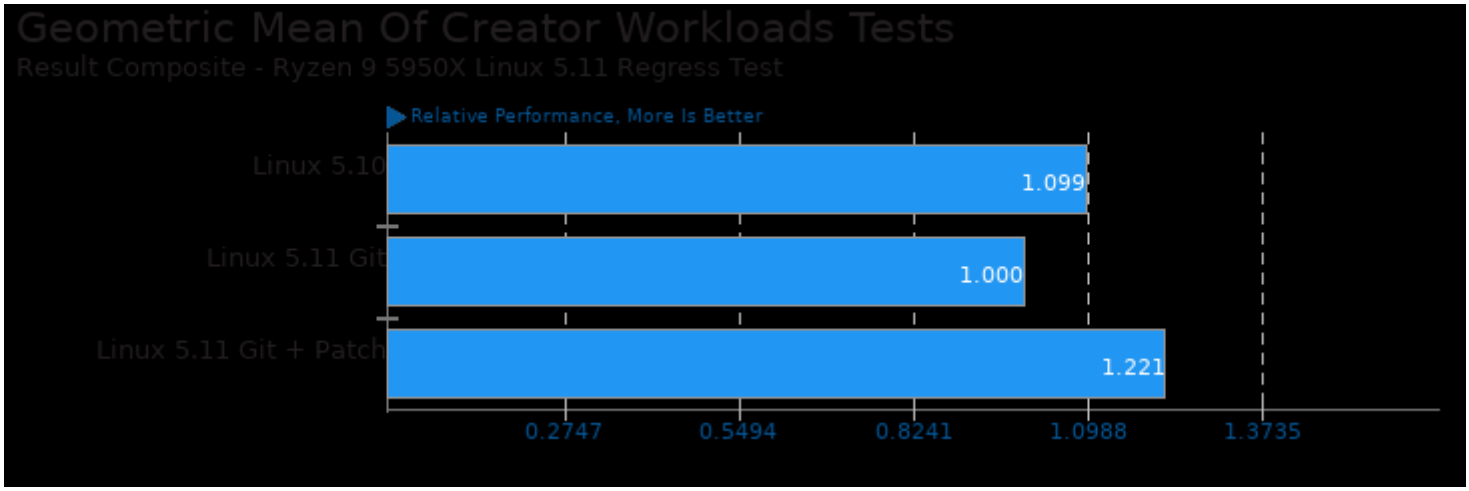
Geometric mean based upon tests: system/selenium



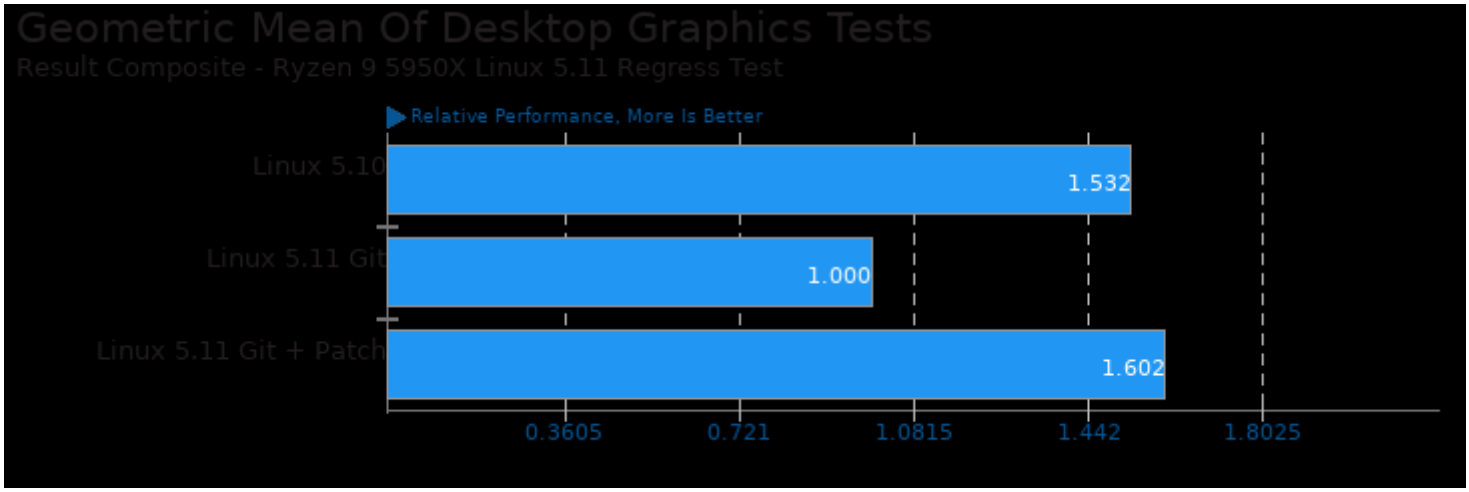
Geometric mean based upon tests: pts/dav1d, pts/x265, pts/svt-av1 and pts/leveldb



Geometric mean based upon tests: pts/dav1d, pts/svt-av1 and pts/x265

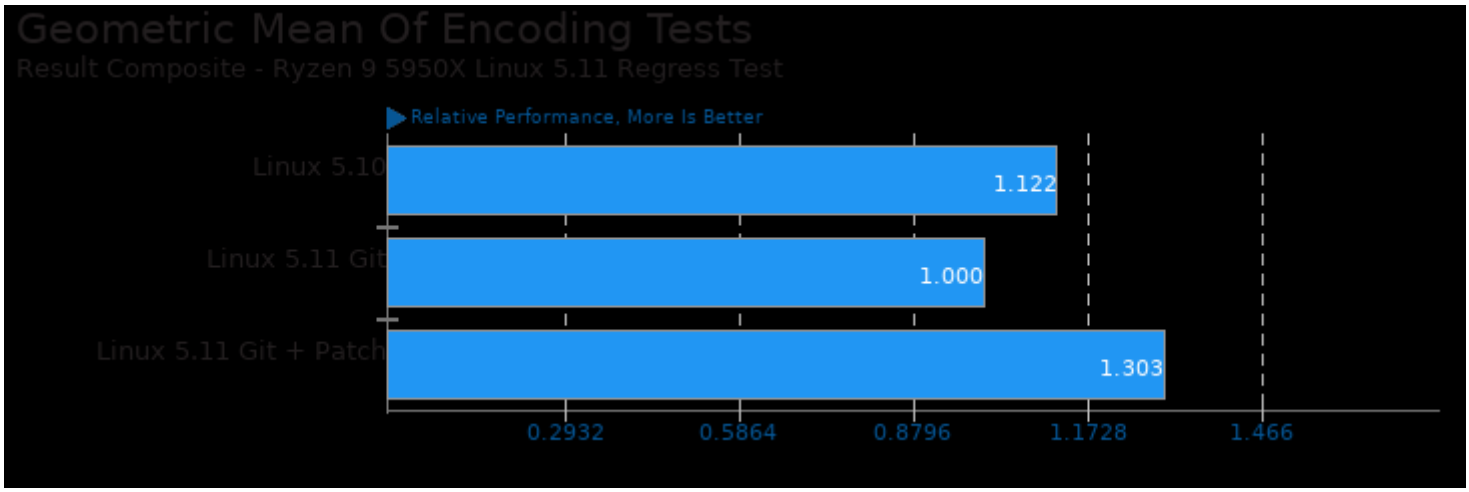


Geometric mean based upon tests: pts/x265, pts/dav1d, pts/svt-av1, pts/rav1e, pts/webp, system/rawtherapee and pts/oidn

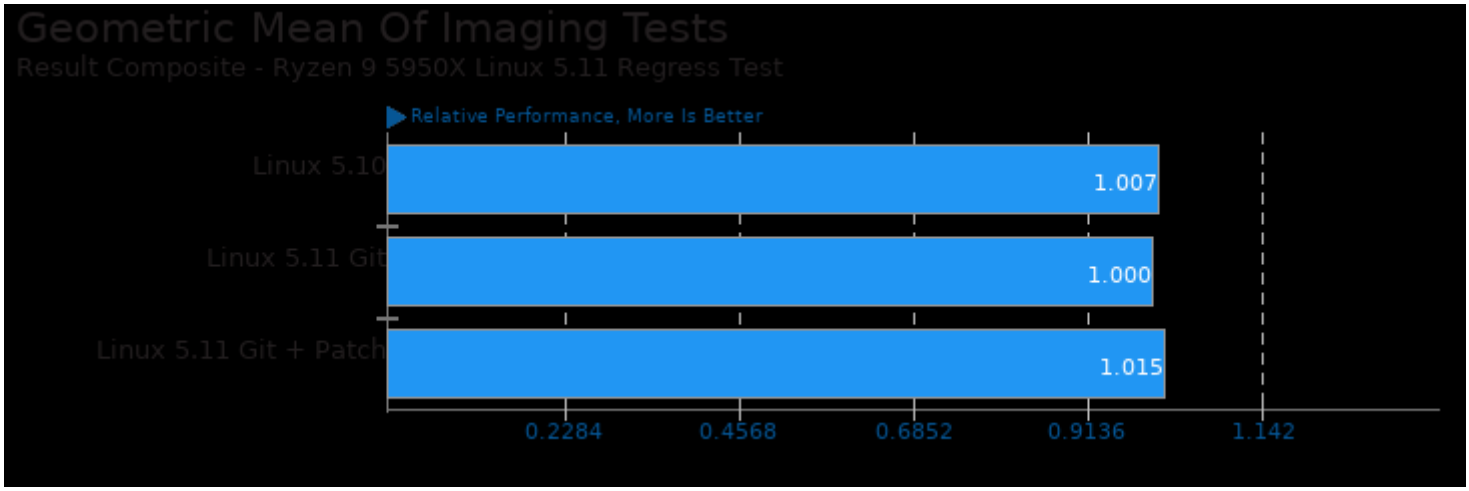


Geometric mean based upon tests: pts/xonotic and pts/tesseract

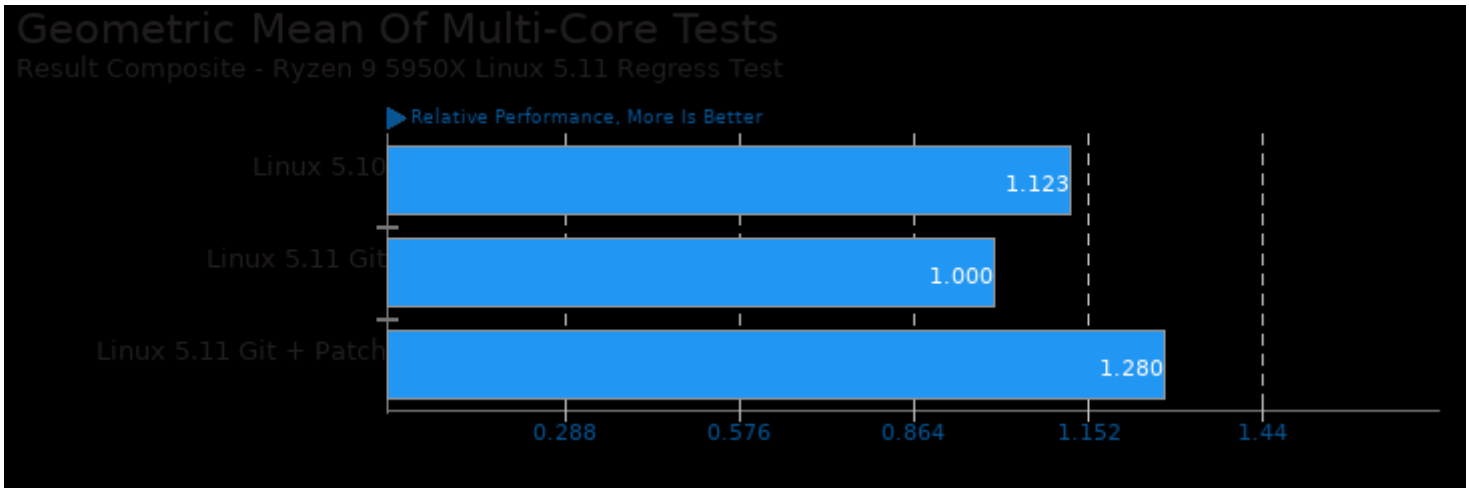
Ryzen 9 5950X Linux 5.11 Regress Test



Geometric mean based upon tests: pts/x265, pts/dav1d, pts/svt-av1 and pts/rav1e

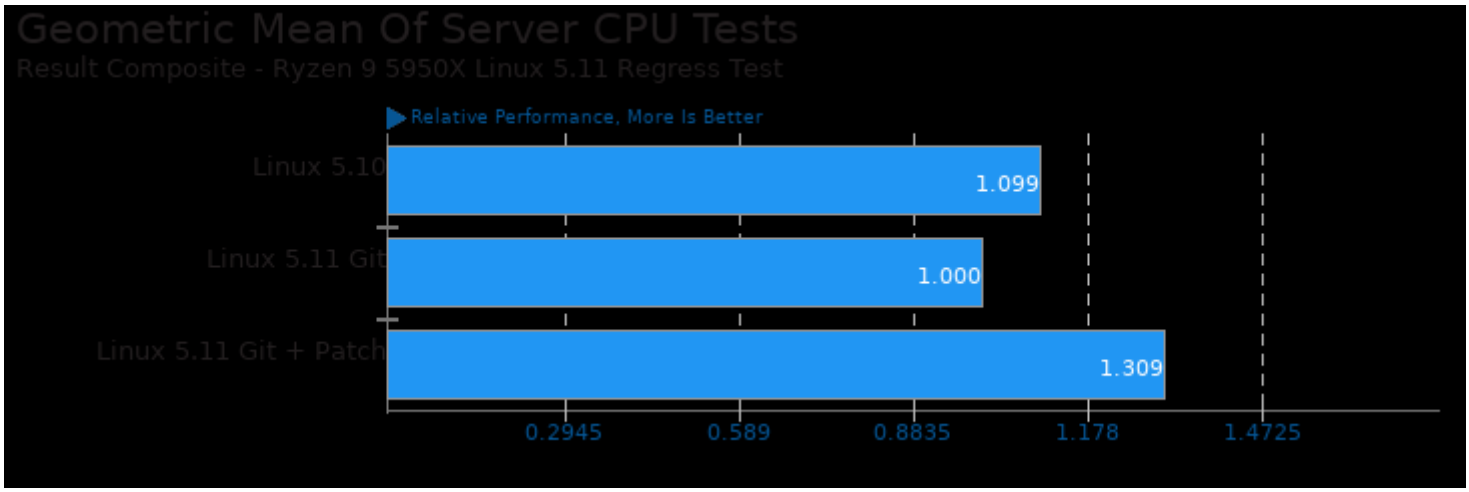


Geometric mean based upon tests: pts/webp and system/rawtherapee

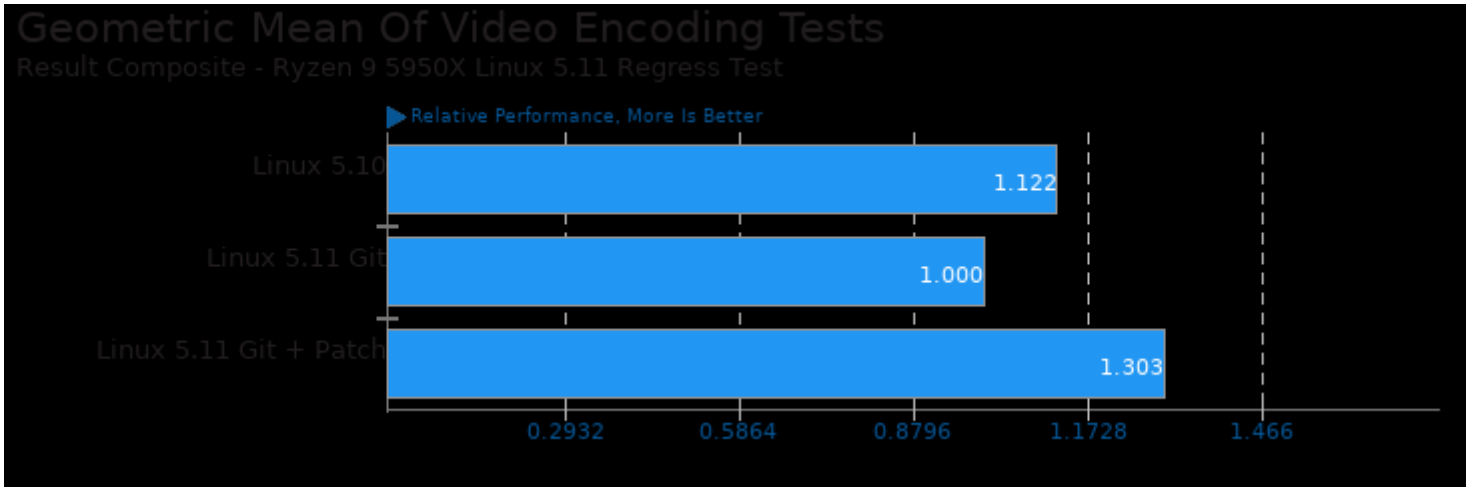


Geometric mean based upon tests: pts/x265, pts/dav1d, pts/svt-av1, pts/rav1e and pts/oidn

Ryzen 9 5950X Linux 5.11 Regress Test



Geometric mean based upon tests: pts/svt-av1, pts/x265 and pts/dav1d



Geometric mean based upon tests: pts/x265, pts/dav1d, pts/svt-av1 and pts/rav1e

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 02:28.