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Linux 6.2 Kernel Benchmark Ryzen 9 7950X

AMD Ryzen 9 7950X 16-Core testing with a ASUS ROG CROSSHAIR X670E HERO (0805 BIOS) and AMD Radeon RX 6750 XT 12GB on Ubuntu 22.10 via the Phoronix Test Suite.

Automated Executive Summary

Linux 6.1 had the most wins, coming in first place for 42% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 6.2-rc1) was 1.018x the speed of the slowest (Linux 6.0). Linux 6.1 was 0.997x the speed of Linux 6.2-rc1 and Linux 6.0 was 0.986x the speed of Linux 6.1.

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

DDraceNetwork (Resolution: 3840 x 2160 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time) at 89.721x
DDraceNetwork (Resolution: 3840 x 2160 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 24.772x
Stress-NG (Test: System V Message Passing) at 2.72x
Stargate Digital Audio Workstation (Sample Rate: 192000 - Buffer Size: 512) at 1.442x
Xonotic (Resolution: 3840 x 2160 - Effects Quality: Ultimate) at 1.324x
FFmpeg (Encoder: libx265 - Scenario: Video On Demand) at 1.178x
FFmpeg (Encoder: libx265 - Scenario: Video On Demand) at 1.178x

Xonotic (Resolution: 3840 x 2160 - Effects Quality: Ultra) at 1.168x
FFmpeg (Encoder: libx265 - Scenario: Live) at 1.147x
FFmpeg (Encoder: libx265 - Scenario: Live) at 1.146x.

Test Systems:

Linux 6.0

Processor: AMD Ryzen 9 7950X 16-Core @ 5.88GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0805 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: Western Digital WD_BLACK SN850X 1000GB + 257GB Flash Drive, Graphics: AMD Radeon RX 6750 XT 12GB (2880/1124MHz), Audio: AMD Navi 21/23, Monitor: ASUS MG28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.10, Kernel: 6.0.0-060000-generic (x86_64), Desktop: GNOME Shell 43.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.1 (LLVM 15.0.2 DRM 3.48), Vulkan: 1.3.224, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/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-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: amd-pstate schedutil (Boost: Enabled) - CPU Microcode: 0xa601203
Graphics Notes: BAR1 / Visible vRAM Size: 12272 MB - vBIOS Version: 113-EXT800357-L02
Java Notes: OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-1ubuntu2)
Python Notes: Python 3.10.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

Linux 6.1

Processor: AMD Ryzen 9 7950X 16-Core @ 4.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0805 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: Western Digital WD_BLACK SN850X 1000GB + 257GB Flash Drive, Graphics: AMD Radeon RX 6750 XT 12GB (2880/1124MHz), Audio: AMD Navi 21/23, Monitor: ASUS MG28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.10, Kernel: 6.1.1-phx (x86_64), Desktop: GNOME Shell 43.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.1 (LLVM 15.0.2 DRM 3.49), Vulkan: 1.3.224, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/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-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa601203
Graphics Notes: BAR1 / Visible vRAM Size: 12272 MB - vBIOS Version: 113-EXT800357-L02
Java Notes: OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-1ubuntu2)
Python Notes: Python 3.10.7

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

Linux 6.2-rc1

Processor: AMD Ryzen 9 7950X 16-Core @ 4.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0805 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: Western Digital WD_BLACK SN850X 1000GB + 257GB Flash Drive, Graphics: AMD Radeon RX 6750 XT 12GB (2880/1124MHz), Audio: AMD Navi 21/23, Monitor: ASUS MG28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.10, Kernel: 6.2.0-rc1-phx (x86_64), Desktop: GNOME Shell 43.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.1 (LLVM 15.0.2 DRM 3.49), Vulkan: 1.3.224, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/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-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa601203
Graphics Notes: BAR1 / Visible vRAM Size: 12272 MB - vBIOS Version: 113-EXT800357-L02
Java Notes: OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-1ubuntu2)
Python Notes: Python 3.10.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

	Linux 6.0	Linux 6.1	Linux 6.2-rc1
Stress-NG - S.V.M.P (Bogo Ops/s)	**11163675**	**30369076**	26608926
Normalized	36.76%	100%	87.62%
Standard Deviation	0.2%	4.8%	0.5%
Stargate Digital Audio Workstation - 192000 - 512 (Render Ratio)	**2.452419**	**3.536253**	3.426146
Normalized	69.35%	100%	96.89%
Standard Deviation	5.6%	0.7%	1.5%
Xonotic - 3840 x 2160 - Ultimate (FPS)	478.5267302	**377.5652948**	**500.0233846**
Normalized	95.7%	75.51%	100%
Standard Deviation	0.4%	0.7%	0.3%
FFmpeg - libx265 - Video On Demand (FPS)	**46.72**	**55.02**	54.89
Normalized	84.91%	100%	99.76%
Standard Deviation	0.3%	0.4%	0%
FFmpeg - libx265 - Video On Demand (sec)	**162.13**	**137.69**	138.01
Normalized	84.93%	100%	99.77%
Standard Deviation	0.3%	0.4%	0%
Xonotic - 3840 x 2160 - Ultra (FPS)	632.6708656	**554.2988172**	**647.2218647**
Normalized	97.75%	85.64%	100%
Standard Deviation	0.9%	0.9%	0.8%
FFmpeg - libx265 - Live (FPS)	**117.83**	**135.12**	134.20
Normalized	87.2%	100%	99.32%
Standard Deviation	0.5%	2.2%	1.7%

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FFmpeg - libx265 - Live (sec)	**42.86**	**37.39**	37.64
Normalized	87.24%	100%	99.34%
Standard Deviation	0.5%	2.2%	1.7%
Xonotic - 3840 x 2160 - High (FPS)	680.7773733	**631.1810468**	**691.5665613**
Normalized	98.44%	91.27%	100%
Standard Deviation	0.7%	0.4%	0.8%
Unvanquished - 3840 x 2160 - Ultra (FPS)	392.7	**372.1**	**402.9**
Normalized	97.47%	92.36%	100%
Standard Deviation	0.2%	1.3%	0.5%
Stress-NG - Malloc (Bogo Ops/s)	**40645154**	**37567129**	38551600
Normalized	100%	92.43%	94.85%
Standard Deviation	0.1%	1.1%	0.5%
Apache Spark - 1000000 - 100 - I.J.T.T (sec)	**1.01**	**0.94**	1.00
Normalized	93.07%	100%	94%
Standard Deviation	5.9%	5.3%	1.5%
SVT-AV1 - Preset 13 - Bosphorus 4K (FPS)	**200.289**	**214.533**	214.531
Normalized	93.36%	100%	100%
Standard Deviation	1.4%	2.2%	0.6%
Xonotic - 3840 x 2160 - Low (FPS)	**828.1950923**	**775.2177505**	825.4446417
Normalized	100%	93.6%	99.67%
Standard Deviation	0.2%	0.4%	1.1%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	**67.404**	71.755	**71.943**
Normalized	93.69%	99.74%	100%
Standard Deviation	1.5%	2%	0.9%
Stress-NG - NUMA (Bogo Ops/s)	**593.62**	627.09	**632.36**
Normalized	93.87%	99.17%	100%
Standard Deviation	0.4%	0.2%	0.8%
GIMP - rotate (sec)	**9.522**	9.125	**8.996**
Normalized	94.48%	98.59%	100%
Standard Deviation	0.4%	0.9%	0.7%
Apache Spark - 1000000 - 100 - B.I.J.T.T (sec)	0.89	**0.91**	**0.86**
Normalized	96.63%	94.51%	100%
Standard Deviation	5.5%	5.1%	1.9%
ClickHouse - 1.R.W.A.D.T.R (Queries/min, Geo Mean)	**301.14**	**317.45**	314.48
Normalized	94.86%	100%	99.06%
Standard Deviation	2.3%	3.1%	2.2%
Stress-NG - Forking (Bogo Ops/s)	**81552**	78702	**77431**
Normalized	100%	96.51%	94.95%
Standard Deviation	0.5%	2.3%	2%
GIMP - auto-levels (sec)	**10.683**	10.170	**10.166**
Normalized	95.16%	99.96%	100%
Standard Deviation	0.5%	0.2%	0.4%
GIMP - unsharp-mask (sec)	**13.115**	**12.513**	12.602
Normalized	95.41%	100%	99.29%
Standard Deviation	0.9%	1%	0.2%
ClickHouse - 1.R.W.A.D.S.R (Queries/min, Geo Mean)	**302.39**	**316.89**	314.31
Normalized	95.42%	100%	99.19%
Standard Deviation	2.8%	2.4%	2.3%
GIMP - resize (sec)	**12.920**	**12.366**	12.613
Normalized	95.71%	100%	98.04%
Standard Deviation	2.2%	2.4%	1%
Selenium - Kraken - Google Chrome (ms)	**389.1**	377.0	**372.5**
Normalized	95.73%	98.81%	100%

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Standard Deviation	2.5%	0.2%	0.3%
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	**7.825462**	7.559470	**7.494346**
Normalized	100%	96.6%	95.77%
Standard Deviation	1.7%	1.3%	4.3%
Selenium - PSPDFKit WASM - Google Chrome (Score)	2612	**2639**	**2528**
Normalized	96.78%	95.79%	100%
Standard Deviation	0.9%	1.3%	0.4%
Stress-NG - SENDFILE (Bogo Ops/s)	**548107**	529667	**525645**
Normalized	100%	96.64%	95.9%
Standard Deviation	0.1%	0.2%	0.3%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	**206.191**	**214.916**	213.719
Normalized	95.94%	100%	99.44%
Standard Deviation	0.2%	0.3%	1.6%
ClickHouse - 1.R.W.A.D.F.R.C.C (Queries/min, Geo Mean)	**293.36**	**305.59**	302.12
Normalized	96%	100%	98.86%
Standard Deviation	2.5%	2.9%	3.1%
Stress-NG - Socket Activity (Bogo Ops/s)	**33908**	**35299**	35103
Normalized	96.06%	100%	99.44%
Standard Deviation	5.1%	4.8%	1.7%
Stress-NG - CPU Cache (Bogo Ops/s)	**177.70**	**184.81**	183.77
Normalized	96.15%	100%	99.44%
Standard Deviation	2.3%	2.3%	0.8%
Apache Spark - 1000000 - 100 - Group By Test Time (sec)	**2.83**	**2.73**	2.80
Normalized	96.47%	100%	97.5%
Standard Deviation	1.8%	1.7%	2.2%
Apache Spark - 1000000 - 100 - R.T.T (sec)	1.19	**1.18**	**1.22**
Normalized	99.16%	100%	96.72%
Standard Deviation	1.4%	1%	3.6%
Apache Spark - 1000000 - 100 - C.P.B (sec)	55.87	**55.11**	**56.91**
Normalized	98.64%	100%	96.84%
Standard Deviation	2.2%	1.7%	5%
RawTherapee - T.B.T (sec)	**33.732**	32.706	**32.701**
Normalized	96.94%	99.98%	100%
Standard Deviation	0.2%	0.2%	0.1%
libavif avifenc - 10, Lossless (sec)	**3.145**	3.203	**3.240**
Normalized	100%	98.19%	97.07%
Standard Deviation	0.6%	1.5%	1.8%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Default - Multeasymap (FPS)	1829	**1790**	**1841**
Normalized	99.36%	97.23%	100%
Standard Deviation	0.5%	0.6%	0.1%
Stress-NG - MMAP (Bogo Ops/s)	**401.35**	**390.46**	395.87
Normalized	100%	97.29%	98.63%
Standard Deviation	0.1%	0.2%	2%
Stargate Digital Audio Workstation - 192000 - 1024 (Render Ratio)	3.834994	**3.854077**	**3.750148**
Normalized	99.5%	100%	97.3%
Standard Deviation	0.3%	1.5%	4.6%
JPEG XL libjxl - PNG - 90 (MP/s)	**13.18**	**13.49**	13.32
Normalized	97.7%	100%	98.74%

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Standard Deviation	0.5%	0.3%	0.2%
Stress-NG - G.C.S.F (Bogo Ops/s)	5003748	**4939244**	**5055043**
Normalized	98.99%	97.71%	100%
Standard Deviation	2.1%	2.1%	1.1%
Stress-NG - G.Q.D.S (Bogo Ops/s)	**384.36**	387.19	**393.14**
Normalized	97.77%	98.49%	100%
Standard Deviation	2.4%	0.3%	2.2%
Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)	8.417254	**8.559100**	**8.369110**
Normalized	98.34%	100%	97.78%
Standard Deviation	0.8%	0.8%	3.8%
OpenVINO - M.T.E.T.D.F - CPU (FPS)	137.20	**134.87**	**137.93**
Normalized	99.47%	97.78%	100%
Standard Deviation	2.3%	0.7%	1.4%
OpenVINO - M.T.E.T.D.F - CPU (ms)	58.27	**59.25**	**57.96**
Normalized	99.47%	97.82%	100%
Standard Deviation	2.3%	0.7%	1.4%
Stress-NG - Futex (Bogo Ops/s)	**4558735**	**4464564**	4491350
Normalized	100%	97.93%	98.52%
Standard Deviation	3.9%	1.4%	3.1%
CockroachDB - KV, 10% Reads - 128 (ops/s)	**76942**	**78522**	77228
Normalized	97.99%	100%	98.35%
Standard Deviation	0.9%	1.6%	0.3%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Default - RaiNyMore2 (FPS)	**1625**	**1658**	1639
Normalized	98.01%	100%	98.85%
Standard Deviation	2.4%	4.7%	2.9%
OpenVKL - vklBenchmark ISPC (Items / Sec)	**401**	**409**	406
Normalized	98.04%	100%	99.27%
Standard Deviation	0.1%	0.3%	0.4%
Timed CPython Compilation - Default (sec)	**12.182**	**11.944**	12.048
Normalized	98.05%	100%	99.14%
Stress-NG - MEMFD (Bogo Ops/s)	**1316**	1336	**1341**
Normalized	98.07%	99.58%	100%
Standard Deviation	0.2%	0.1%	0.2%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	16.774	**16.600**	**16.926**
Normalized	99.1%	98.07%	100%
Standard Deviation	2.4%	0.7%	1.9%
JPEG XL libjxl - JPEG - 90 (MP/s)	**12.88**	**13.13**	12.95
Normalized	98.1%	100%	98.63%
Standard Deviation	0.7%	0.5%	0.4%
Apache Spark - 1000000 - 100 - C.P.B.U.D (sec)	**3.70**	**3.63**	**3.63**
Normalized	98.11%	100%	100%
Standard Deviation	0.8%	0.8%	0%
libavif avifenc - 6 (sec)	**3.098**	3.059	**3.045**
Normalized	98.29%	99.54%	100%
Standard Deviation	1.7%	0.9%	0.8%
CockroachDB - KV, 60% Reads - 256 (ops/s)	**101385**	**103146**	102870
Normalized	98.29%	100%	99.73%
Standard Deviation	0.1%	1.5%	1.4%

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SQLite Speedtest - Timed Time - Size 1,000 (sec)	**34.365**	**34.953**	34.911
Normalized	100%	98.32%	98.44%
Standard Deviation	0.6%	0.7%	0.5%
CockroachDB - KV, 50% Reads - 256 (ops/s)	**95997**	**97620**	96610
Normalized	98.34%	100%	98.96%
Standard Deviation	0.2%	1.2%	0%
CockroachDB - MoVR - 256 (ops/s)	**907.7**	920.5	**923**
Normalized	98.34%	99.73%	100%
Standard Deviation	0.3%	0.2%	0.1%
ASTC Encoder - Fast (MT/s)	**397.5492**	403.9233	**404.1187**
Normalized	98.37%	99.95%	100%
Standard Deviation	0.1%	0.4%	0.8%
OpenVINO - V.D.F - CPU (ms)	**10.29**	**10.46**	10.32
Normalized	100%	98.37%	99.71%
Standard Deviation	0.2%	0.3%	1.5%
OpenVINO - V.D.F - CPU (FPS)	**776.82**	**764.22**	774.14
Normalized	100%	98.38%	99.66%
Standard Deviation	0.3%	0.3%	1.5%
CockroachDB - MoVR - 128 (ops/s)	**906.4**	920.9	**921.1**
Normalized	98.4%	99.98%	100%
Standard Deviation	0.1%	0.3%	0.3%
CockroachDB - KV, 95% Reads - 128 (ops/s)	130032	**131751**	**129698**
Normalized	98.7%	100%	98.44%
Standard Deviation	0.6%	1.3%	0.3%
OpenRadioss - Bumper Beam (sec)	**84.61**	83.67	**83.30**
Normalized	98.45%	99.56%	100%
Standard Deviation	0.4%	0.2%	0.2%
Apache Spark - 1000000 - 100 - S.5.B.T (sec)	2.17	**2.18**	**2.15**
Normalized	99.08%	98.62%	100%
Standard Deviation	2.5%	1%	1.2%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	**618.1**	**626.5**	623.9
Normalized	98.66%	100%	99.58%
Standard Deviation	1%	0.1%	0.4%
Stress-NG - Mutex (Bogo Ops/s)	**14014569**	14156504	**14203987**
Normalized	98.67%	99.67%	100%
Standard Deviation	0.9%	0.6%	0.5%
OpenVINO - P.V.B.D.F - CPU (ms)	**4.76**	**4.70**	4.72
Normalized	98.74%	100%	99.58%
Standard Deviation	1.6%	0.9%	0.6%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	248.9	**248.0**	**251.1**
Normalized	99.12%	98.77%	100%
Standard Deviation	1.1%	0.3%	0.3%
OpenVINO - P.V.B.D.F - CPU (FPS)	**1678**	**1699**	1694
Normalized	98.79%	100%	99.73%
Standard Deviation	1.6%	0.9%	0.6%
Selenium - W.c - Google Chrome (ms)	**212.92**	**215.41**	213.02
Normalized	100%	98.84%	99.95%
Standard Deviation	2%	1.3%	2.1%
Timed Wasmer Compilation - Time To Compile (sec)	**32.215**	31.935	**31.848**
Normalized	98.86%	99.73%	100%
Standard Deviation	0.5%	0.4%	0.6%
ASTC Encoder - Thorough (MT/s)	**17.6429**	17.7672	**17.8369**
Normalized	98.91%	99.61%	100%

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

Standard Deviation	0.1%	0.2%	0.1%
srsRAN - 4.P.1.P.S.6.Q (eNb Mb/s)	620.5	**617.6**	**624.2**
Normalized	99.41%	98.94%	100%
Standard Deviation	0.4%	1.5%	0.4%
WebP Image Encode - Quality 100 (MP/s)	**17.18**	**17.36**	17.24
Normalized	98.96%	100%	99.31%
Standard Deviation	0.3%	0.9%	0.1%
Stress-NG - Semaphores (Bogo Ops/s)	**3469539**	**3505404**	3475824
Normalized	98.98%	100%	99.16%
Standard Deviation	0.7%	0.1%	2.5%
Darktable - Server Room - CPU-only (sec)	**2.332**	**2.309**	2.312
Normalized	99.01%	100%	99.87%
Standard Deviation	0.3%	0.4%	0.2%
CockroachDB - KV, 50% Reads - 128 (ops/s)	**98252**	98430	**99228**
Normalized	99.02%	99.2%	100%
Standard Deviation	2.1%	0.6%	1.9%
OpenRadioss - R.O.R.S.I (sec)	**62.11**	62.10	**61.52**
Normalized	99.05%	99.07%	100%
Standard Deviation	1.6%	0.3%	0.3%
OpenFOAM - d.S.M.S - Mesh Time (sec)	**23.967546**	**23.744921**	23.82981
Normalized	99.07%	100%	99.64%
libavif avifenc - 6, Lossless (sec)	5.277	**5.239**	**5.288**
Normalized	99.28%	100%	99.07%
Standard Deviation	0.7%	0.3%	1.1%
srsRAN - 4.P.1.P.S.2.Q (eNb Mb/s)	**663.7**	668.7	**669.9**
Normalized	99.07%	99.82%	100%
Standard Deviation	0.4%	0.6%	0.2%
ASTC Encoder - Medium (MT/s)	**142.0532**	143.1228	**143.3557**
Normalized	99.09%	99.84%	100%
Standard Deviation	0.1%	0.2%	0.2%
Timed PHP Compilation - Time To Compile (sec)	36.191	**36.341**	**36.029**
Normalized	99.55%	99.14%	100%
Standard Deviation	0.9%	1.2%	1.4%
Stress-NG - Memory Copying (Bogo Ops/s)	**7632**	7670	**7695**
Normalized	99.18%	99.68%	100%
Standard Deviation	0.5%	0.6%	0.2%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	208.1	**209.6**	**207.9**
Normalized	99.28%	100%	99.19%
Standard Deviation	0.3%	0.2%	0.2%
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	**17.124**	17.033	**16.987**
Normalized	100%	99.47%	99.2%
Standard Deviation	0.7%	1%	1%
CockroachDB - KV, 60% Reads - 128 (ops/s)	**104893**	104557	**104095**
Normalized	100%	99.68%	99.24%
Standard Deviation	1.6%	1.7%	0.3%
OpenFOAM - d.S.M.S - Execution Time (sec)	162.19657	**162.21771**	**160.98497**
Normalized	99.25%	99.24%	100%
Selenium - Jetstream 2 - Google Chrome (Score)	**322.624**	321.261	**320.202**
Normalized	100%	99.58%	99.25%
Standard Deviation		0.7%	0.3%
Stress-NG - CPU Stress (Bogo Ops/s)	60796	**61202**	**60755**
Normalized	99.34%	100%	99.27%

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Standard Deviation	1%	3.8%	1.7%
Timed CPython Compilation - R.B.P.L.O	177.684	**177.718**	**176.512**
Normalized	99.34%	99.32%	100%
OpenVINO - P.D.F - CPU (FPS)	**7.64**	7.60	**7.59**
Normalized	100%	99.48%	99.35%
Standard Deviation	0.2%	0.1%	0.7%
OpenVINO - F.D.F.I - CPU (ms)	**283.16**	282.82	**281.39**
Normalized	99.37%	99.49%	100%
Standard Deviation	0.3%	0.3%	0.4%
Aircrack-ng (k/s)	**98095**	**98676**	98418
Normalized	99.41%	100%	99.74%
Standard Deviation	1.1%	0.3%	0.2%
srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	**236.7**	**238.1**	**236.7**
Normalized	99.41%	100%	99.41%
Standard Deviation	0.5%	0.2%	0.6%
Blender - Barbershop - CPU-Only (sec)	**473.01**	470.74	**470.26**
Normalized	99.42%	99.9%	100%
Standard Deviation	0.3%	0.2%	0.1%
OpenVINO - P.D.F - CPU (ms)	**1041**	1047	**1047**
Normalized	100%	99.47%	99.47%
Standard Deviation	0.2%	0.1%	0.6%
OpenVINO - F.D.F.I - CPU (FPS)	**28.22**	28.23	**28.37**
Normalized	99.47%	99.51%	100%
Standard Deviation	0.3%	0.3%	0.5%
Timed Linux Kernel Compilation - allmodconfig (sec)	**501.455**	503.275	**504.096**
Normalized	100%	99.64%	99.48%
Standard Deviation	0.1%	0%	0.1%
libavif avifenc - 0 (sec)	**69.498**	**69.150**	69.245
Normalized	99.5%	100%	99.86%
Standard Deviation	0.5%	0.1%	0.4%
OpenVINO - V.D.F.I - CPU (FPS)	**1845**	1851	**1853**
Normalized	99.53%	99.9%	100%
Standard Deviation	0.4%	0.3%	0.1%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	667.5	**665.4**	**668.5**
Normalized	99.85%	99.54%	100%
Standard Deviation	0.6%	0.7%	0.2%
OpenVINO - V.D.F.I - CPU (ms)	**4.33**	**4.31**	**4.31**
Normalized	99.54%	100%	100%
Standard Deviation	0.5%	0.4%	0%
srsRAN - OFDM_Test (Samples / Second)	239100000	**239366667**	**238366667**
Normalized	99.89%	100%	99.58%
Standard Deviation	1.6%	1%	1.4%
CockroachDB - KV, 95% Reads - 256 (ops/s)	**125471**	**125990**	125884
Normalized	99.59%	100%	99.92%
Standard Deviation	1.6%	1.7%	0.6%
Blender - Classroom - CPU-Only (sec)	**131.08**	130.70	**130.57**
Normalized	99.61%	99.9%	100%
Standard Deviation	0.1%	0.1%	0.1%
Blender - Fishy Cat - CPU-Only (sec)	**64.54**	**64.29**	64.45
Normalized	99.61%	100%	99.75%
Standard Deviation	0.3%	0.2%	0.5%
Stress-NG - Crypto (Bogo Ops/s)	43518	**43466**	**43632**
Normalized	99.74%	99.62%	100%
Standard Deviation	1.3%	4.3%	0.2%

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

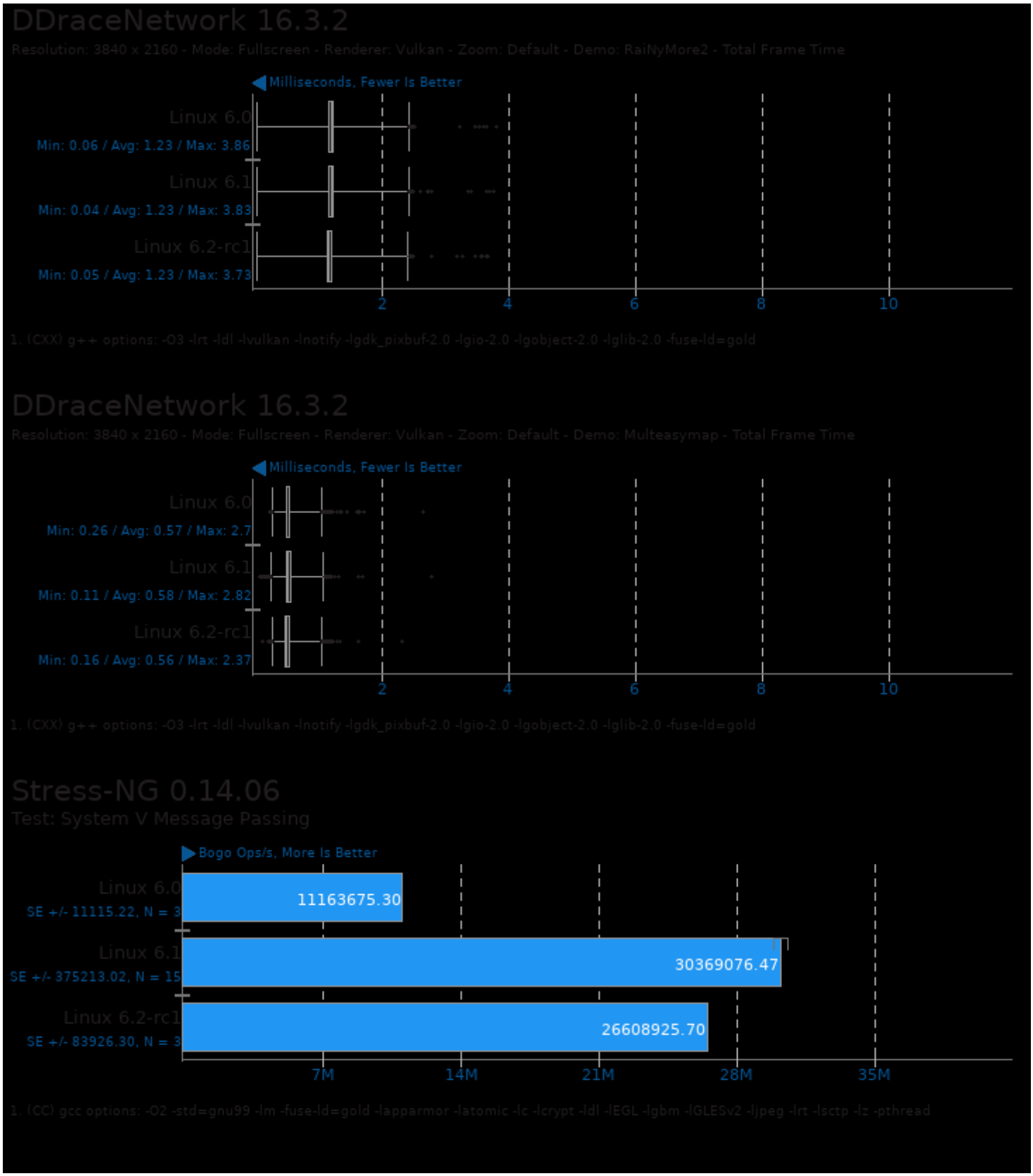
7-Zip Compression - Compression Rating (MIPS)	**184556**	**185249**	184766
Normalized	99.63%	100%	99.74%
Standard Deviation	0.2%	0.1%	0.1%
OpenVINO - W.P.D.F.I - CPU (ms)	**5.55**	5.54	**5.53**
Normalized	99.64%	99.82%	100%
Standard Deviation	0.1%	0.1%	0.2%
ASTC Encoder - Exhaustive (MT/s)	**1.8439**	**1.8503**	1.8496
Normalized	99.65%	100%	99.96%
Standard Deviation	0.1%	0.2%	0.1%
Darktable - Boat - CPU-only (sec)	**2.349**	**2.349**	**2.341**
Normalized	99.66%	99.66%	100%
Standard Deviation	1.3%	0.5%	0.5%
Selenium - W.i - Google Chrome (ms)	**17.67**	17.64	**17.61**
Normalized	99.66%	99.83%	100%
Standard Deviation	0.1%	0.7%	0.2%
CockroachDB - KV, 10% Reads - 256 (ops/s)	79074	**79297**	**79034**
Normalized	99.72%	100%	99.67%
Standard Deviation	0%	0%	0.2%
OpenVINO - W.P.D.F.I - CPU (FPS)	**2881**	2884	**2890**
Normalized	99.68%	99.77%	100%
Standard Deviation	0.1%	0.2%	0.2%
Stress-NG - Vector Math (Bogo Ops/s)	**144738**	144891	**145198**
Normalized	99.68%	99.79%	100%
Standard Deviation	0%	0%	0%
Stress-NG - Atomic (Bogo Ops/s)	**214581**	**214009**	214523
Normalized	100%	99.73%	99.97%
Standard Deviation	0.2%	0.3%	0.2%
7-Zip Compression - D.R (MIPS)	**182508**	**182968**	182582
Normalized	99.75%	100%	99.79%
Standard Deviation	0.4%	0.3%	0.2%
Stress-NG - Matrix Math (Bogo Ops/s)	**130281**	130415	**130602**
Normalized	99.75%	99.86%	100%
Standard Deviation	0.3%	0.2%	0.2%
libavif avifenc - 2 (sec)	**35.029**	34.953	**34.943**
Normalized	99.75%	99.97%	100%
Standard Deviation	0.5%	1.2%	0.5%
Timed Node.js Compilation - Time To Compile (sec)	253.401	**253.167**	**253.762**
Normalized	99.91%	100%	99.77%
Standard Deviation	0.2%	0.1%	0.2%
Timed Linux Kernel Compilation - defconfig (sec)	**45.154**	45.235	**45.252**
Normalized	100%	99.82%	99.78%
Standard Deviation	1.1%	1.2%	1.1%
OpenVINO - A.G.R.R.0.F.I - CPU (FPS)	**25988**	**26039**	26004
Normalized	99.8%	100%	99.87%
Standard Deviation	0%	0.3%	0%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	**260.2**	**259.7**	259.9
Normalized	100%	99.81%	99.88%
Standard Deviation	0.8%	0.5%	0.8%
OpenRadioss - B.S.o.W (sec)	**158.94**	**158.64**	158.90
Normalized	99.81%	100%	99.84%
Standard Deviation	0.4%	0%	0.2%

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

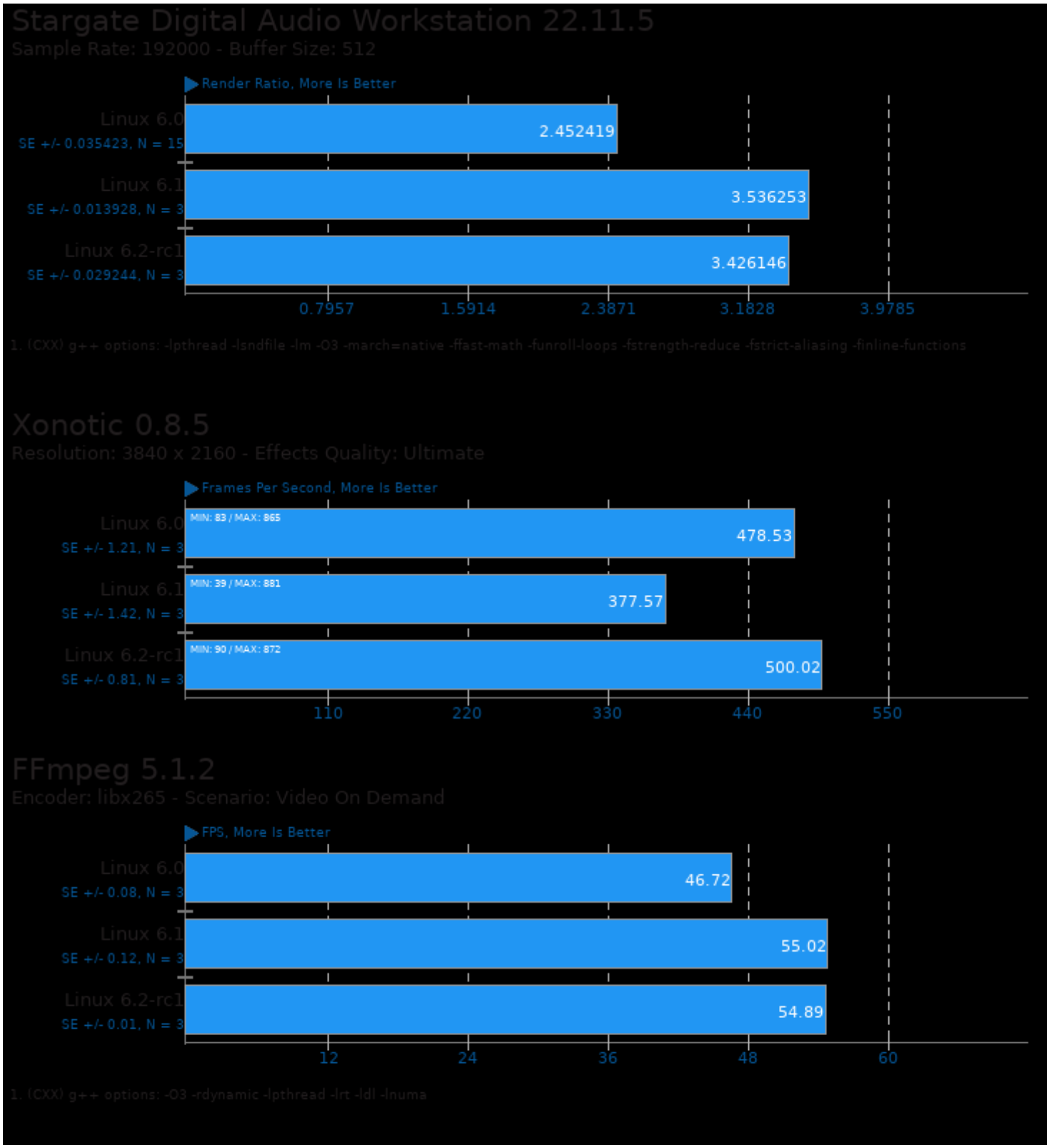
Darktable - Masskrug - CPU-only (sec)	**2.662**	**2.667**	**2.667**
Normalized	100%	99.81%	99.81%
Standard Deviation	0.3%	0.7%	0.1%
TensorFlow - CPU - 16 - ResNet-50 (images/sec)	**42.73**	**42.81**	**42.73**
Normalized	99.81%	100%	99.81%
Standard Deviation	0.2%	0%	0.1%
WebP Image Encode - Q.1.H.C (MP/s)	**5.41**	**5.42**	**5.42**
Normalized	99.82%	100%	100%
Standard Deviation	1.2%	0.6%	0.5%
Timed Godot Game Engine Compilation - Time To Compile (sec)	51.100	**51.069**	**51.159**
Normalized	99.94%	100%	99.82%
Standard Deviation	0.3%	0.3%	0.2%
Blender - Pabellon Barcelona - CPU-Only	**159.58**	**159.36**	159.47
Normalized	99.86%	100%	99.93%
Standard Deviation	0.1%	0.1%	0.1%
Blender - BMW27 - CPU-Only (sec)	49.74	**49.75**	**49.71**
Normalized	99.94%	99.92%	100%
Standard Deviation	0.1%	0.2%	0.3%
miniBUDE - OpenMP - BM1 (Billion Interactions/s)	**56.420**	56.414	**56.391**
Normalized	100%	99.99%	99.95%
Standard Deviation	0.1%	0.1%	0.1%
miniBUDE - OpenMP - BM1 (GFInst/s)	**1410**	1410	**1410**
Normalized	100%	99.99%	99.95%
Standard Deviation	0.1%	0.1%	0.1%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	**249.2**	**249.2**	**249.1**
Normalized	100%	100%	99.96%
Standard Deviation	0.7%	0.2%	0.3%
OpenVINO - A.G.R.R.0.F.I - CPU (ms)	0.61	0.61	0.61
Standard Deviation	0%	0%	0%
Stress-NG - Context Switching (Bogo Ops/s)	10657844	**9884193**	**10741656**
Normalized	99.22%	92.02%	100%
Standard Deviation	1.6%	9.7%	1.4%
Stress-NG - IO_uring (Bogo Ops/s)	**33864**	33365	**33128**
Normalized	100%	98.53%	97.83%
Standard Deviation	6.5%	1.2%	2%
Darktable - Server Rack - CPU-only (sec)	**0.185**	**0.173**	**0.173**
Normalized	93.51%	100%	100%
Standard Deviation	9.3%	0%	0.3%
Redis - SET - 50 (Reqs/sec)	**4086994**	**4257658**	4148442
Normalized	95.99%	100%	97.43%
Standard Deviation	6.8%	1.4%	2.4%
Redis - GET - 50 (Reqs/sec)	**5454441**	4817235	**4744300**
Normalized	100%	88.32%	86.98%
Standard Deviation	5.7%	7.5%	5.5%
srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	141.2	**141.7**	**136.6**
Normalized	99.65%	100%	96.4%
Standard Deviation	0.6%	0.5%	6.1%
Unvanquished - 3840 x 2160 - Medium (FPS)	**408.0**	**392.1**	399.3
Normalized	100%	96.1%	97.87%
Standard Deviation	8.5%	13.3%	9.7%
Unvanquished - 3840 x 2160 - High (FPS)	**409.5**	**382.3**	391.0
Normalized	100%	93.36%	95.48%

Standard Deviation	10.4%	4.2%	0.6%

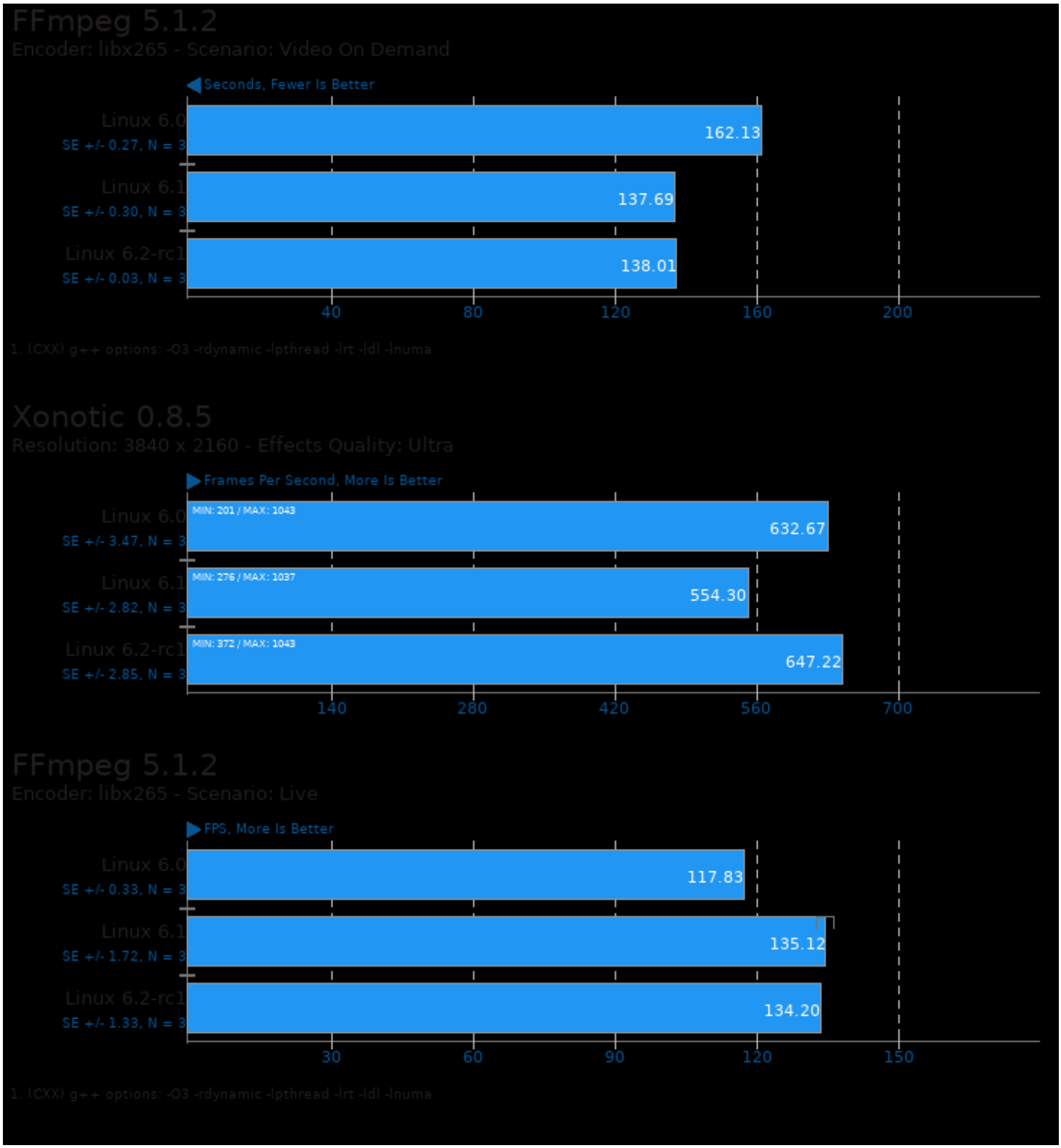
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



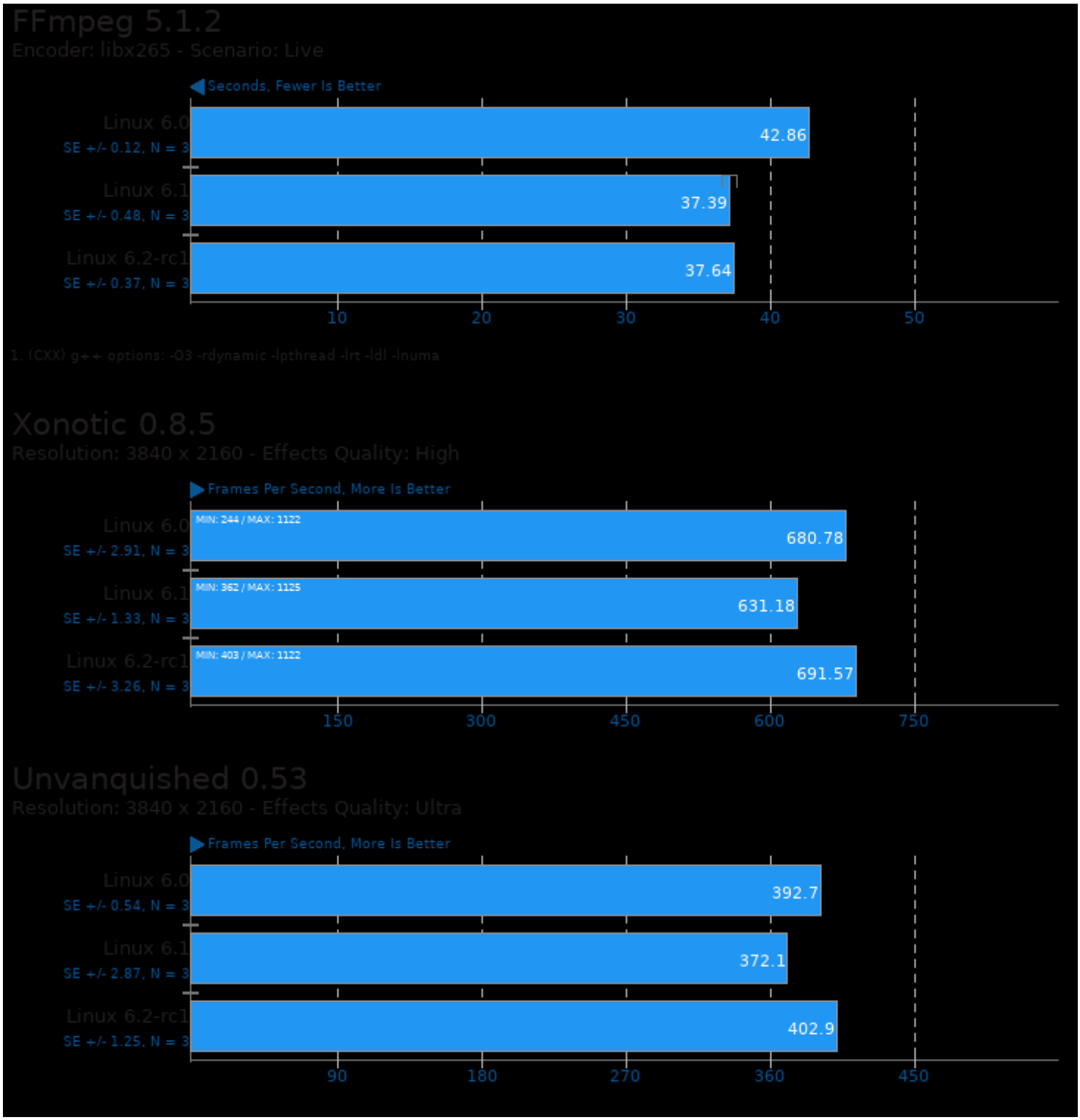
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



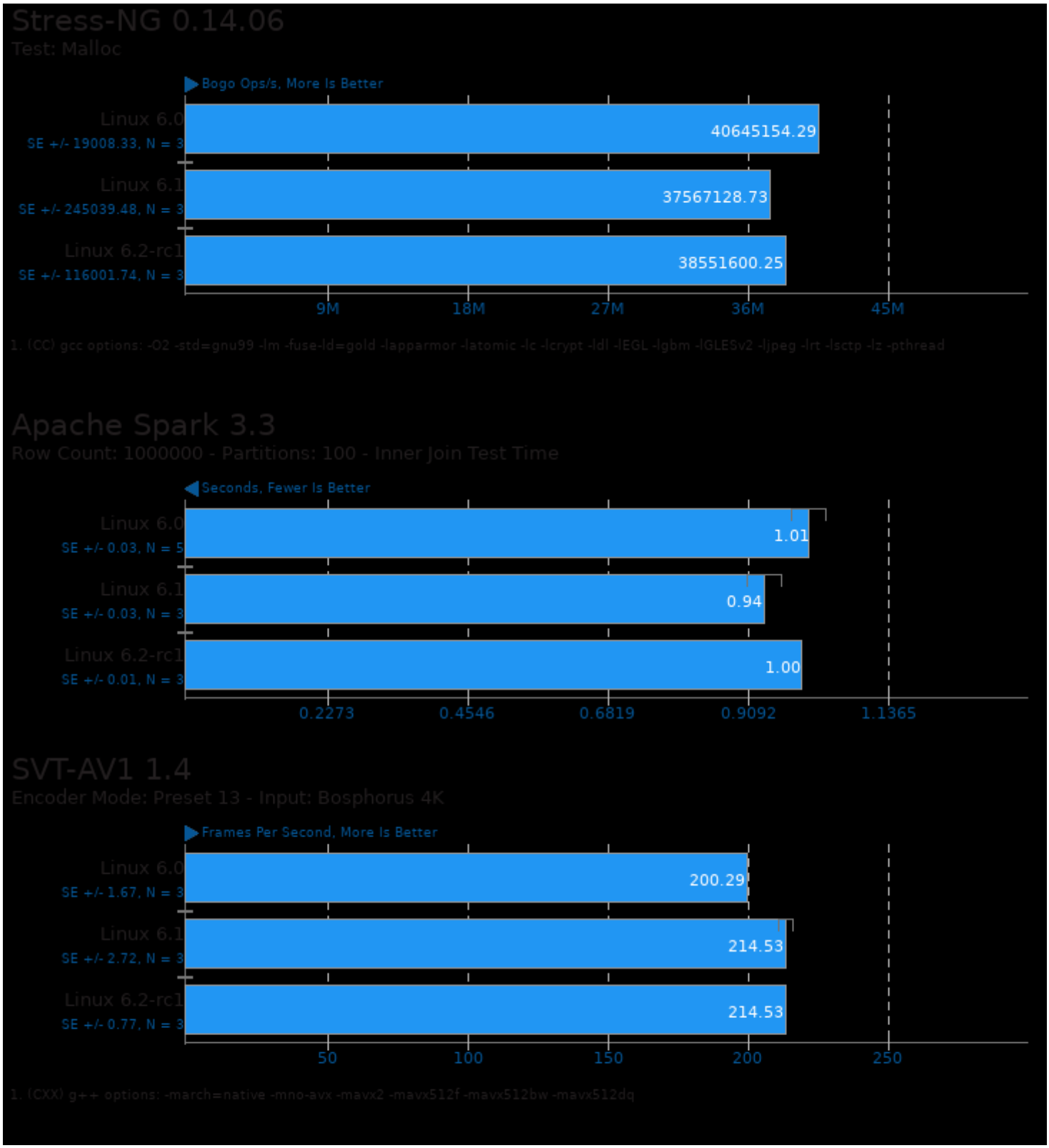
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



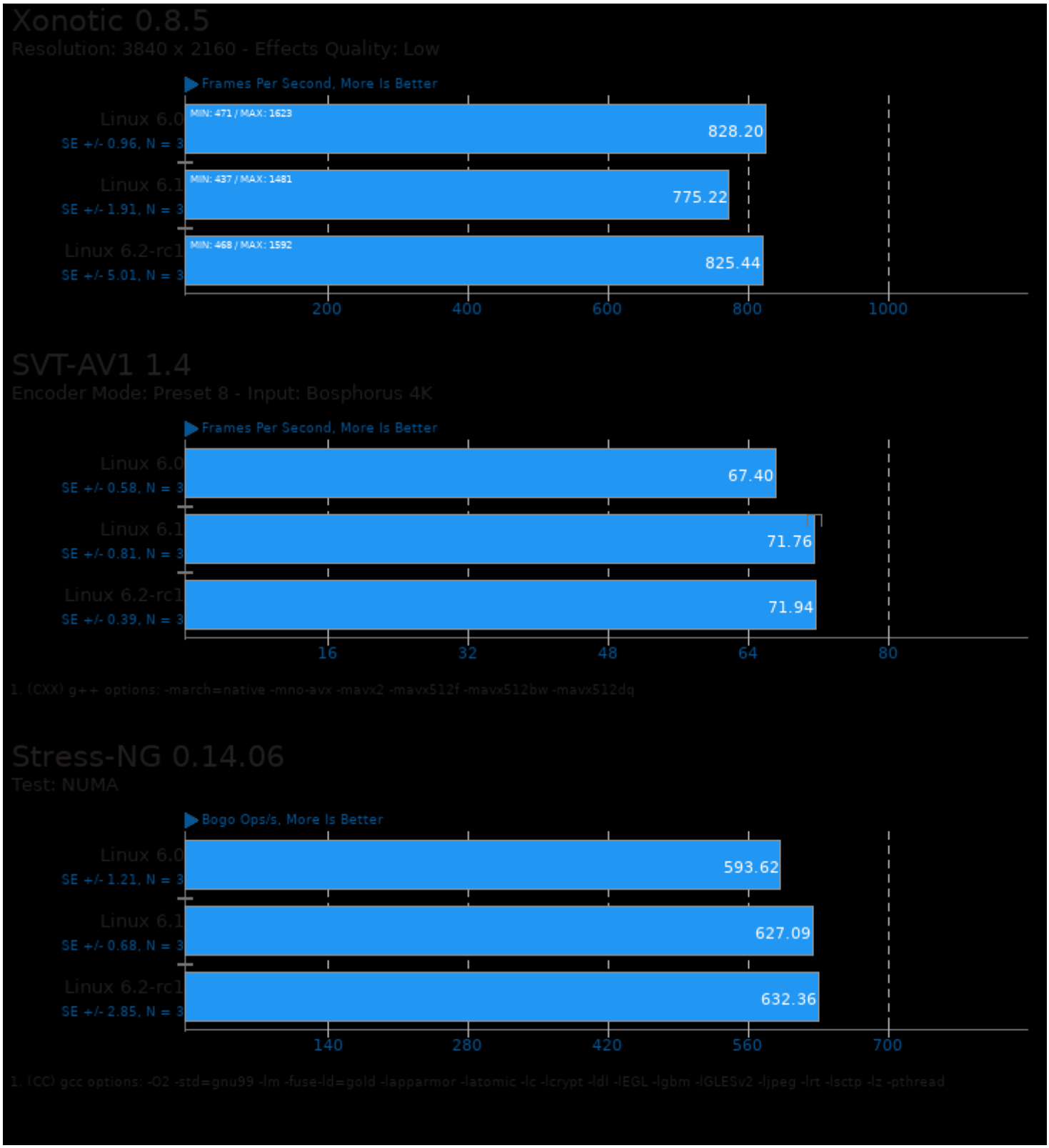
Linux 6.2 Kernel Benchmark Ryzen 9 7950X

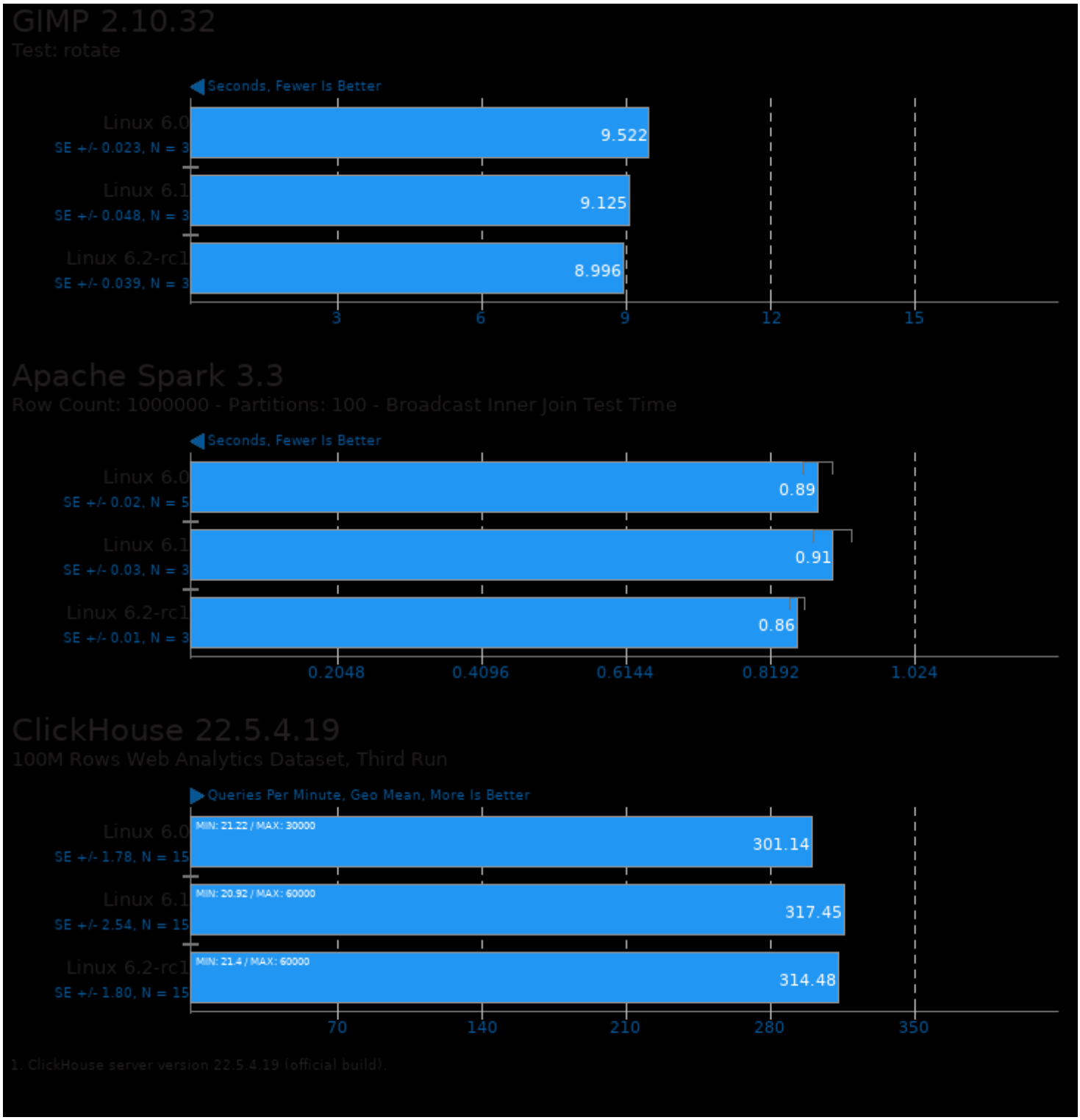


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

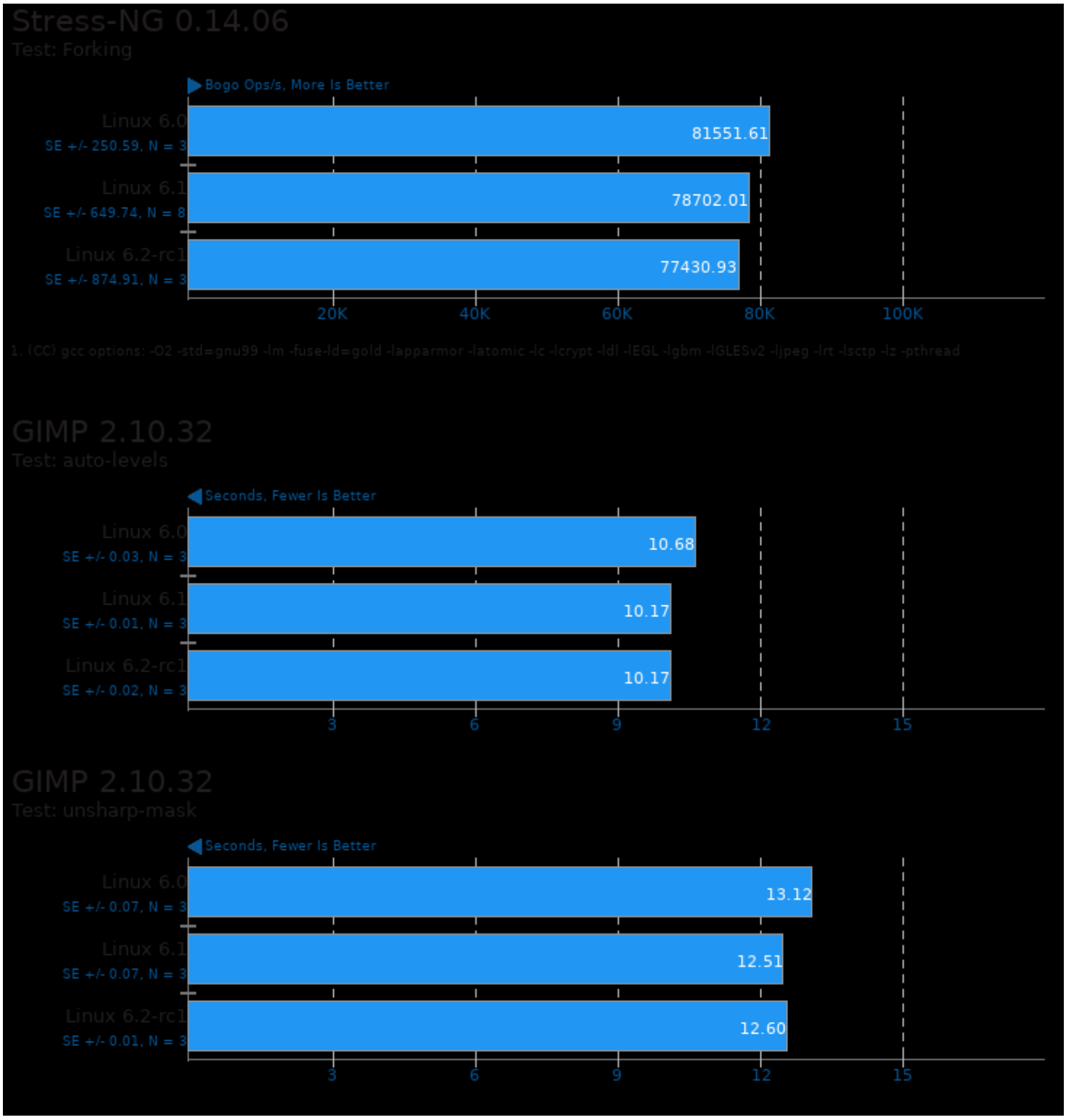


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

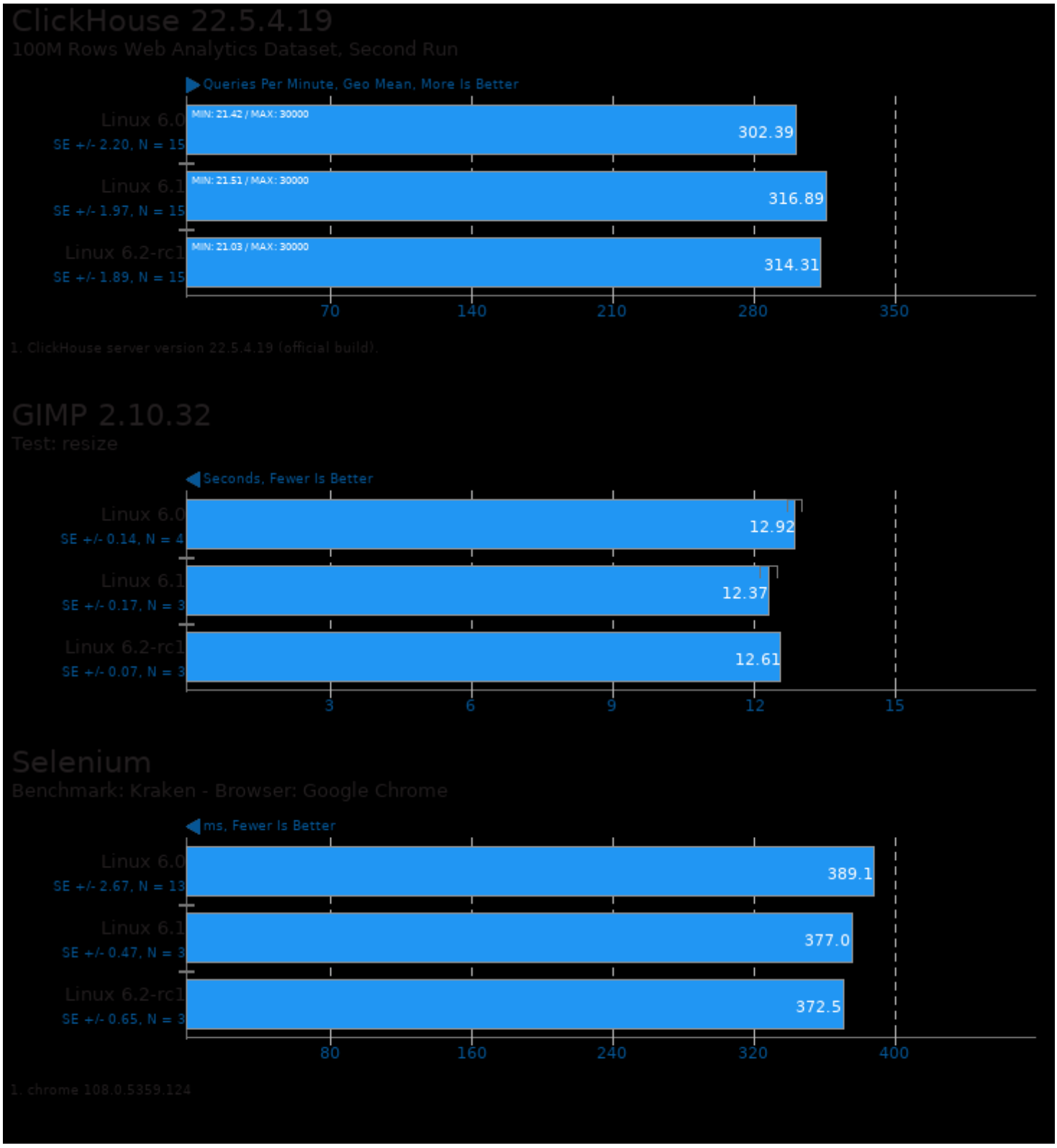



GIMP 2.10.32
Test: rotate
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.023, N = 3
9.522
Linux 6.1
SE +/- 0.048, N = 3
9.125
Linux 6.2-rc1
SE +/- 0.039, N = 3
8.996
3
6
9
12
15
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Broadcast Inner Join Test Time
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.02, N = 5
0.89
Linux 6.1
SE +/- 0.03, N = 3
0.91
Linux 6.2-rc1
SE +/- 0.01, N = 3
0.86
0.2048
0.4096
0.6144
0.8192
1.024
ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, Third Run
Queries Per Minute, Geo Mean, More Is Better
Linux 6.0
SE +/- 1.78, N = 15
MIN: 21.22 / MAX: 30000
301.14
Linux 6.1
SE +/- 2.54, N = 15
MIN: 20.92 / MAX: 60000
317.45
Linux 6.2-rc1
SE +/- 1.80, N = 15
MIN: 21.4 / MAX: 60000
314.48
70
140
210
280
350
1. ClickHouse server version 22.5.4.19 (official build).

Linux 6.2 Kernel Benchmark Ryzen 9 7950X



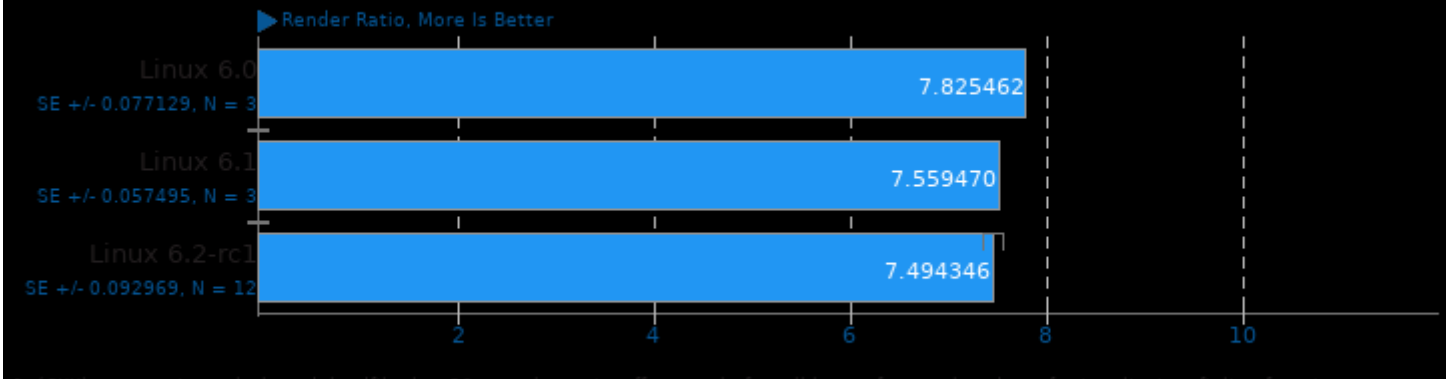
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X

Stargate Digital Audio Workstation 22.11.5

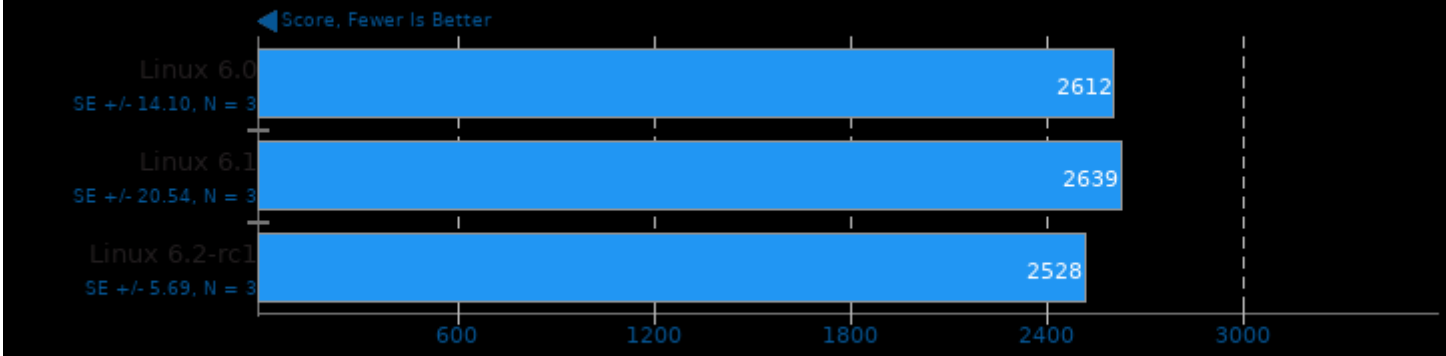
Sample Rate: 44100 - Buffer Size: 512



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Selenium

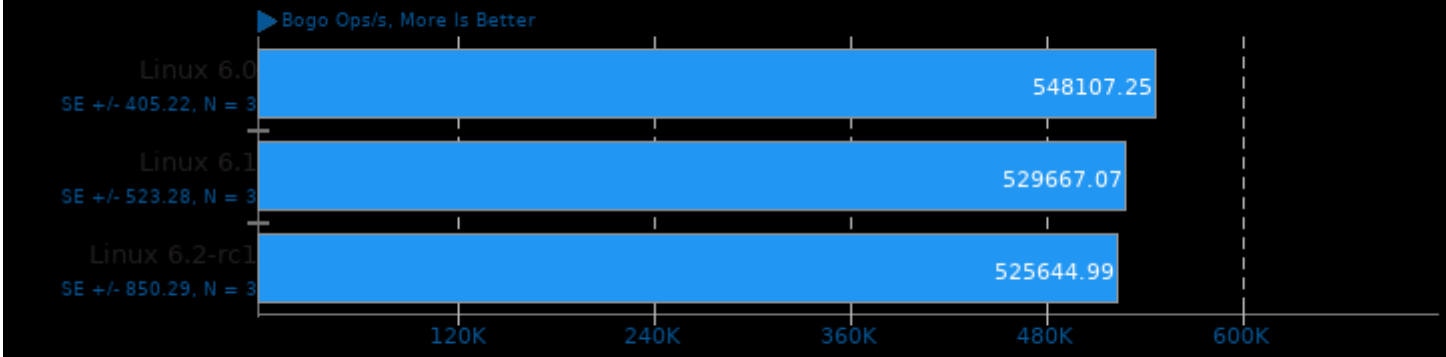
Benchmark: PSPDFKit WASM - Browser: Google Chrome



1. chrome 108.0.5359.124

Stress-NG 0.14.06

Test: SENDFILE

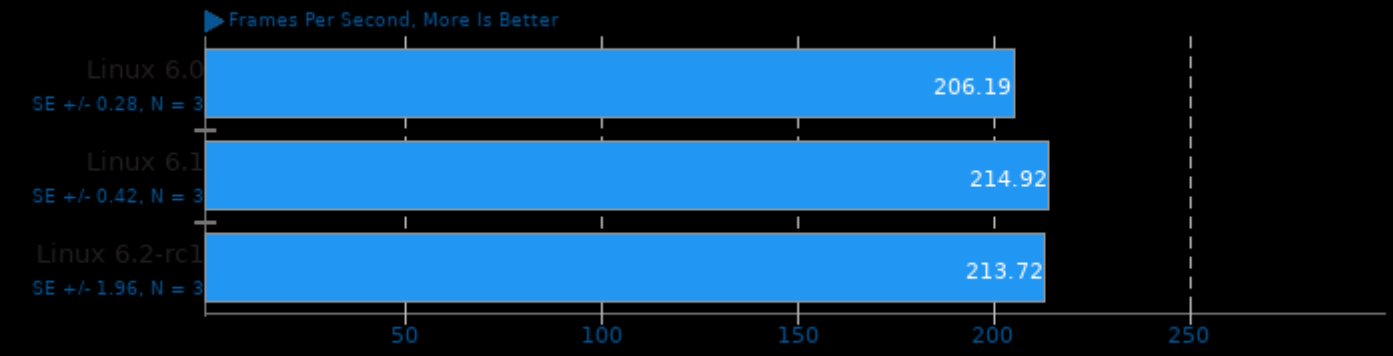


1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

SVT-AV1 1.4

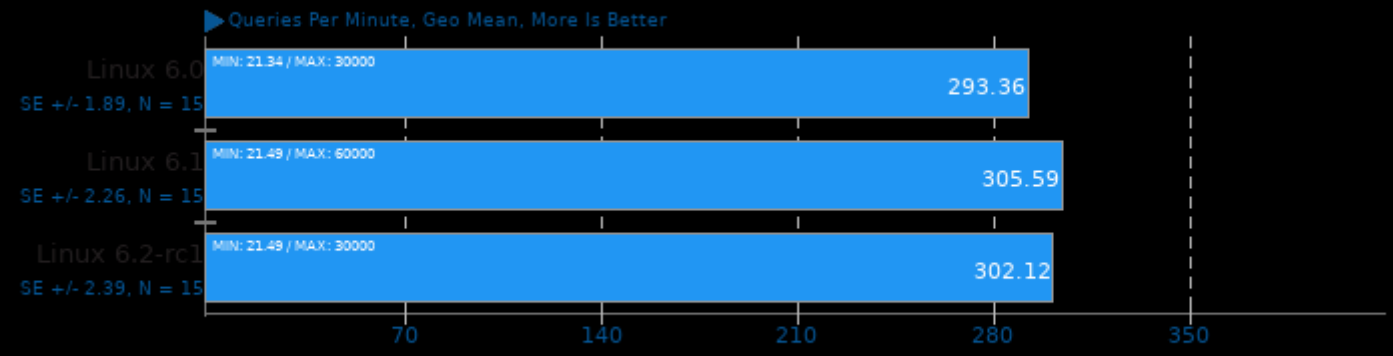
Encoder Mode: Preset 12 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

ClickHouse 22.5.4.19

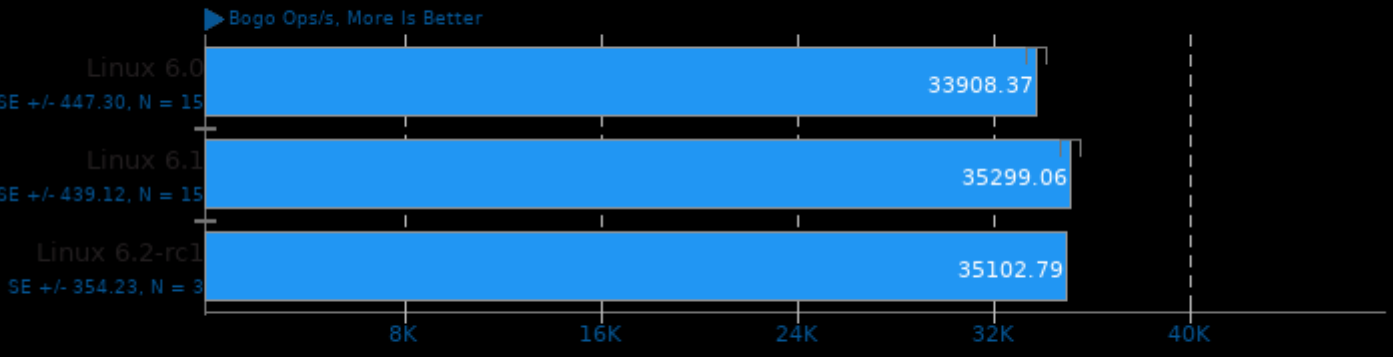
100M Rows Web Analytics Dataset, First Run / Cold Cache



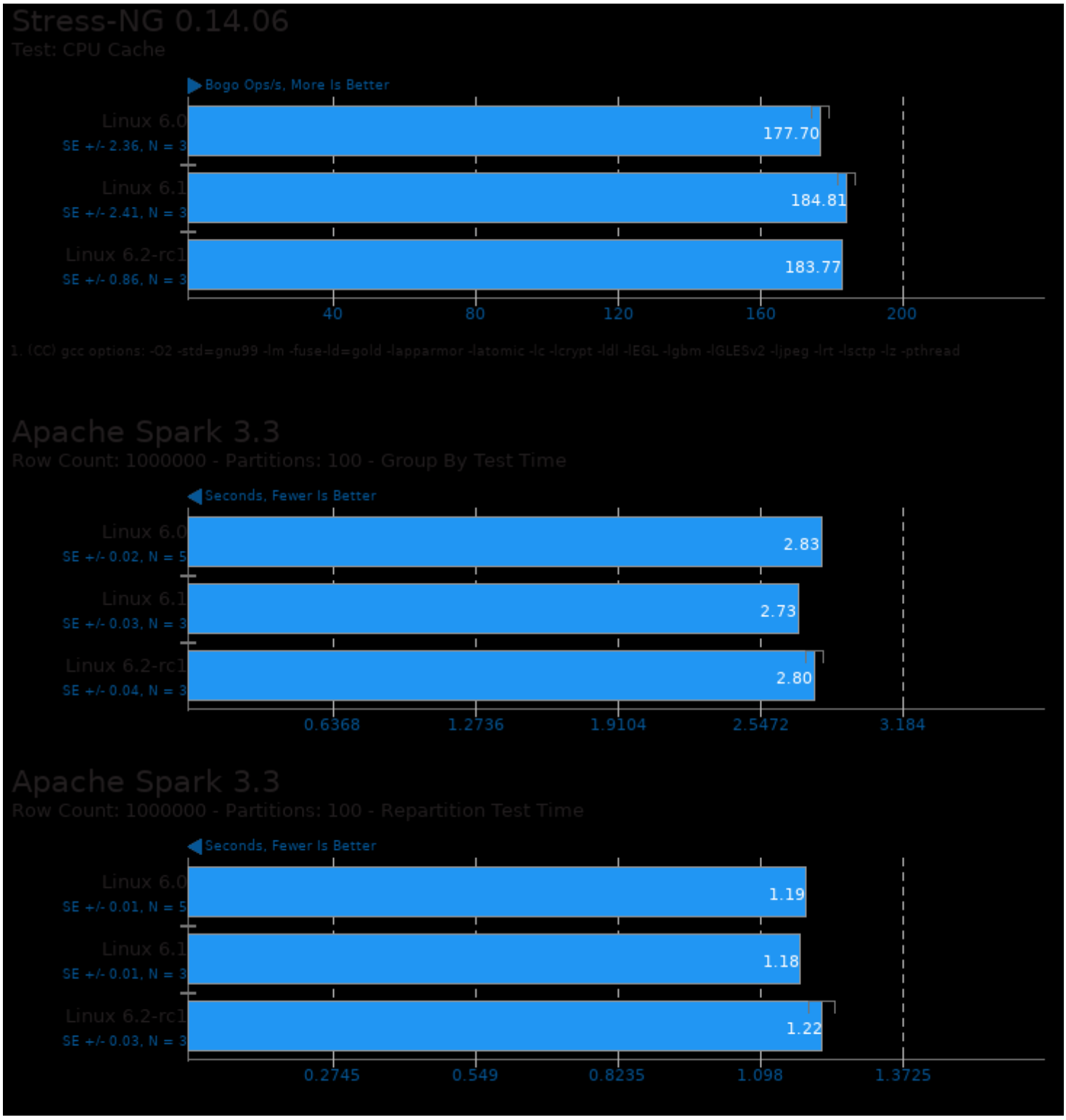
1. ClickHouse server version 22.5.4.19 (official build).

Stress-NG 0.14.06

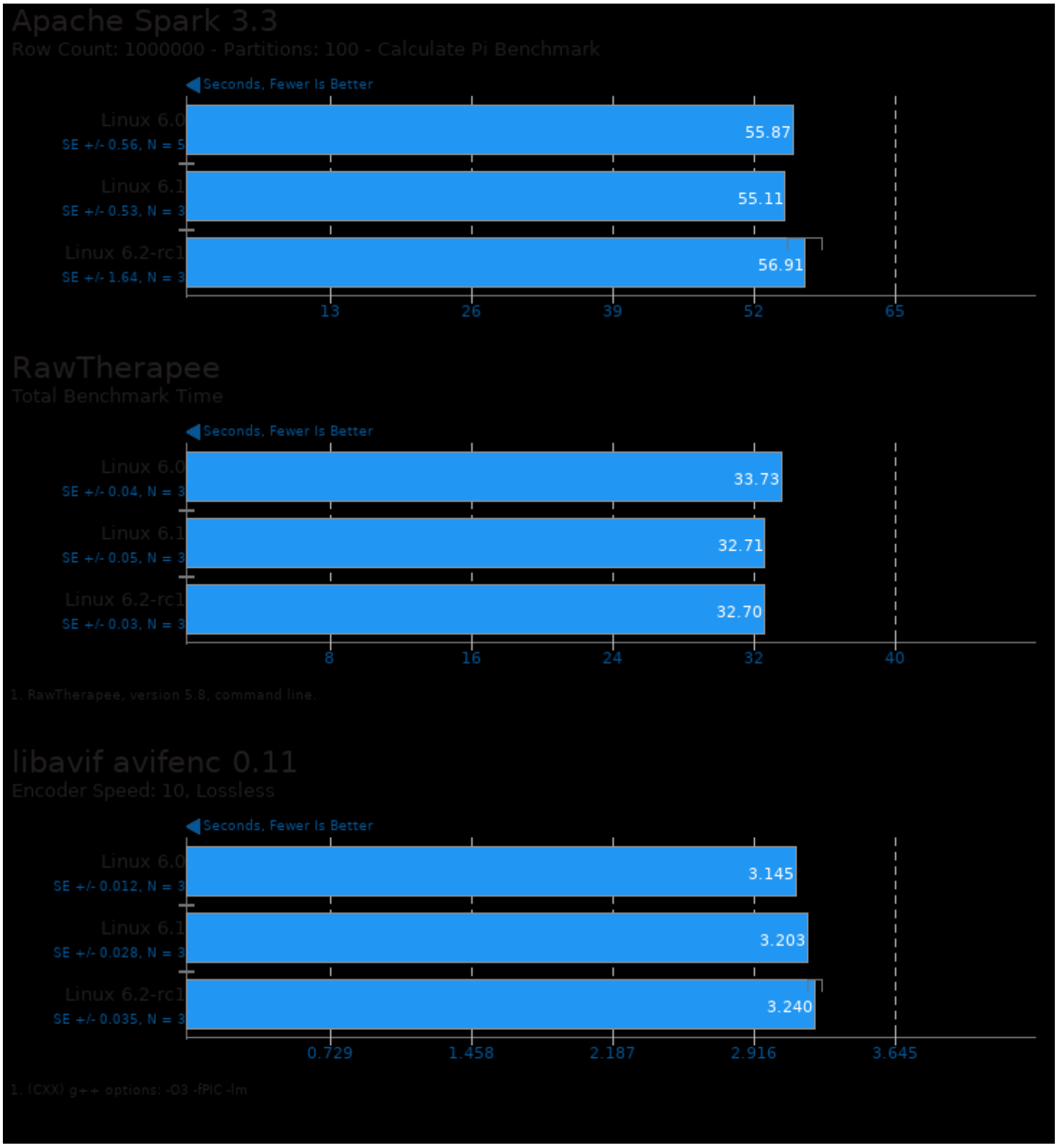
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: CPU Cache
Bogo Ops/s, More Is Better
Linux 6.0
SE +/- 2.36, N = 3
177.70
Linux 6.1
SE +/- 2.41, N = 3
184.81
Linux 6.2-rc1
SE +/- 0.86, N = 3
183.77
40
80
120
160
200
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Group By Test Time
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.02, N = 5
2.83
Linux 6.1
SE +/- 0.03, N = 3
2.73
Linux 6.2-rc1
SE +/- 0.04, N = 3
2.80
0.6368
1.2736
1.9104
2.5472
3.184
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Repartition Test Time
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.01, N = 5
1.19
Linux 6.1
SE +/- 0.01, N = 3
1.18
Linux 6.2-rc1
SE +/- 0.03, N = 3
1.22
0.2745
0.549
0.8235
1.098
1.3725

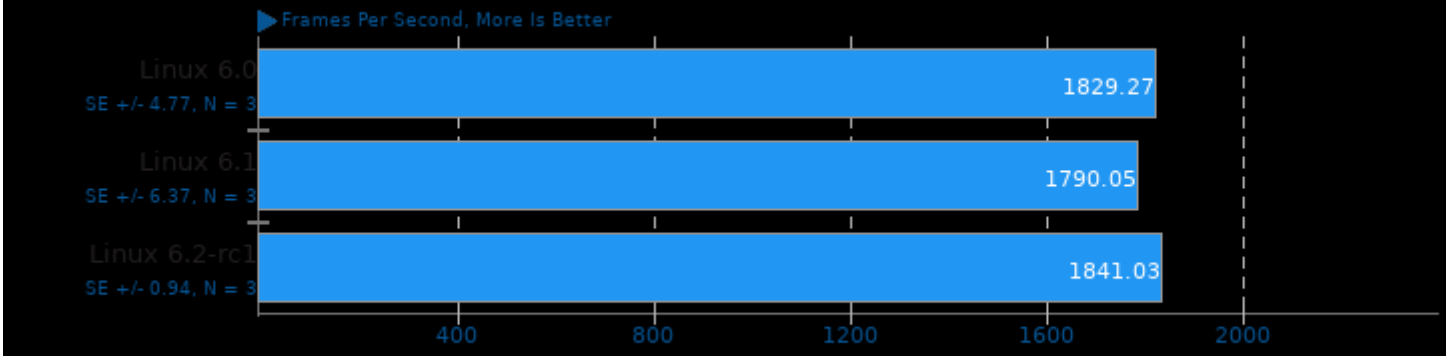
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X

DDraceNetwork 16.3.2

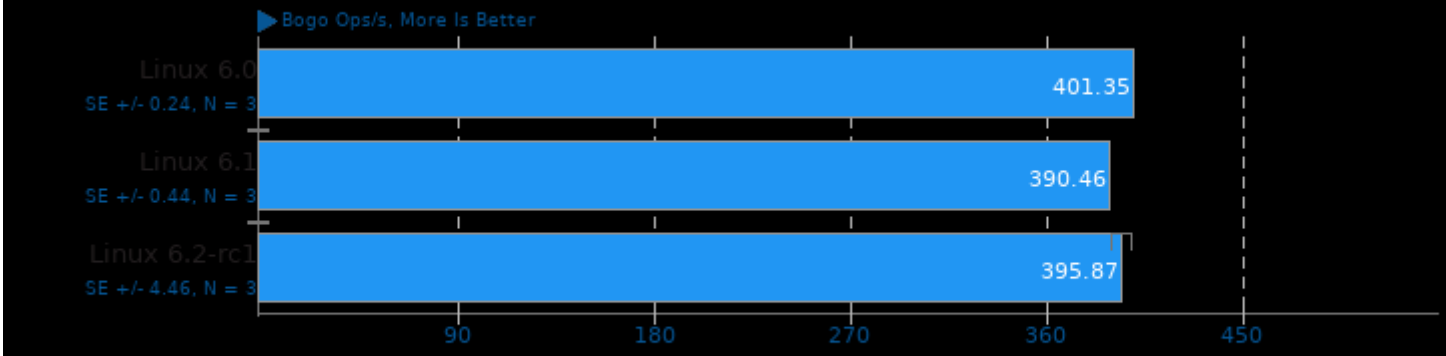
Resolution: 3840 x 2160 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -lrt -ldl -lvulkan -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0 -fuse-ld=gold

Stress-NG 0.14.06

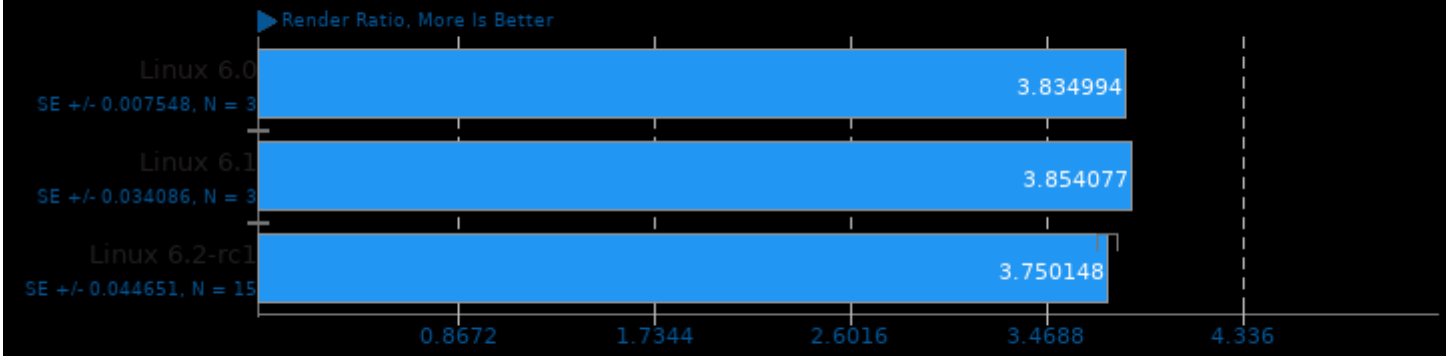
Test: MMAP



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

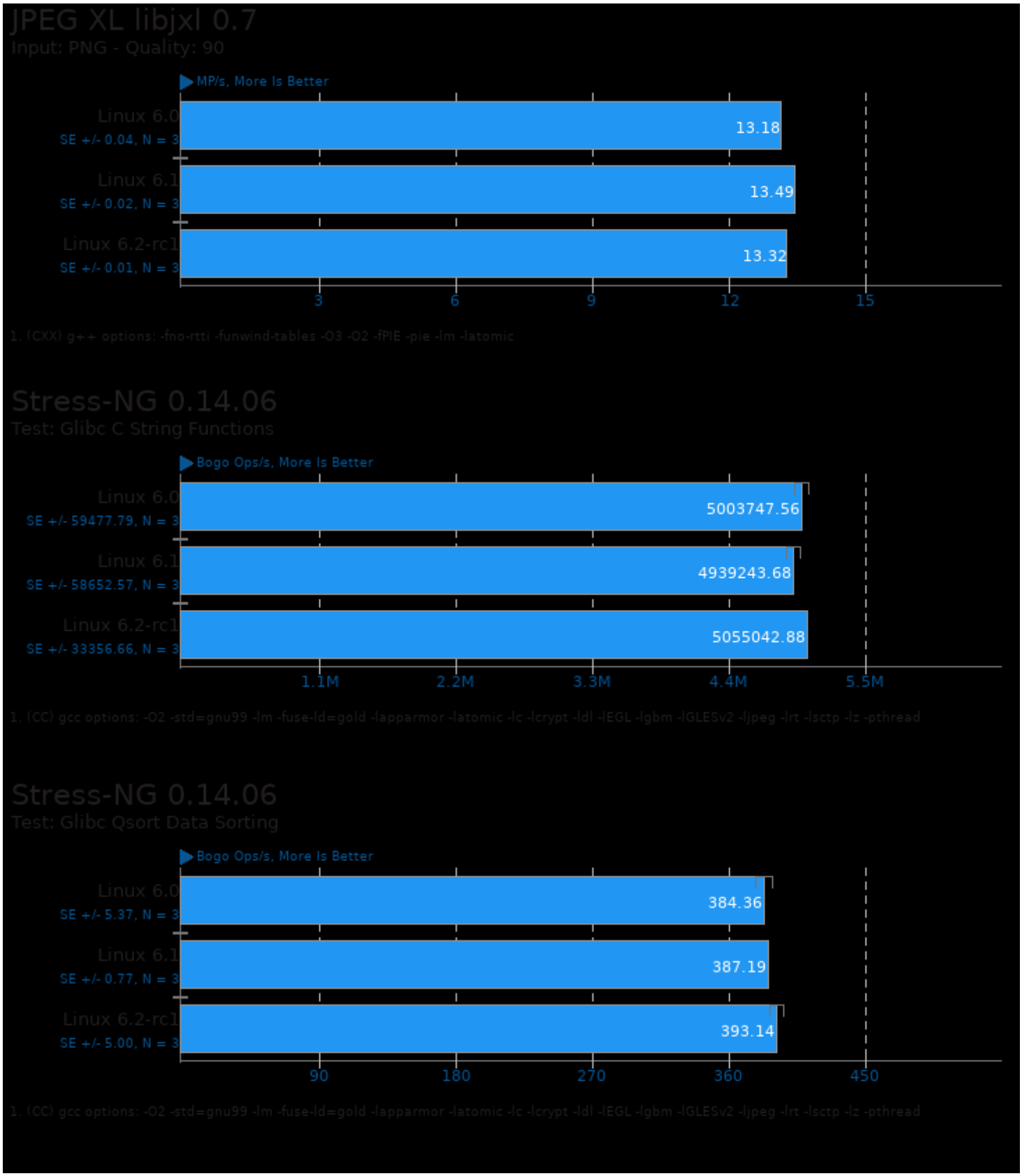
Stargate Digital Audio Workstation 22.11.5

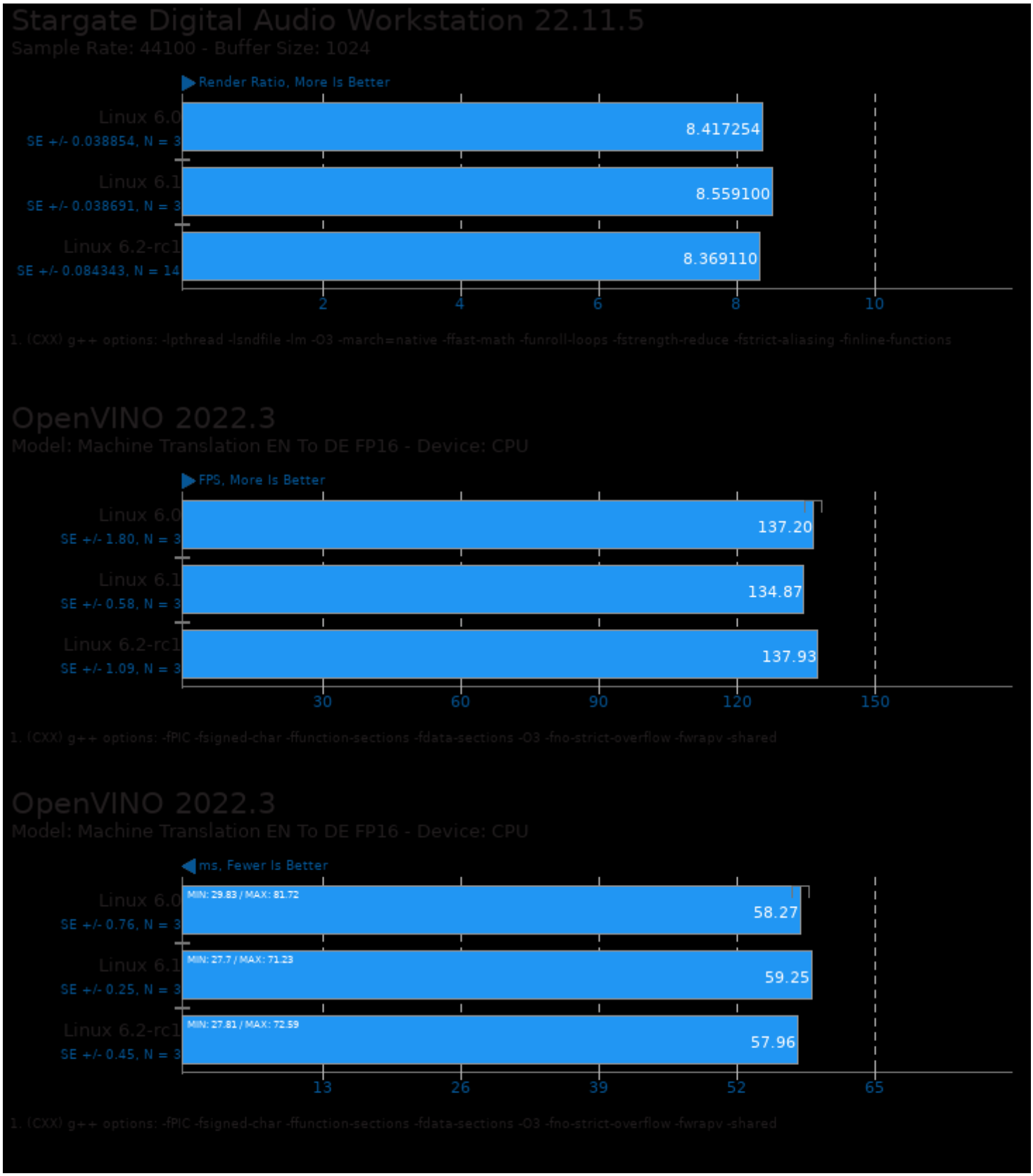
Sample Rate: 192000 - Buffer Size: 1024



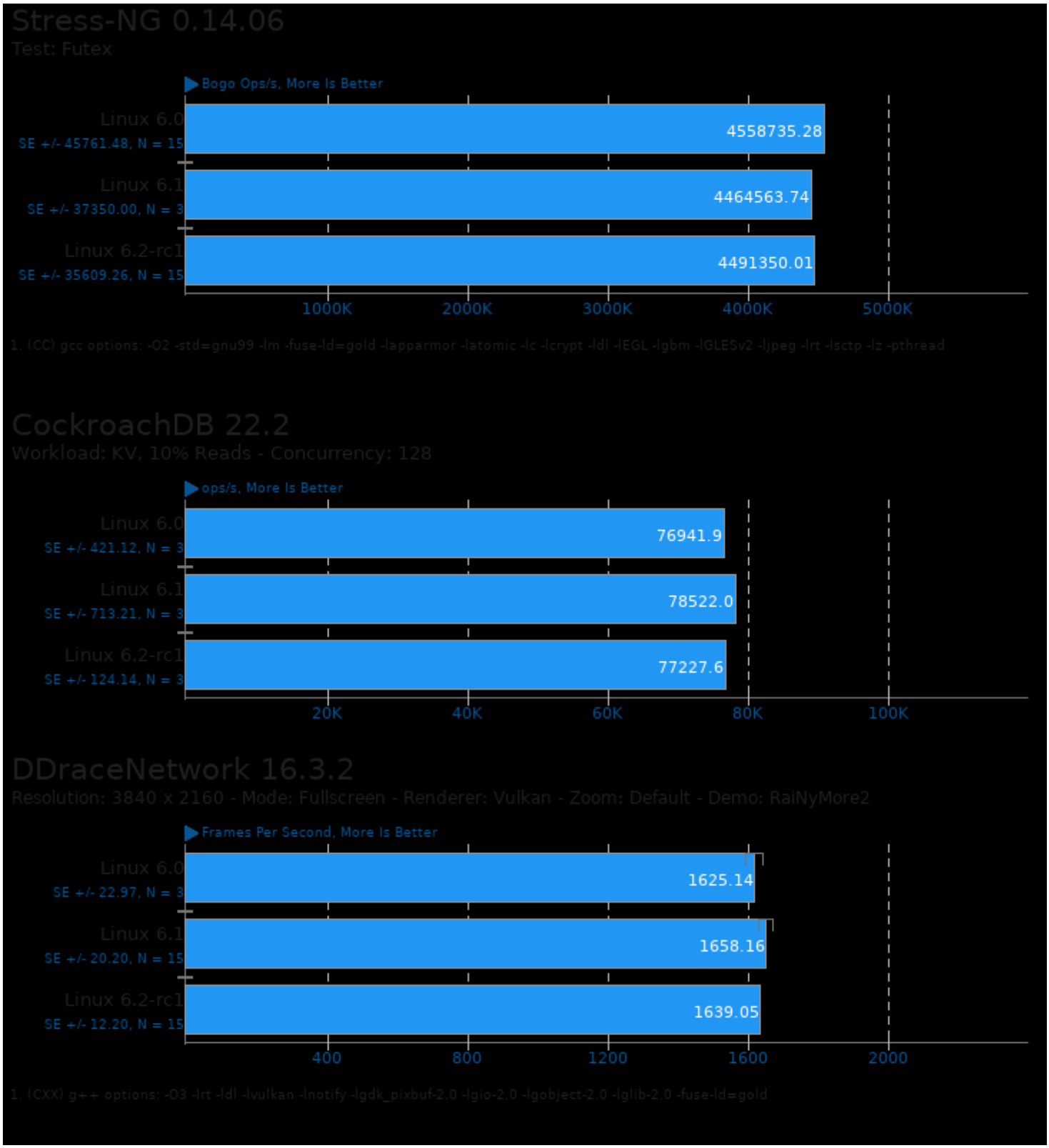
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

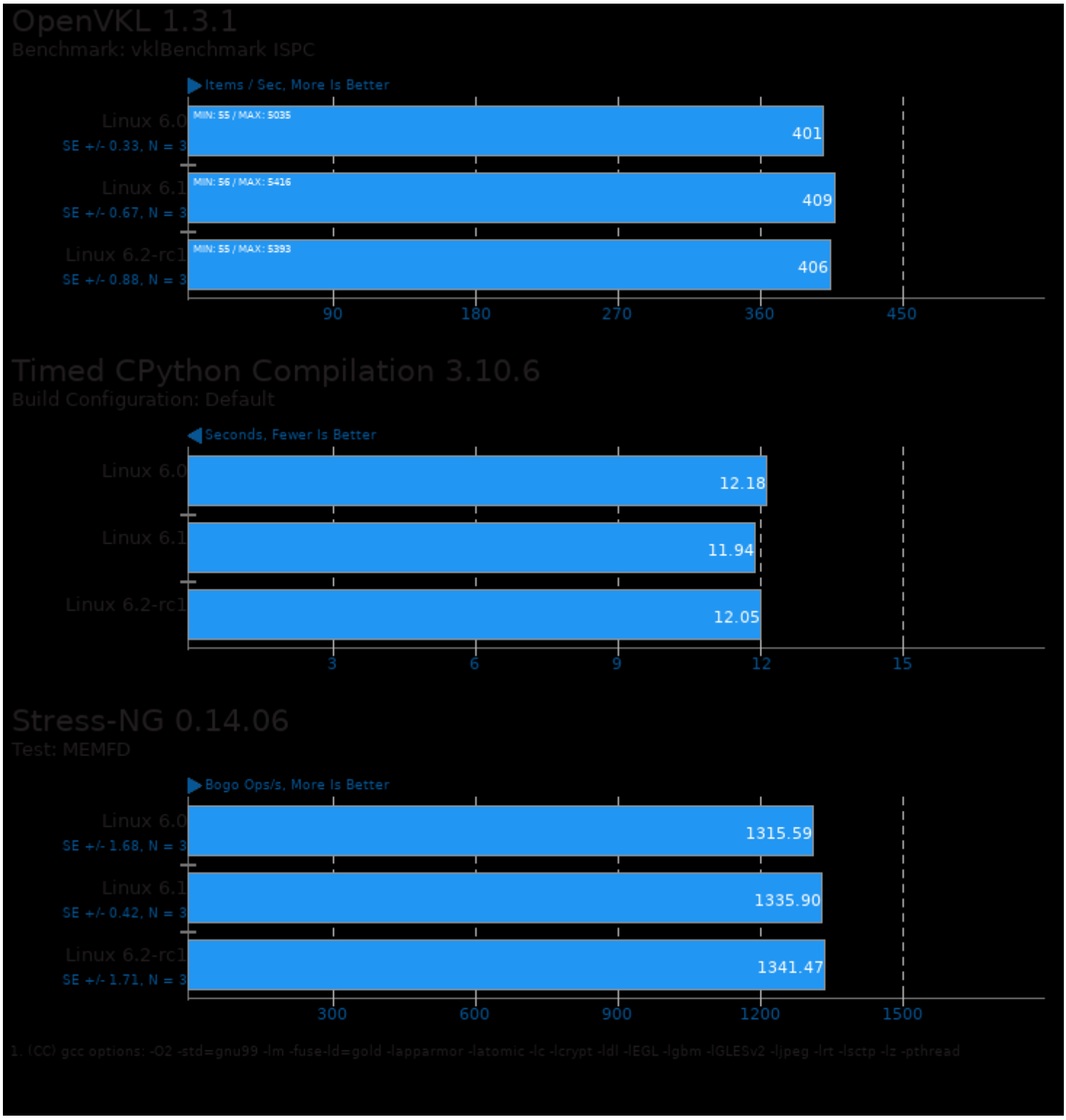
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



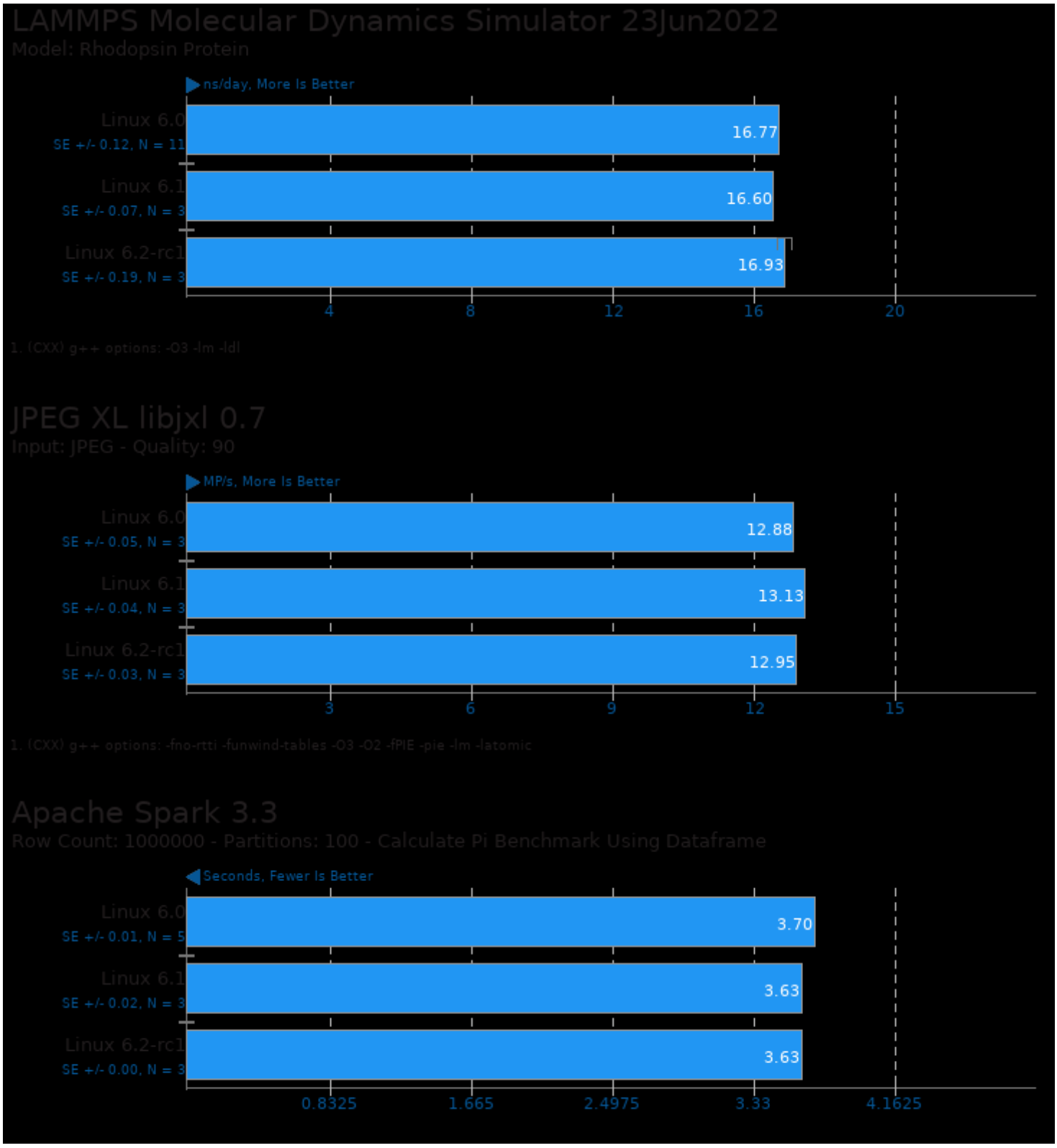

Stargate Digital Audio Workstation 22.11.5
Sample Rate: 44100 - Buffer Size: 1024
Render Ratio, More Is Better
Linux 6.0
SE +/- 0.038854, N = 3
8.417254
Linux 6.1
SE +/- 0.038691, N = 3
8.559100
Linux 6.2-rc1
SE +/- 0.084343, N = 14
8.369110
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
OpenVINO 2022.3
Model: Machine Translation EN To DE FP16 - Device: CPU
FPS, More Is Better
Linux 6.0
SE +/- 1.80, N = 3
137.20
Linux 6.1
SE +/- 0.58, N = 3
134.87
Linux 6.2-rc1
SE +/- 1.09, N = 3
137.93
30
60
90
120
150
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
OpenVINO 2022.3
Model: Machine Translation EN To DE FP16 - Device: CPU
ms, Fewer Is Better
Linux 6.0
SE +/- 0.76, N = 3
MIN: 29.83 / MAX: 81.72
58.27
Linux 6.1
SE +/- 0.25, N = 3
MIN: 27.7 / MAX: 71.23
59.25
Linux 6.2-rc1
SE +/- 0.45, N = 3
MIN: 27.81 / MAX: 72.59
57.96
13
26
39
52
65
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

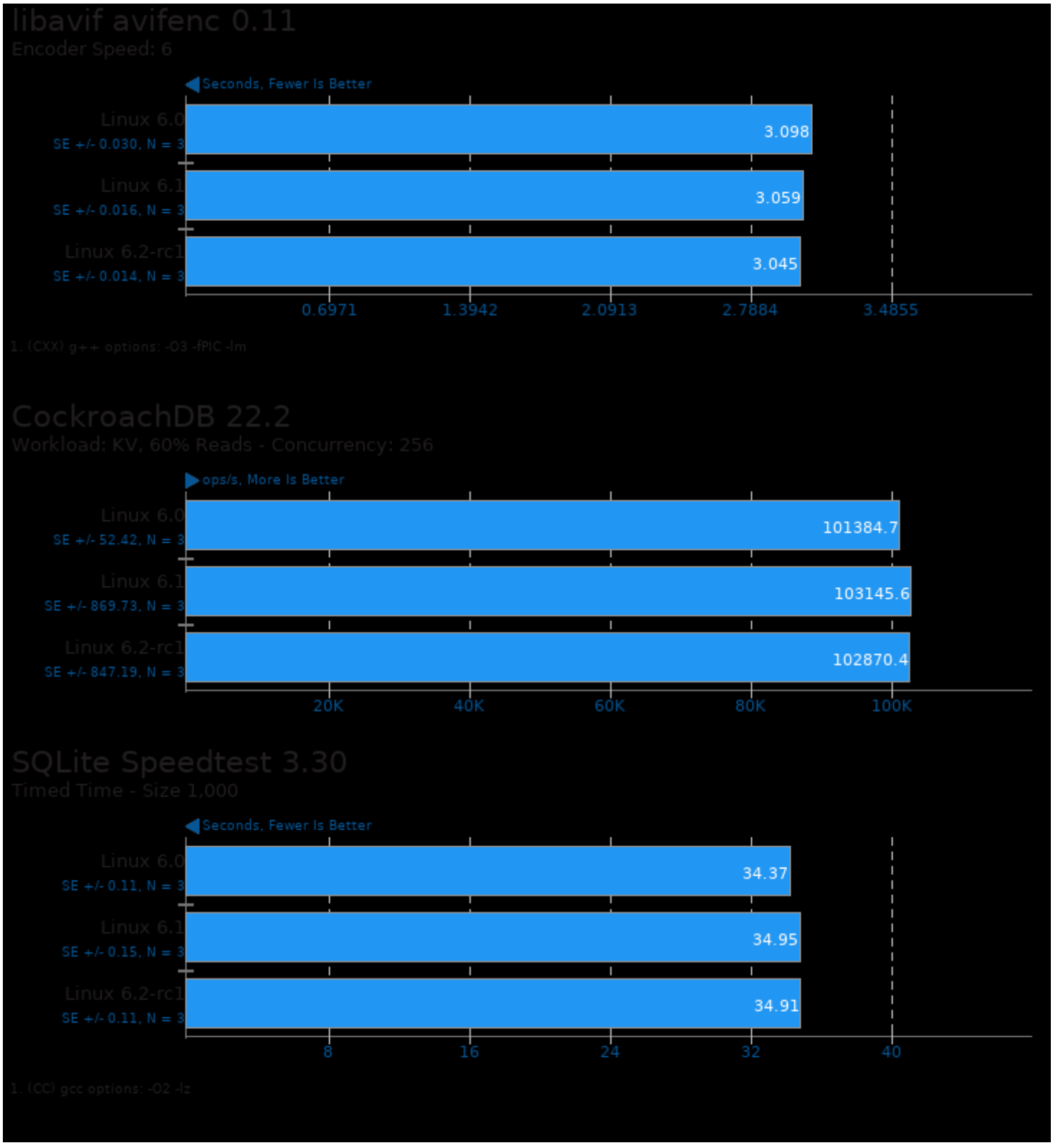



OpenVKL 1.3.1
Benchmark: vklBenchmark ISPC
Items / Sec, More Is Better
Linux 6.0
SE +/- 0.33, N = 3
MIN: 55 / MAX: 5035
401
Linux 6.1
SE +/- 0.67, N = 3
MIN: 56 / MAX: 5416
409
Linux 6.2-rc1
SE +/- 0.88, N = 3
MIN: 55 / MAX: 5393
406
90
180
270
360
450
Timed CPython Compilation 3.10.6
Build Configuration: Default
Seconds, Fewer Is Better
Linux 6.0
12.18
Linux 6.1
11.94
Linux 6.2-rc1
12.05
3
6
9
12
15
Stress-NG 0.14.06
Test: MEMFD
Bogo Ops/s, More Is Better
Linux 6.0
SE +/- 1.68, N = 3
1315.59
Linux 6.1
SE +/- 0.42, N = 3
1335.90
Linux 6.2-rc1
SE +/- 1.71, N = 3
1341.47
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

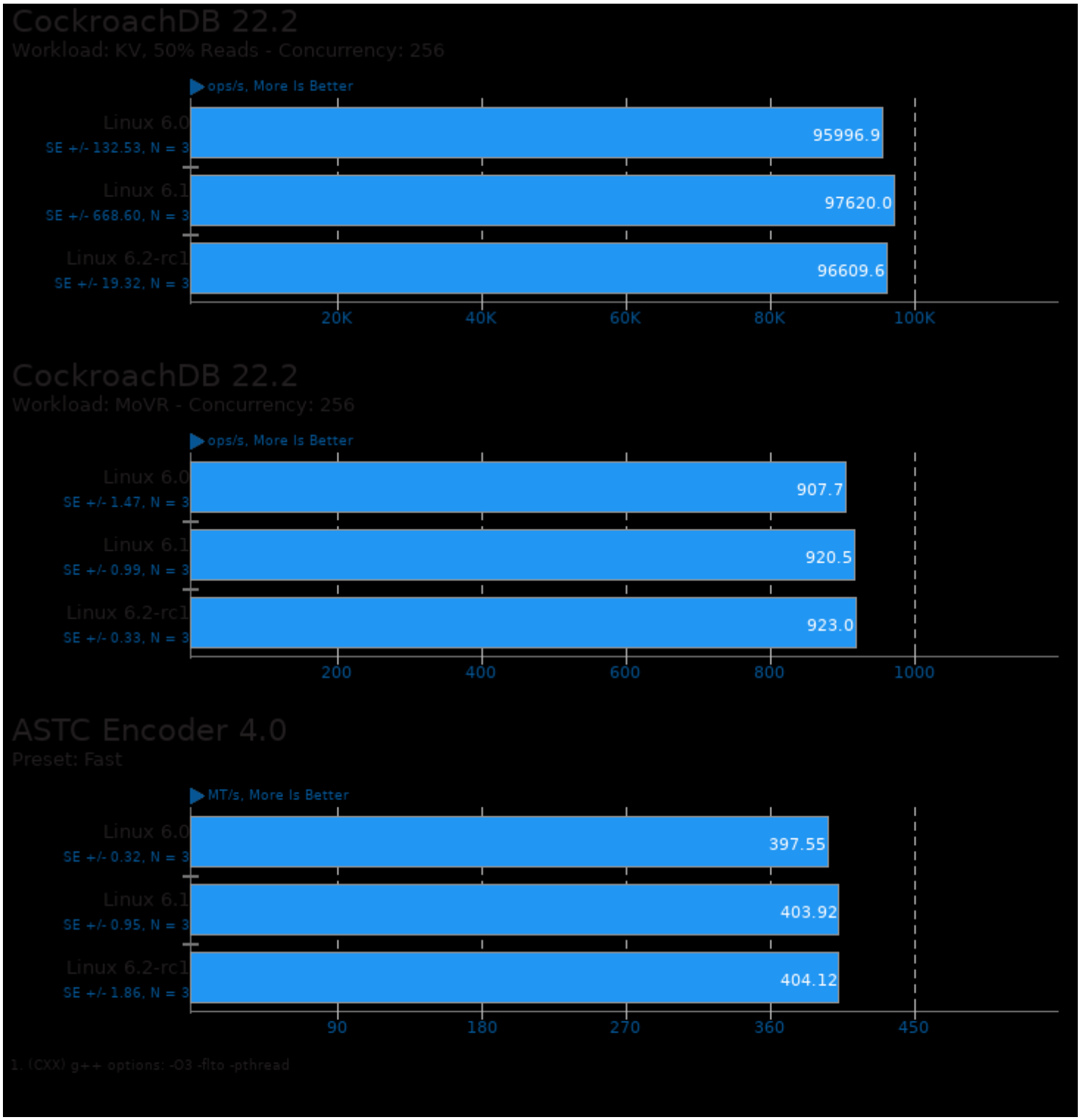
Linux 6.2 Kernel Benchmark Ryzen 9 7950X

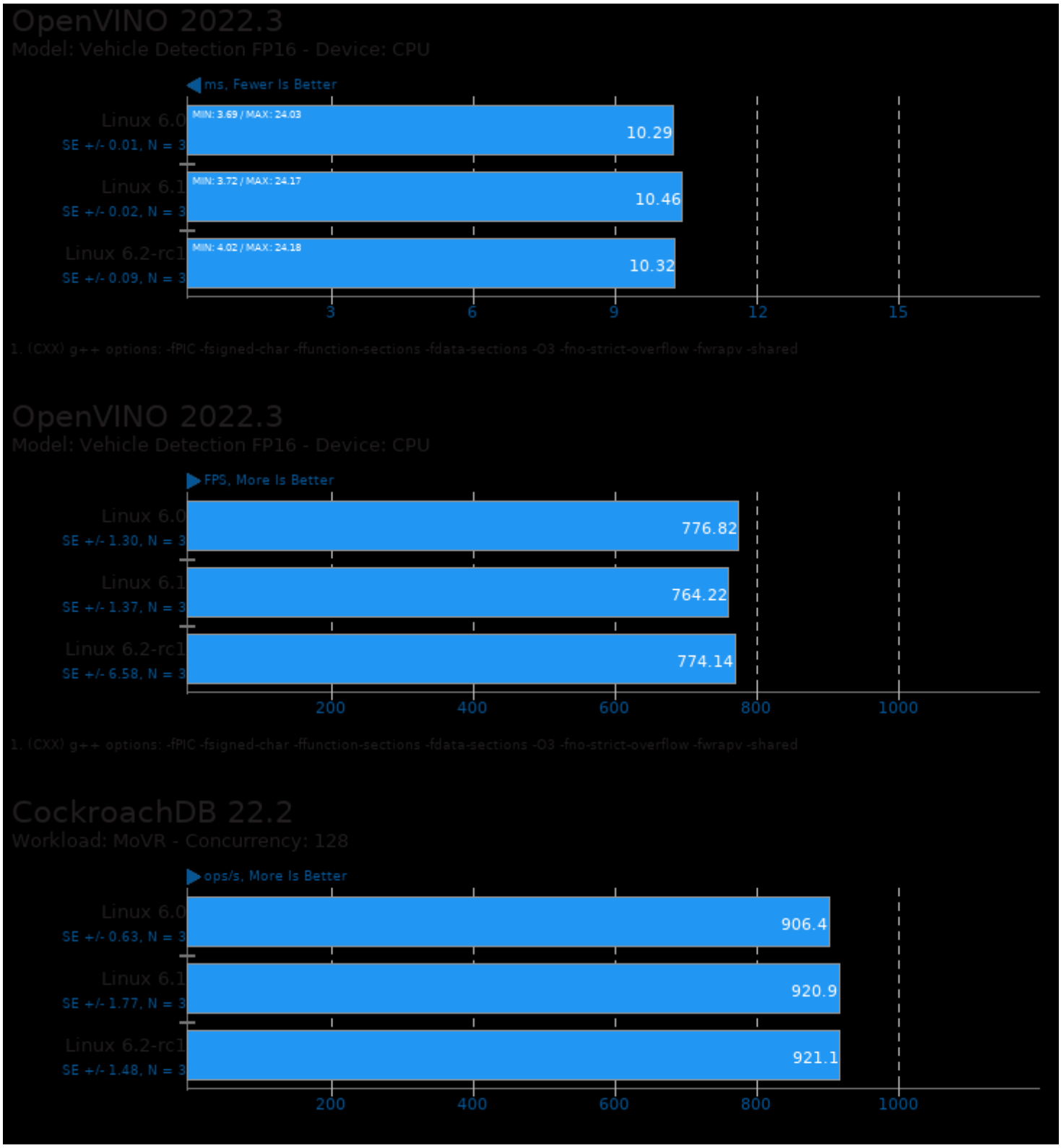


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

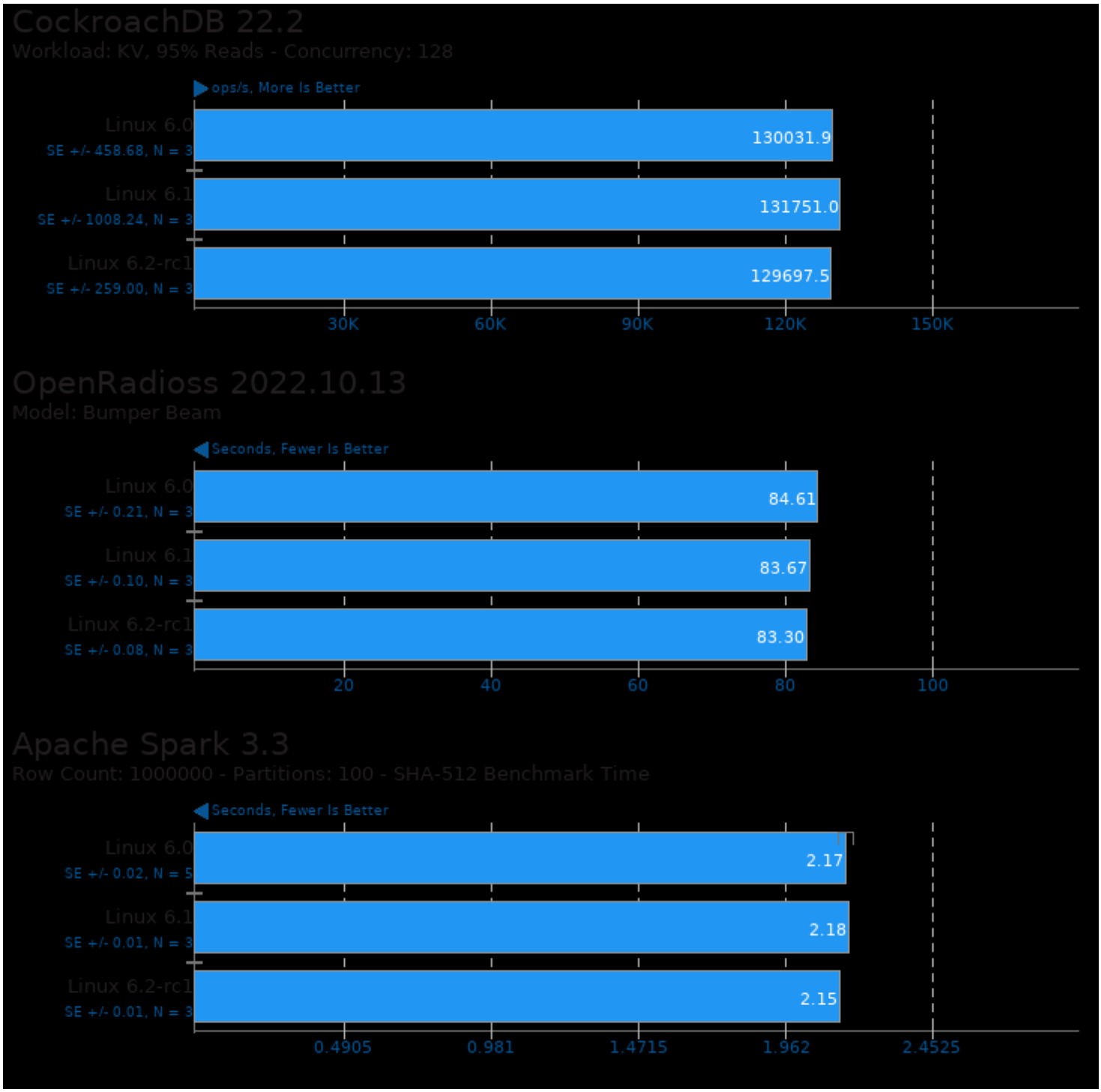


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

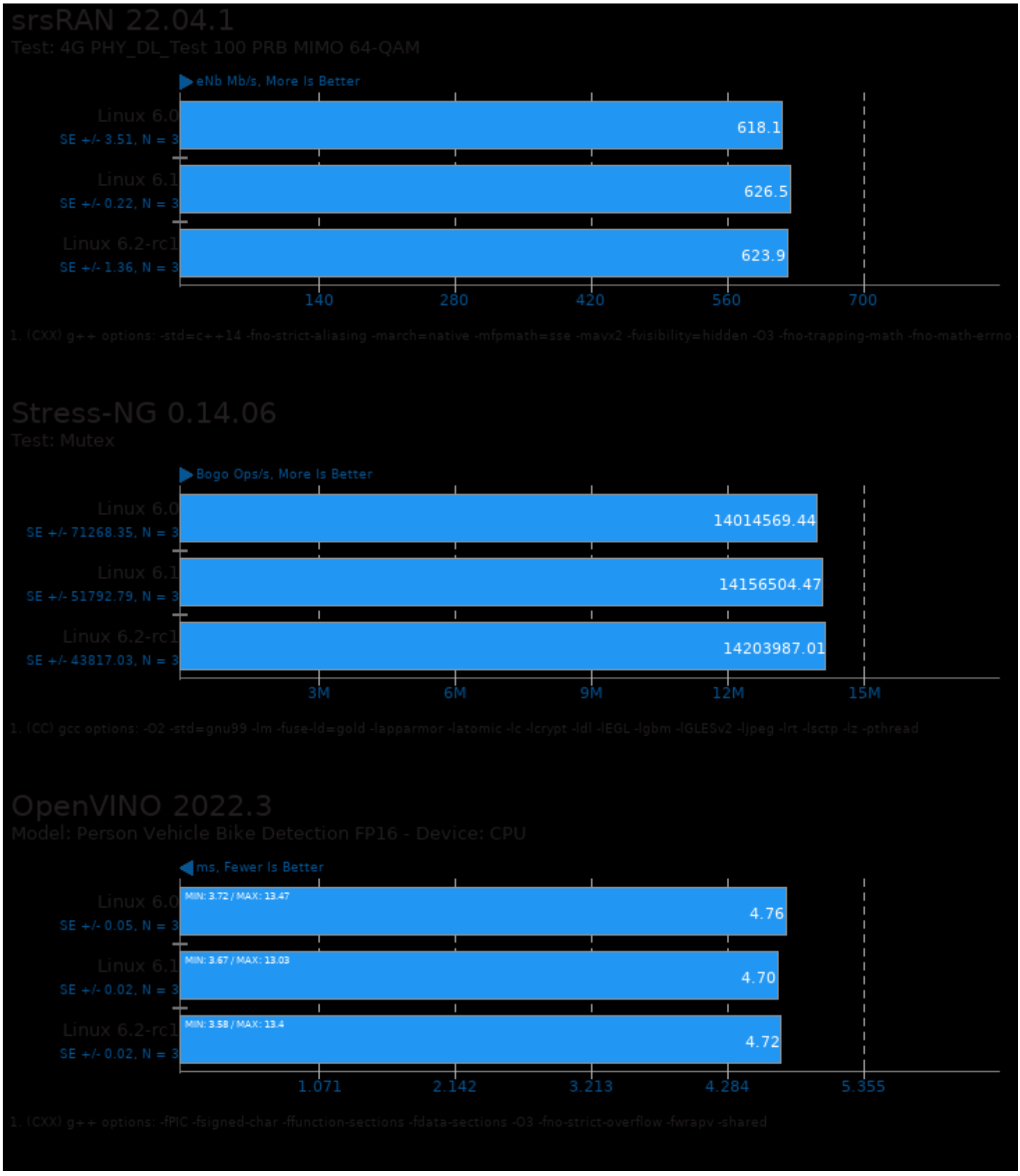



OpenVINO 2022.3
Model: Vehicle Detection FP16 - Device: CPU
ms, Fewer Is Better
Linux 6.0
SE +/- 0.01, N = 3
MIN: 3.69 / MAX: 24.03
10.29
Linux 6.1
SE +/- 0.02, N = 3
MIN: 3.72 / MAX: 24.17
10.46
Linux 6.2-rc1
SE +/- 0.09, N = 3
MIN: 4.02 / MAX: 24.18
10.32
3
6
9
12
15
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
OpenVINO 2022.3
Model: Vehicle Detection FP16 - Device: CPU
FPS, More Is Better
Linux 6.0
SE +/- 1.30, N = 3
776.82
Linux 6.1
SE +/- 1.37, N = 3
764.22
Linux 6.2-rc1
SE +/- 6.58, N = 3
774.14
200
400
600
800
1000
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
CockroachDB 22.2
Workload: MoVR - Concurrency: 128
ops/s, More Is Better
Linux 6.0
SE +/- 0.63, N = 3
906.4
Linux 6.1
SE +/- 1.77, N = 3
920.9
Linux 6.2-rc1
SE +/- 1.48, N = 3
921.1
200
400
600
800
1000

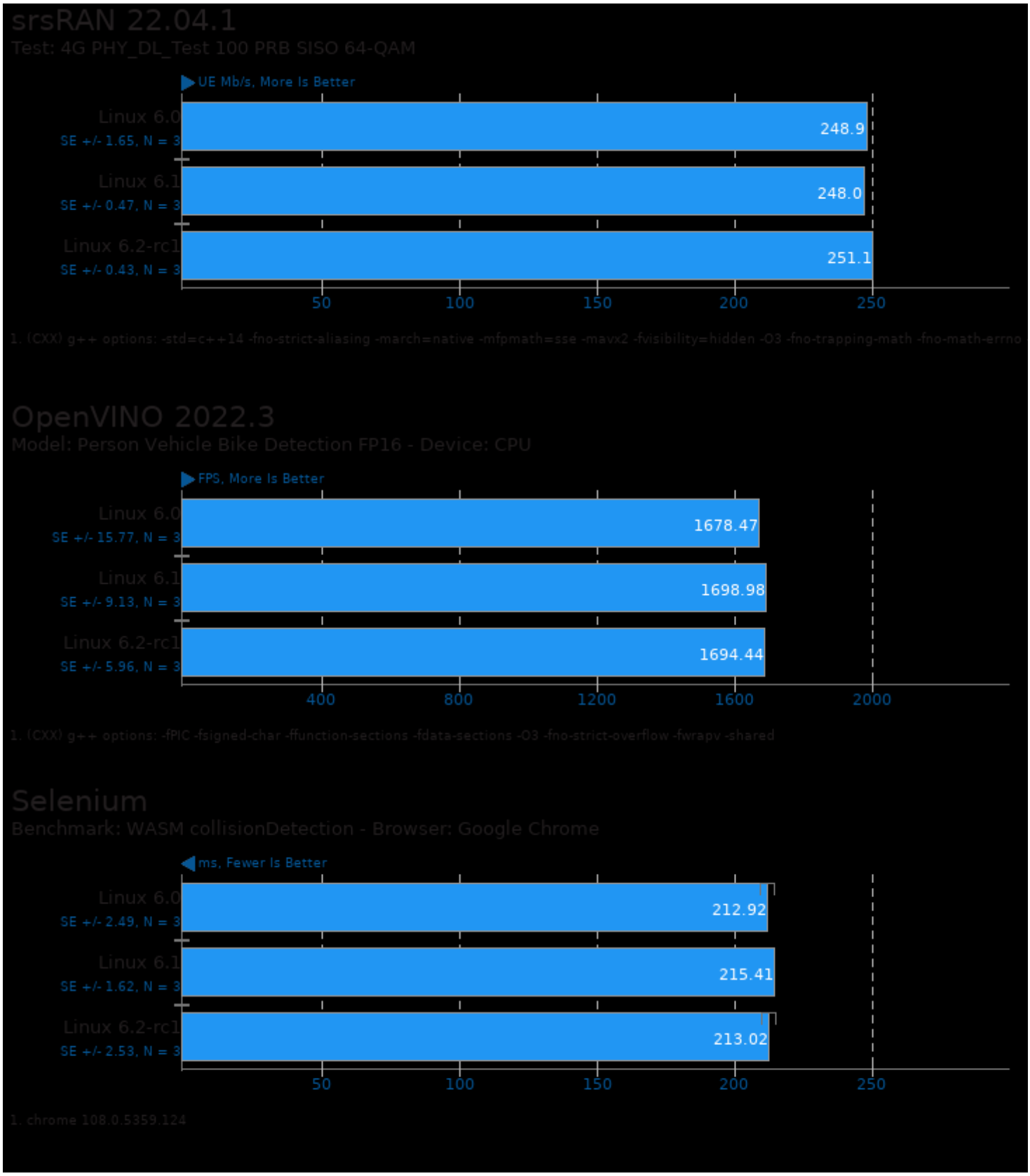
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



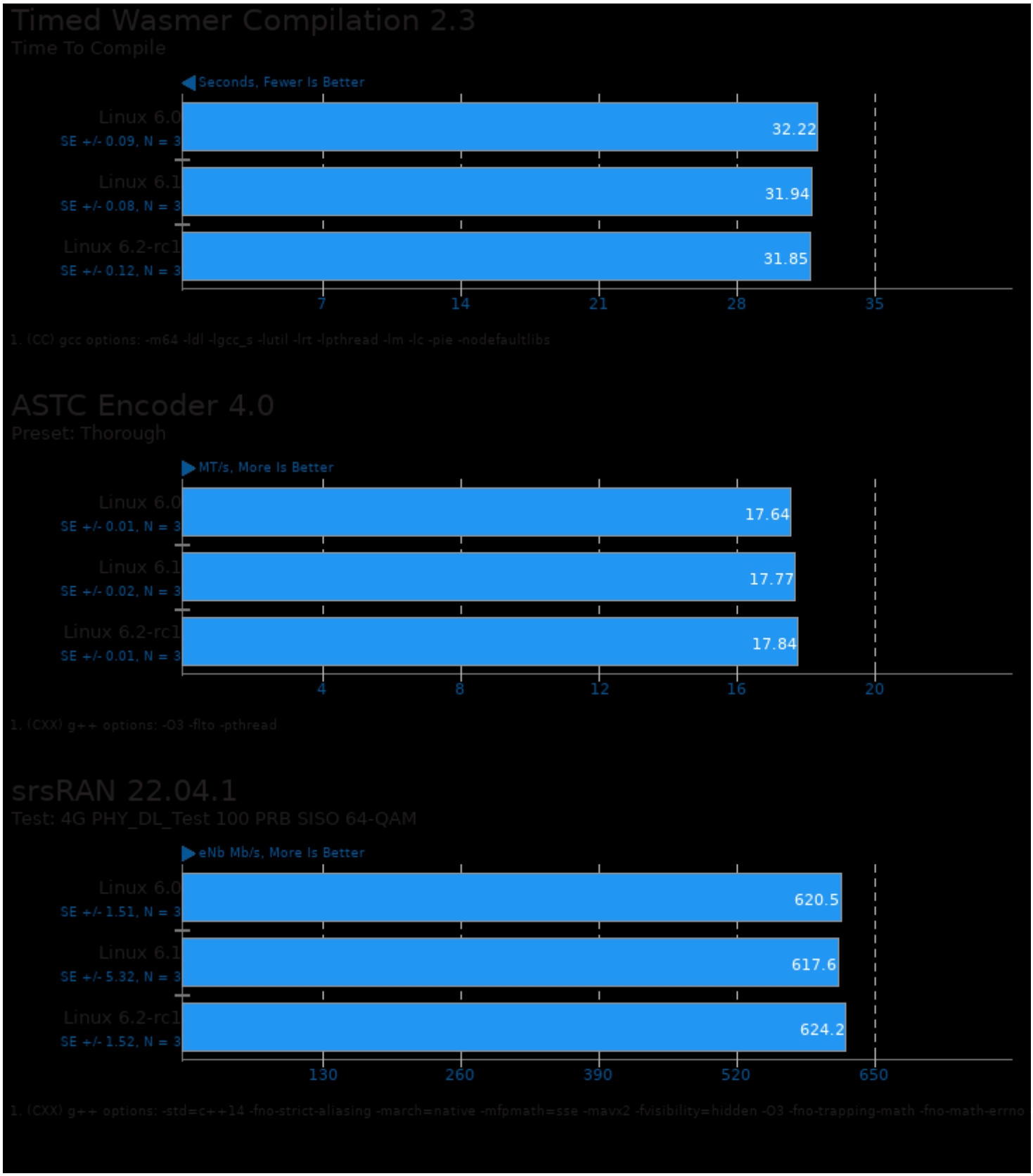
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



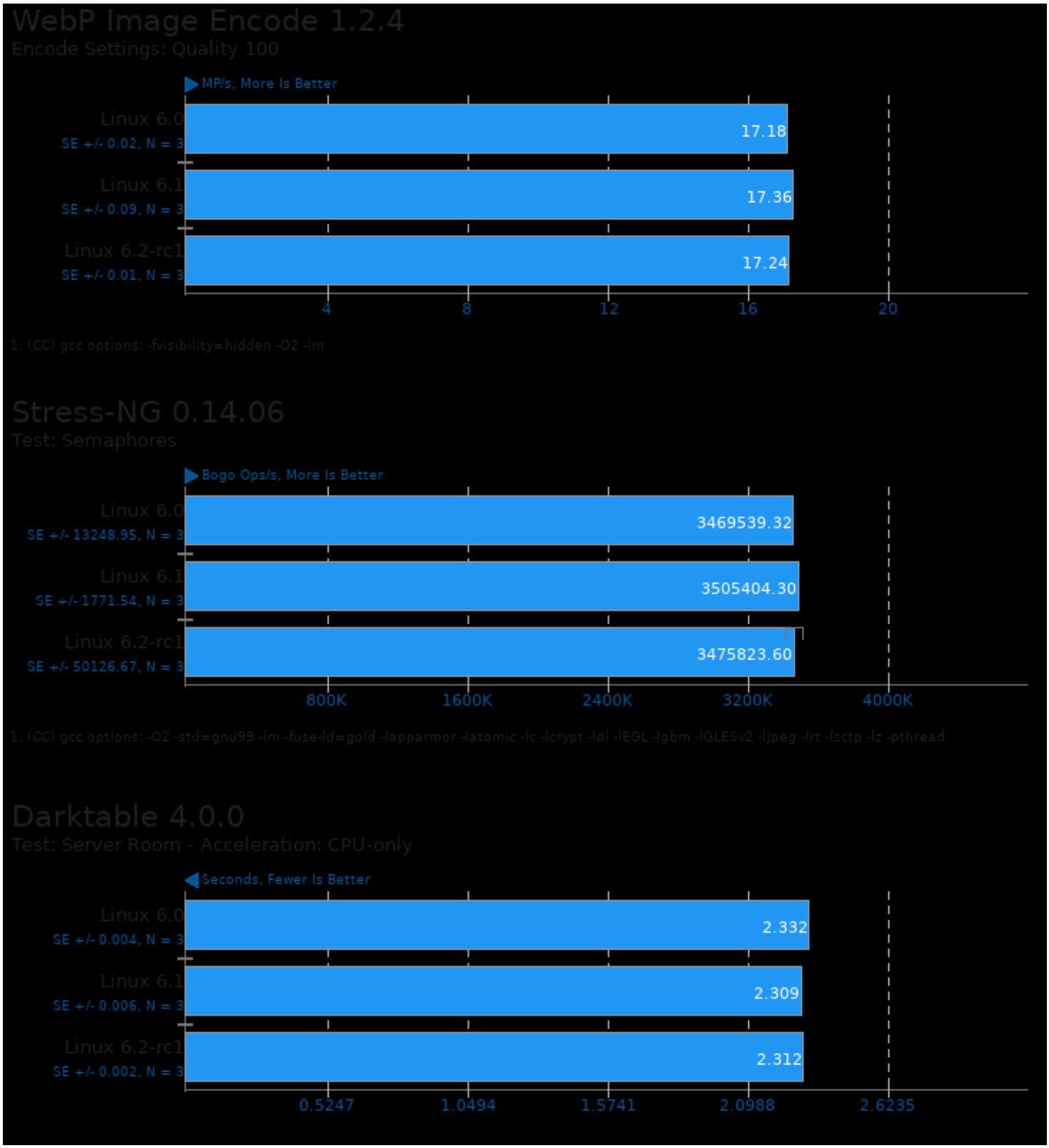
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



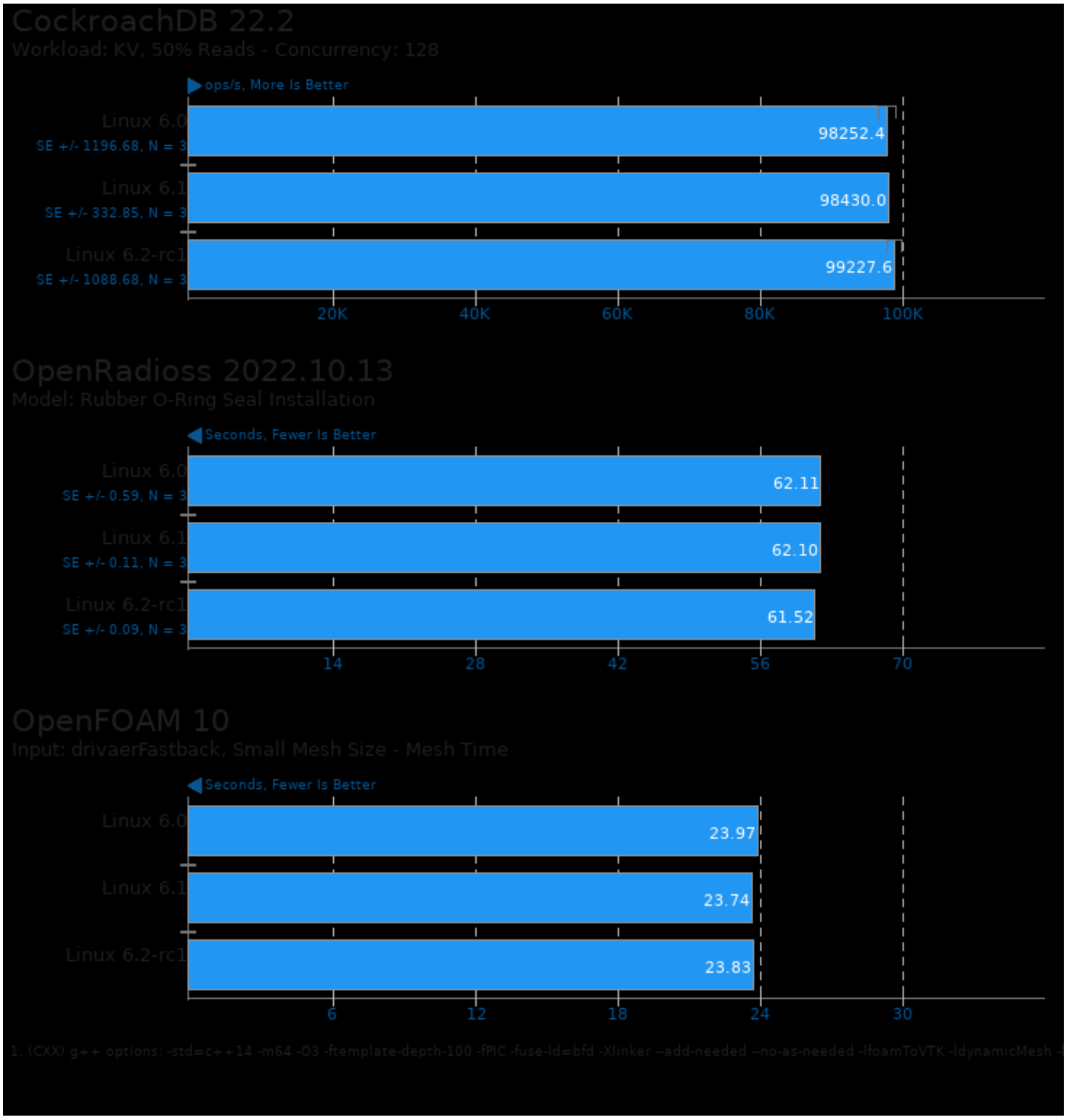
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X



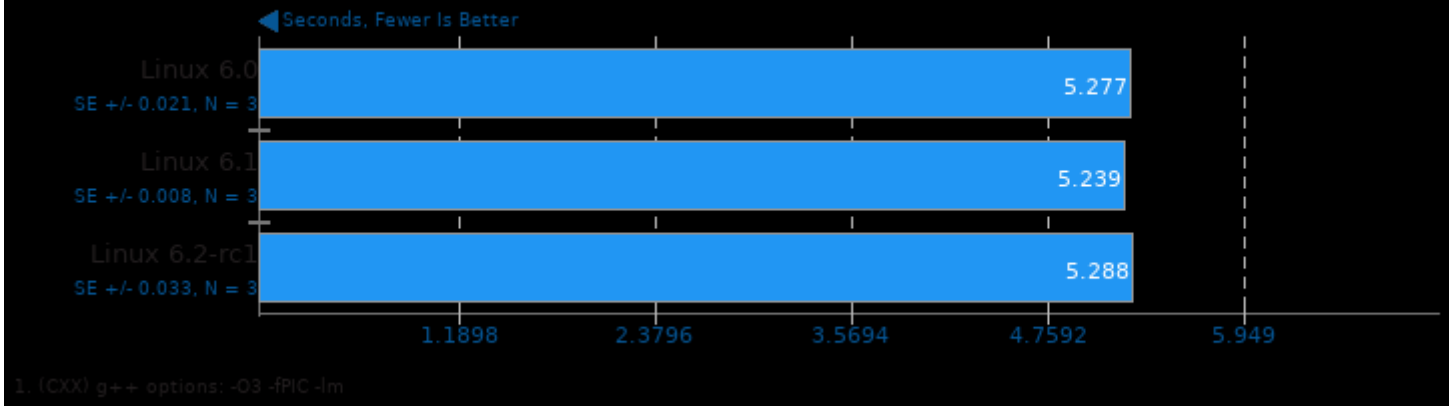
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X

libavif avifenc 0.11

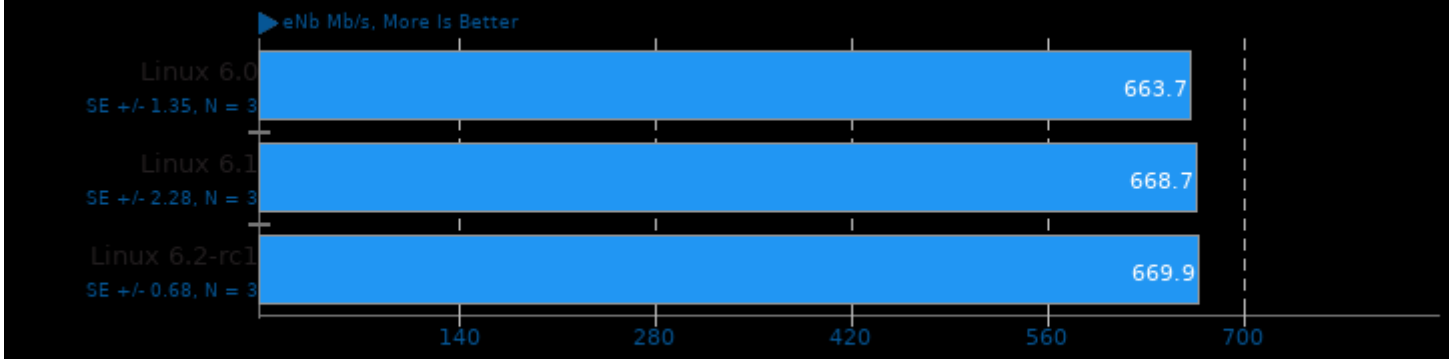
Encoder Speed: 6, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

srsRAN 22.04.1

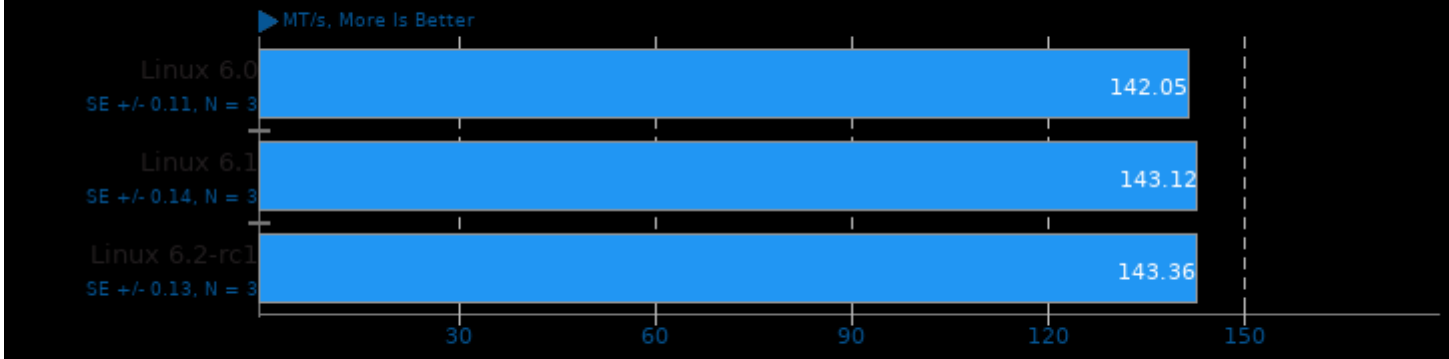
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM



1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

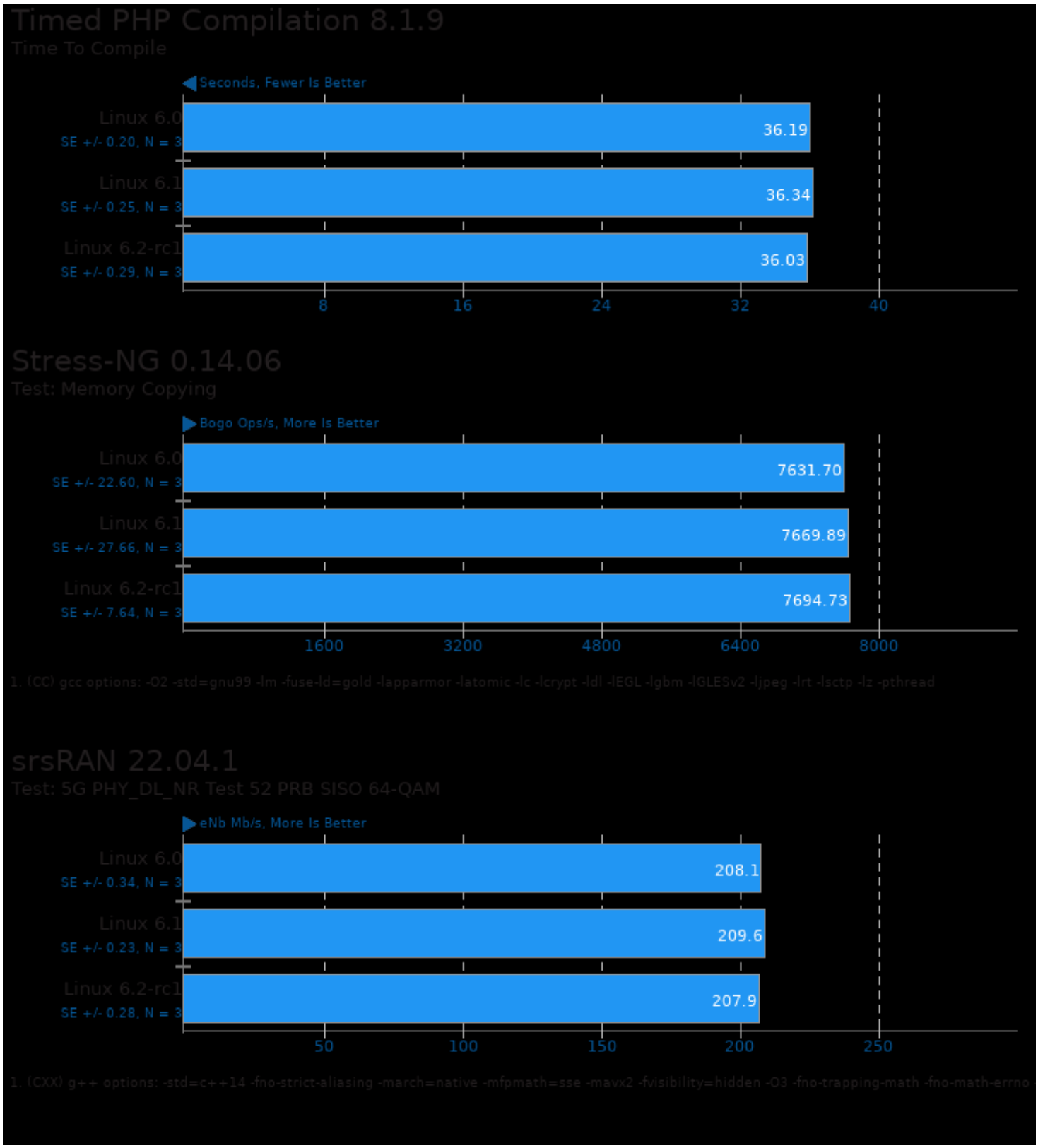
ASTC Encoder 4.0

Preset: Medium

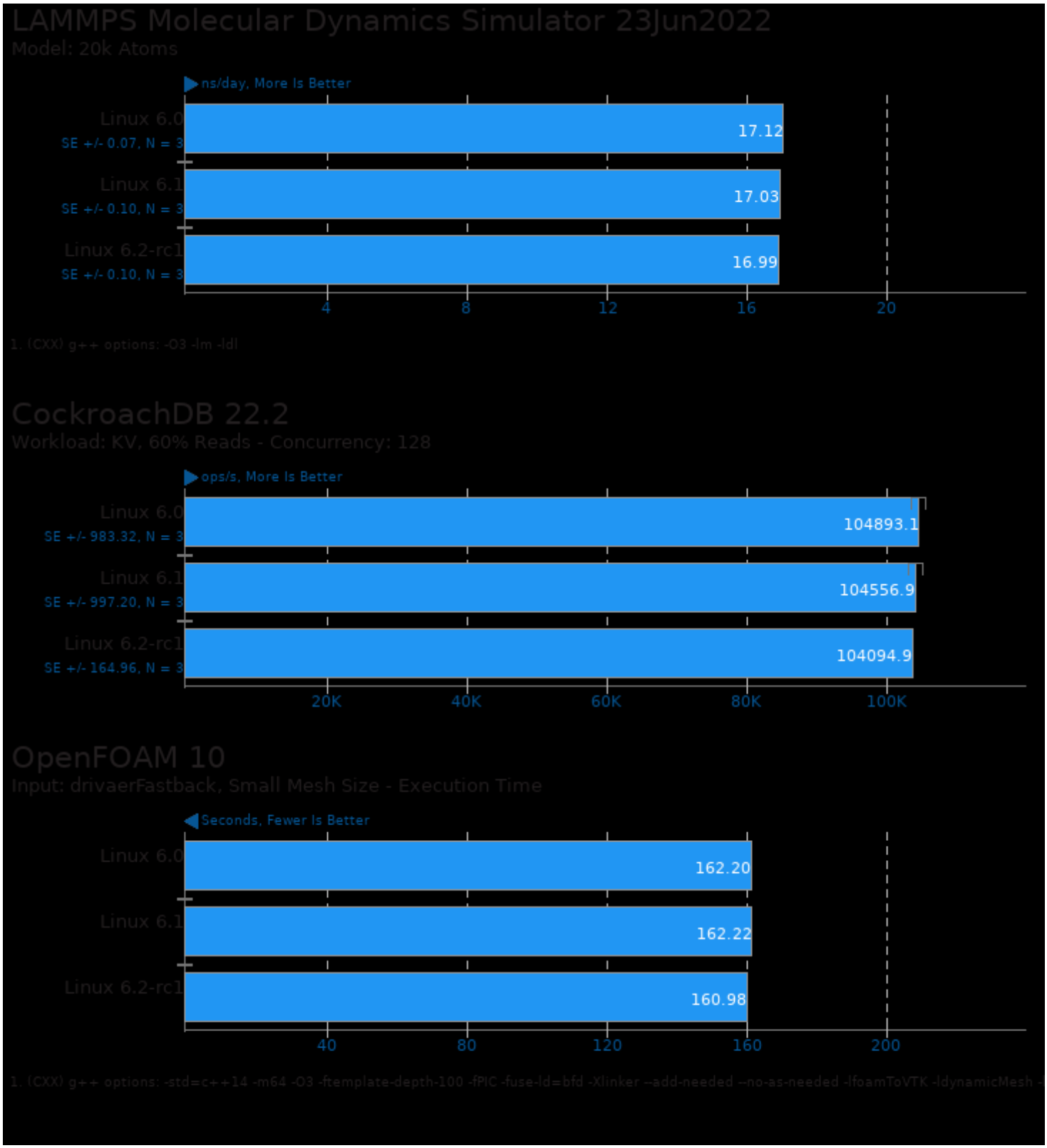


1. (CXX) g++ options: -O3 -flto -pthread

Linux 6.2 Kernel Benchmark Ryzen 9 7950X



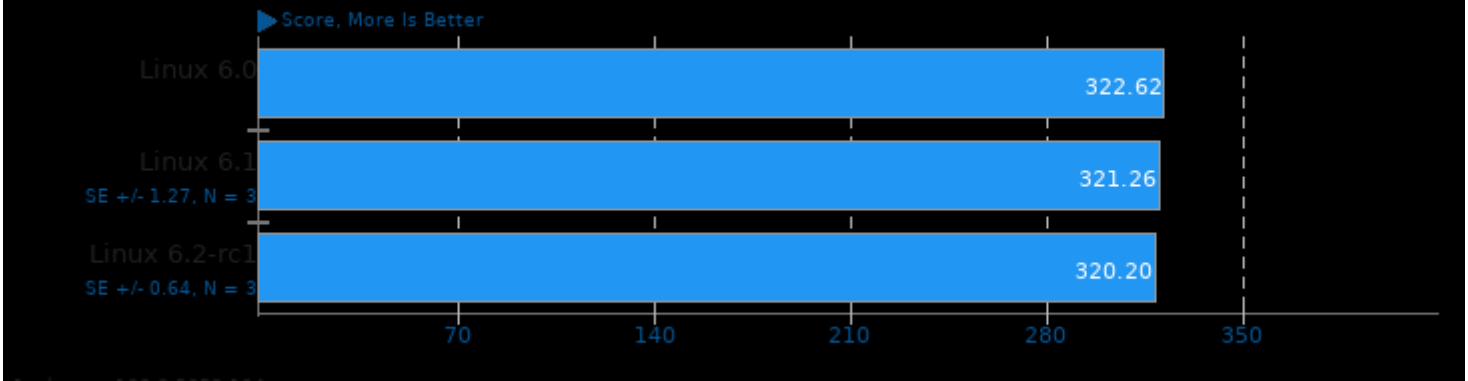
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X

Selenium

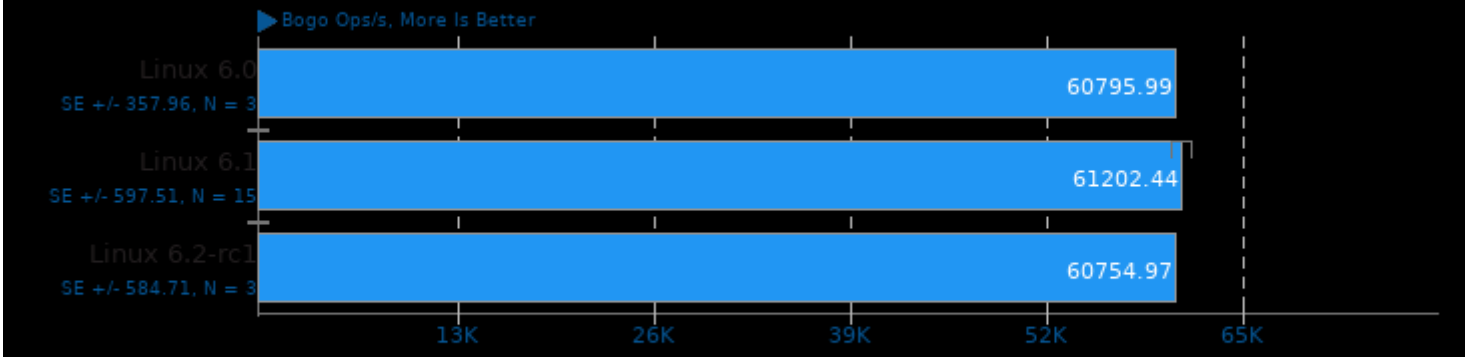
Benchmark: Jetstream 2 - Browser: Google Chrome



1. chrome 108.0.5359.124

Stress-NG 0.14.06

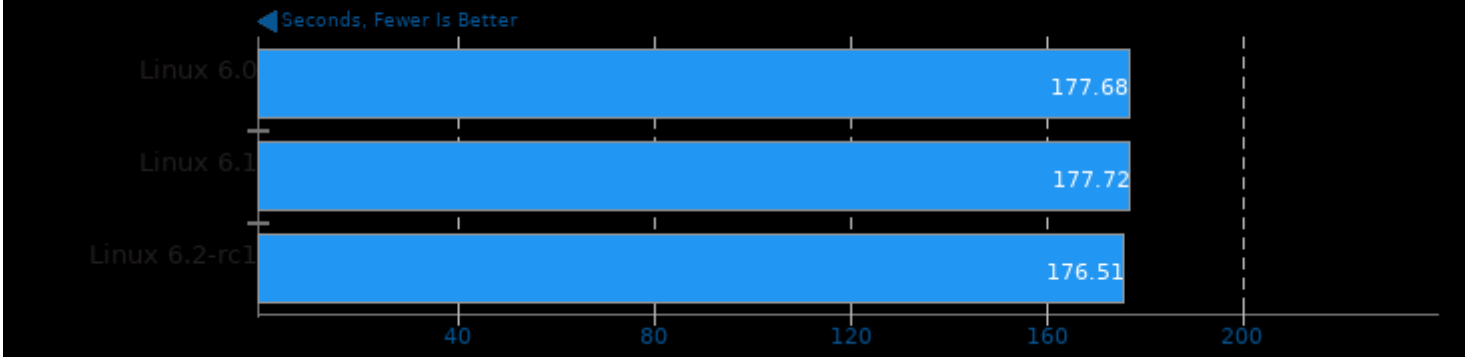
Test: CPU Stress

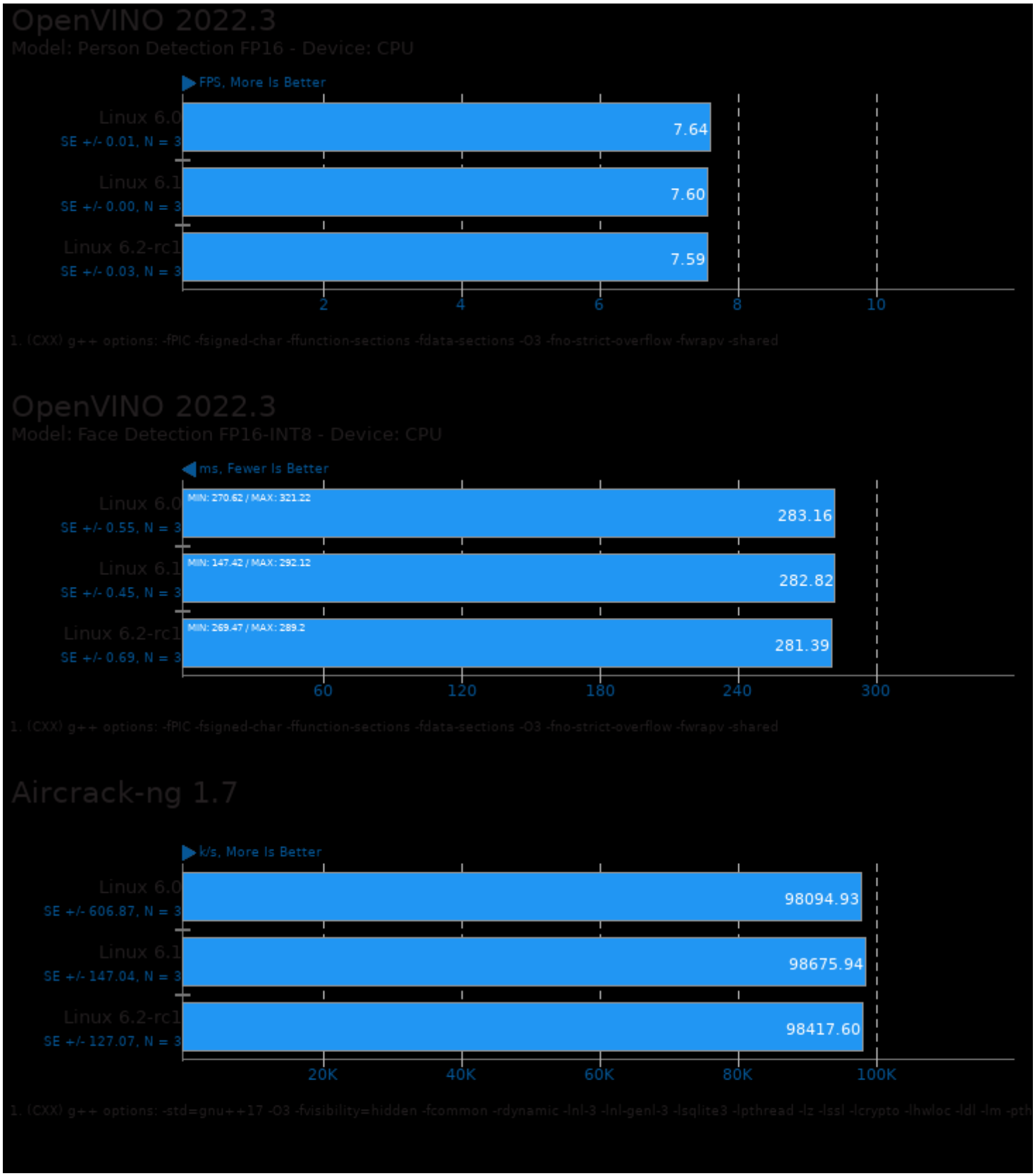


1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

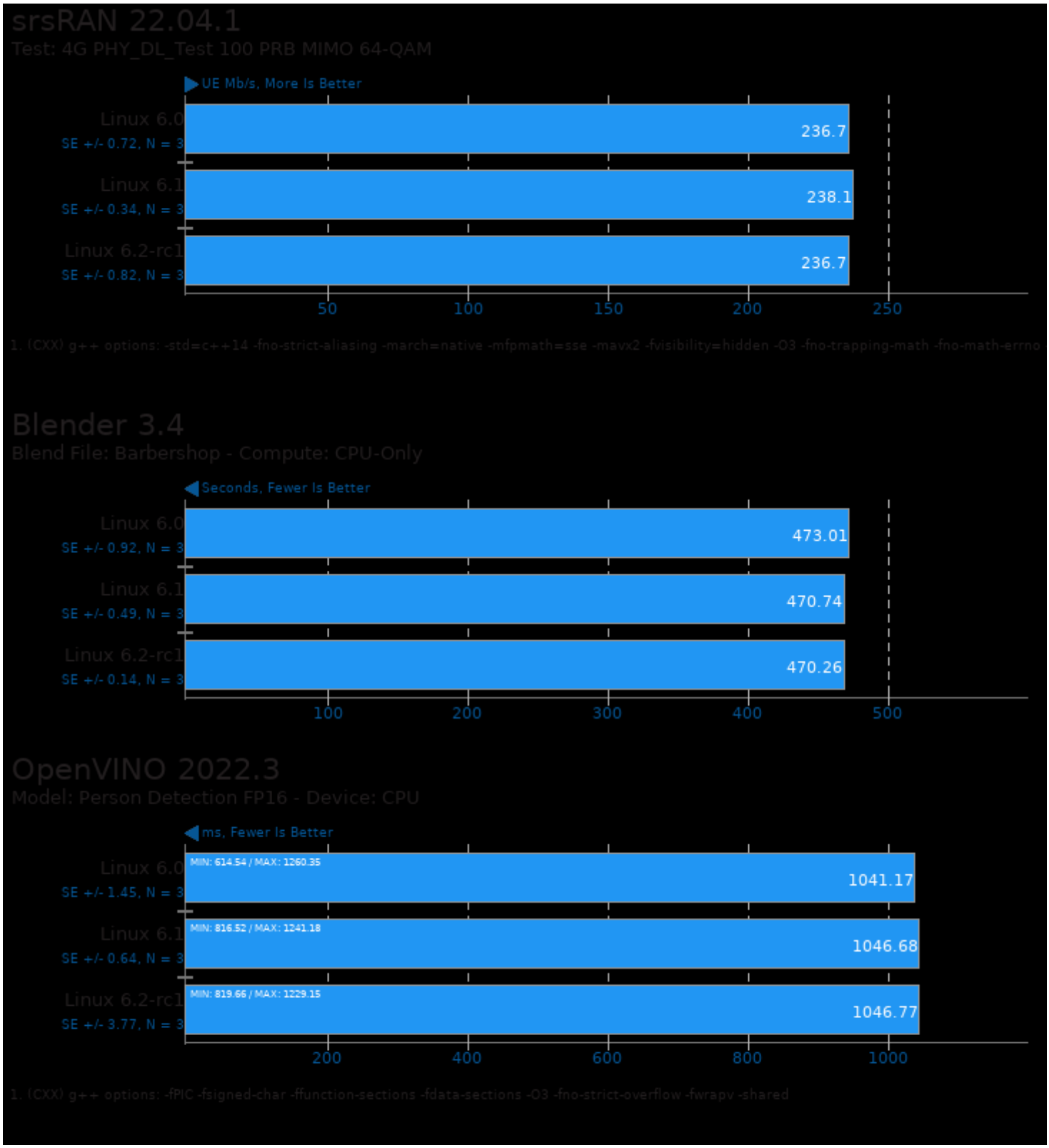
Timed CPython Compilation 3.10.6

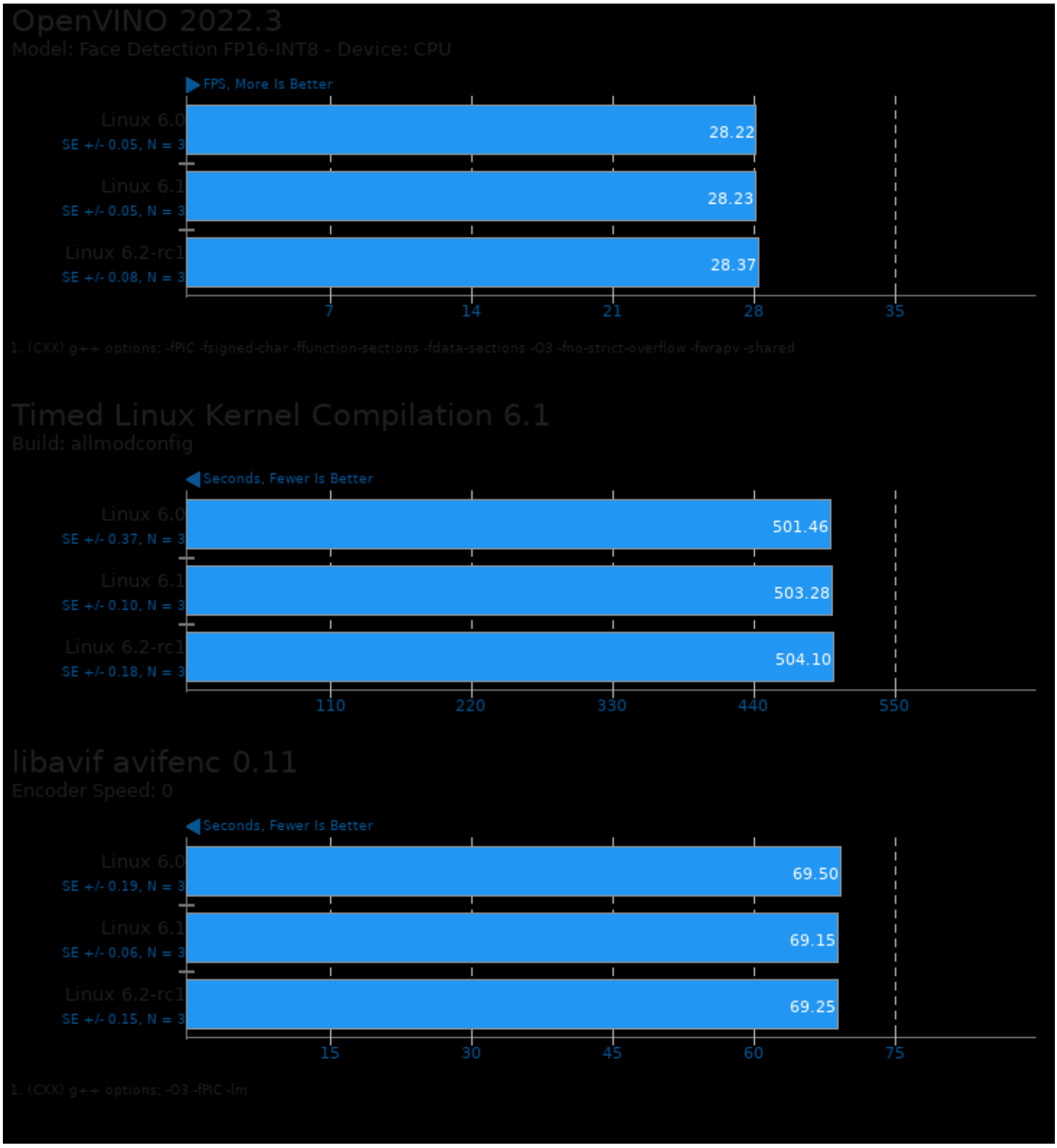
Build Configuration: Released Build, PGO + LTO Optimized



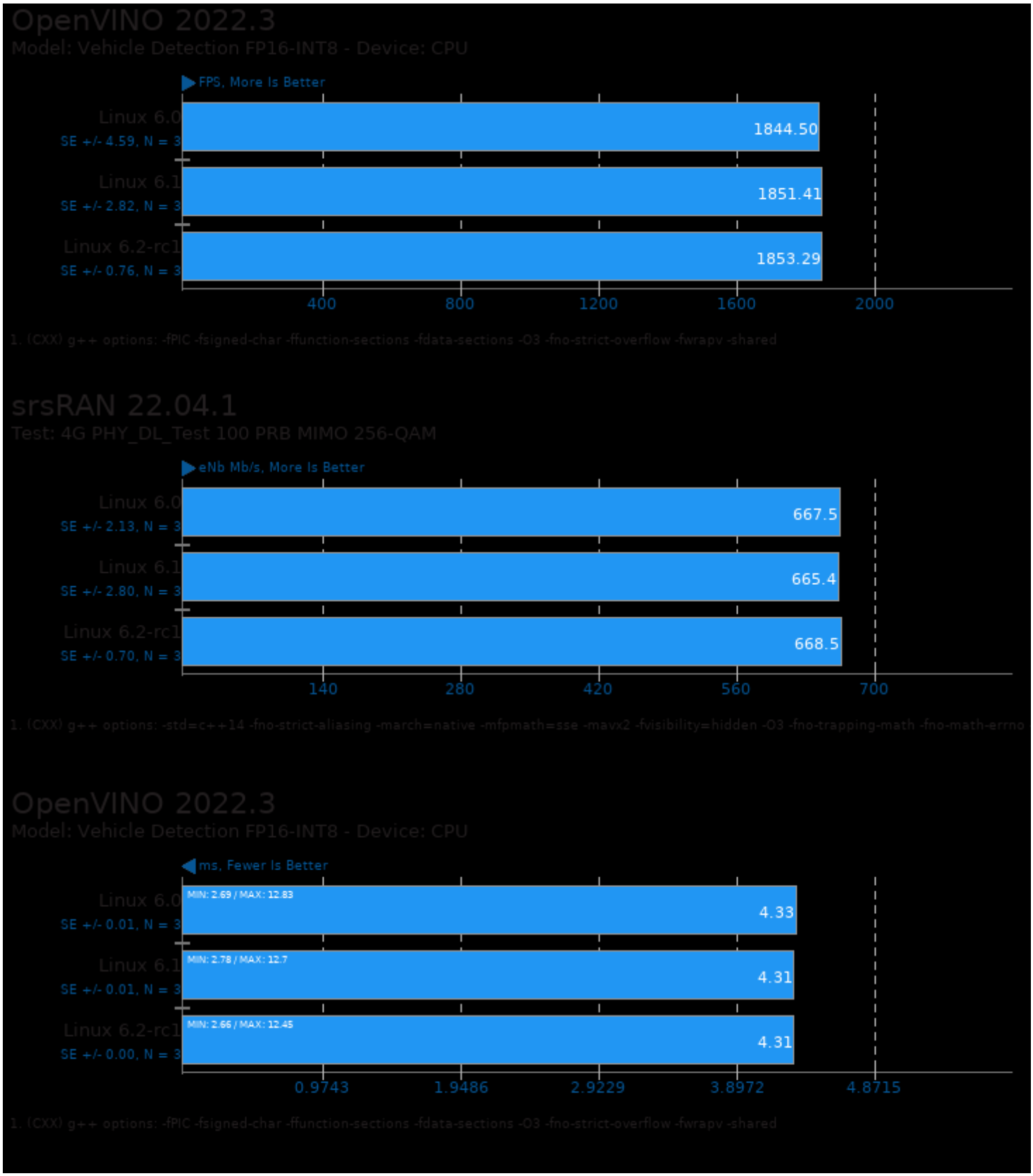

OpenVINO 2022.3
Model: Person Detection FP16 - Device: CPU
FPS, More Is Better
Linux 6.0
SE +/- 0.01, N = 3
7.64
Linux 6.1
SE +/- 0.00, N = 3
7.60
Linux 6.2-rc1
SE +/- 0.03, N = 3
7.59
2
4
6
8
10
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
OpenVINO 2022.3
Model: Face Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
Linux 6.0
SE +/- 0.55, N = 3
MIN: 270.62 / MAX: 321.22
283.16
Linux 6.1
SE +/- 0.45, N = 3
MIN: 147.42 / MAX: 292.12
282.82
Linux 6.2-rc1
SE +/- 0.69, N = 3
MIN: 269.47 / MAX: 289.2
281.39
60
120
180
240
300
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
Aircrack-ng 1.7
k/s, More Is Better
Linux 6.0
SE +/- 606.87, N = 3
98094.93
Linux 6.1
SE +/- 147.04, N = 3
98675.94
Linux 6.2-rc1
SE +/- 127.07, N = 3
98417.60
20K
40K
60K
80K
100K
1. (CXX) g++ options: -std=gnu++17 -O3 -fvisibility=hidden -fcommon -rdynamic -lnl-3 -lnl-genl-3 -lsqlite3 -lpthread -lz -lssl -lcrypto -lhwloc -ldl -lm -pth

Linux 6.2 Kernel Benchmark Ryzen 9 7950X

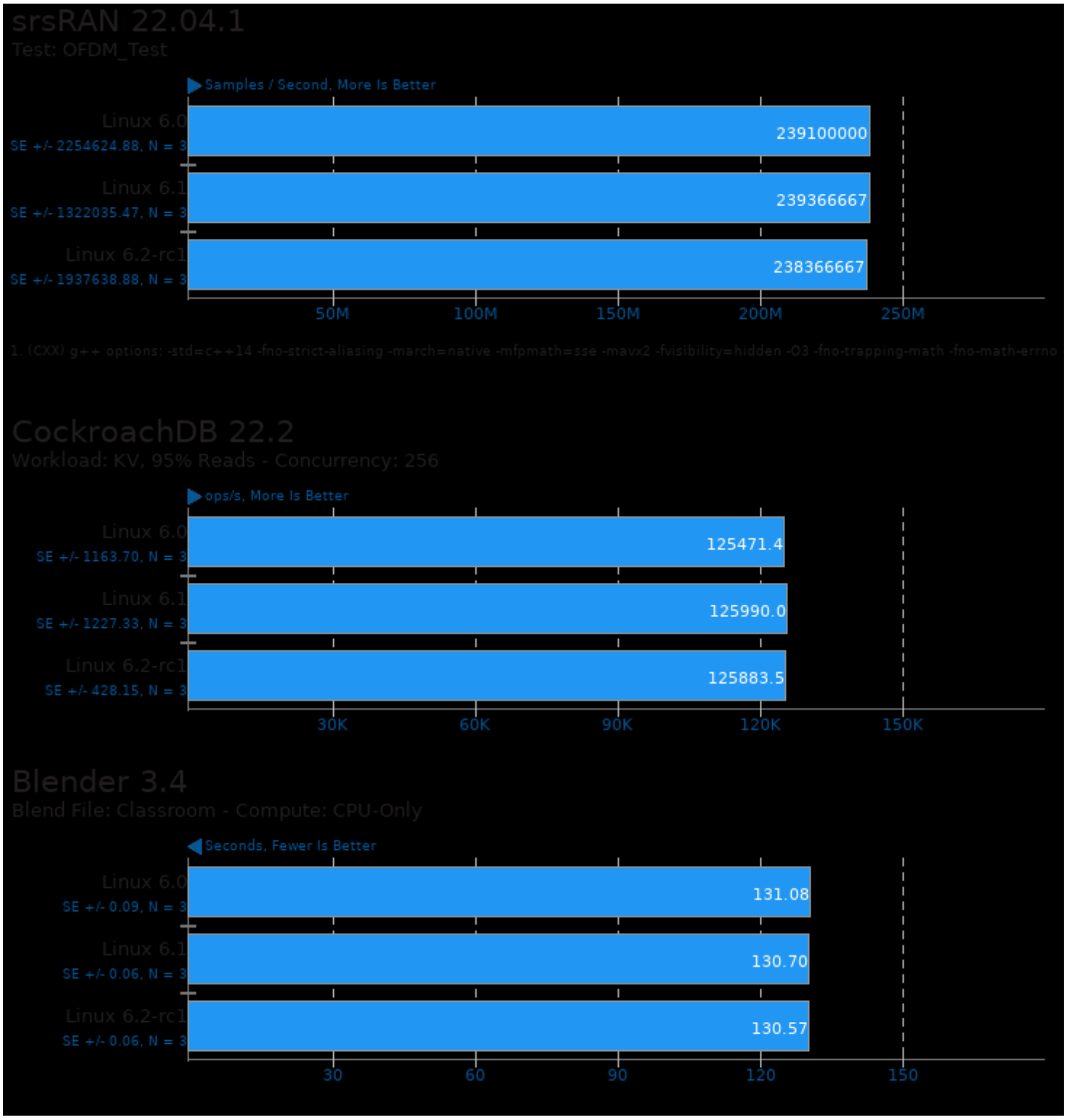



OpenVINO 2022.3
Model: Face Detection FP16-INT8 - Device: CPU
FPS, More Is Better
Linux 6.0
SE +/- 0.05, N = 3
28.22
Linux 6.1
SE +/- 0.05, N = 3
28.23
Linux 6.2-rc1
SE +/- 0.08, N = 3
28.37
7
14
21
28
35
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
Timed Linux Kernel Compilation 6.1
Build: allmodconfig
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.37, N = 3
501.46
Linux 6.1
SE +/- 0.10, N = 3
503.28
Linux 6.2-rc1
SE +/- 0.18, N = 3
504.10
110
220
330
440
550
libavif avifenc 0.11
Encoder Speed: 0
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.19, N = 3
69.50
Linux 6.1
SE +/- 0.06, N = 3
69.15
Linux 6.2-rc1
SE +/- 0.15, N = 3
69.25
15
30
45
60
75
1. (CXX) g++ options: -O3 -fPIC -lm

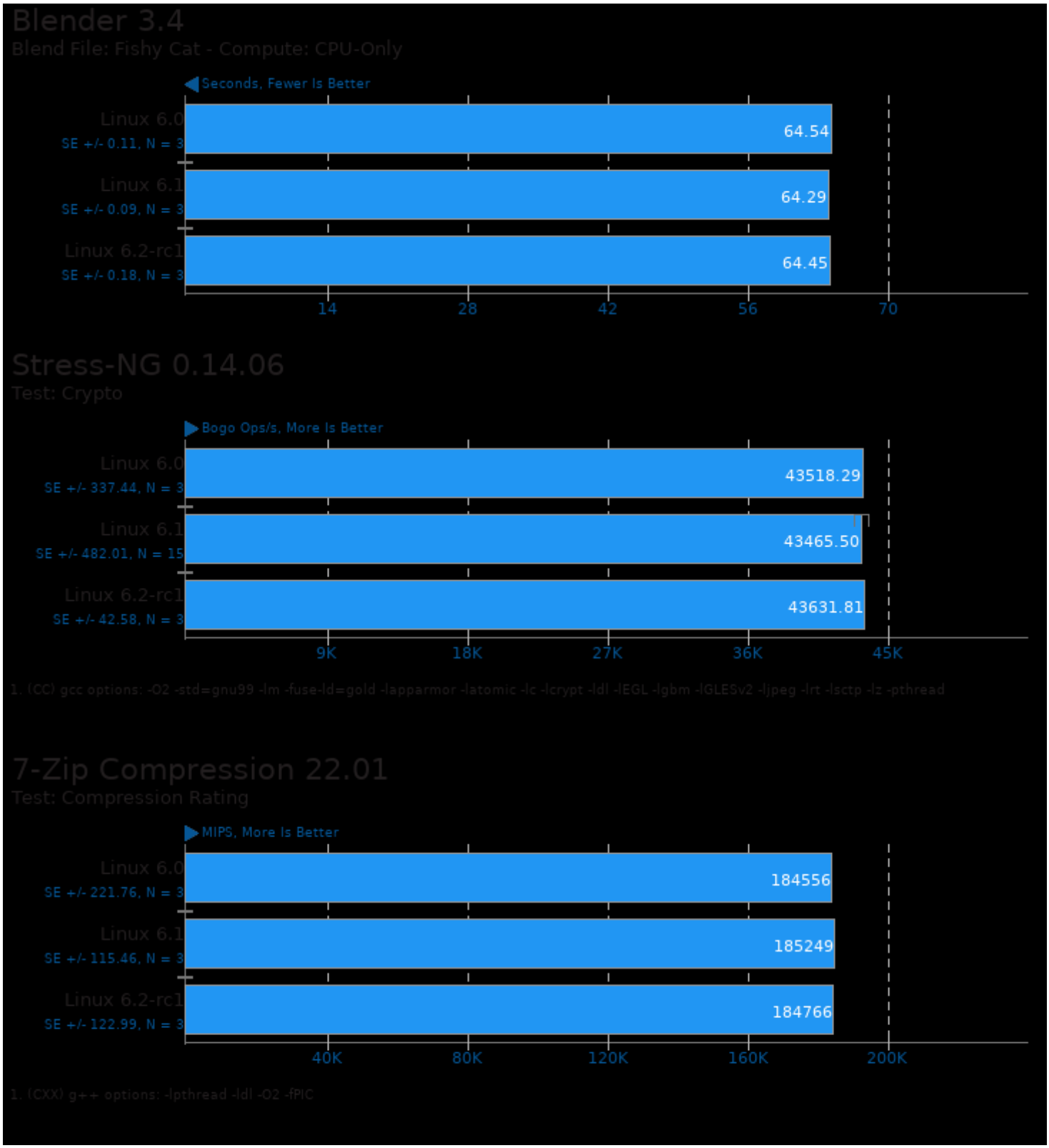
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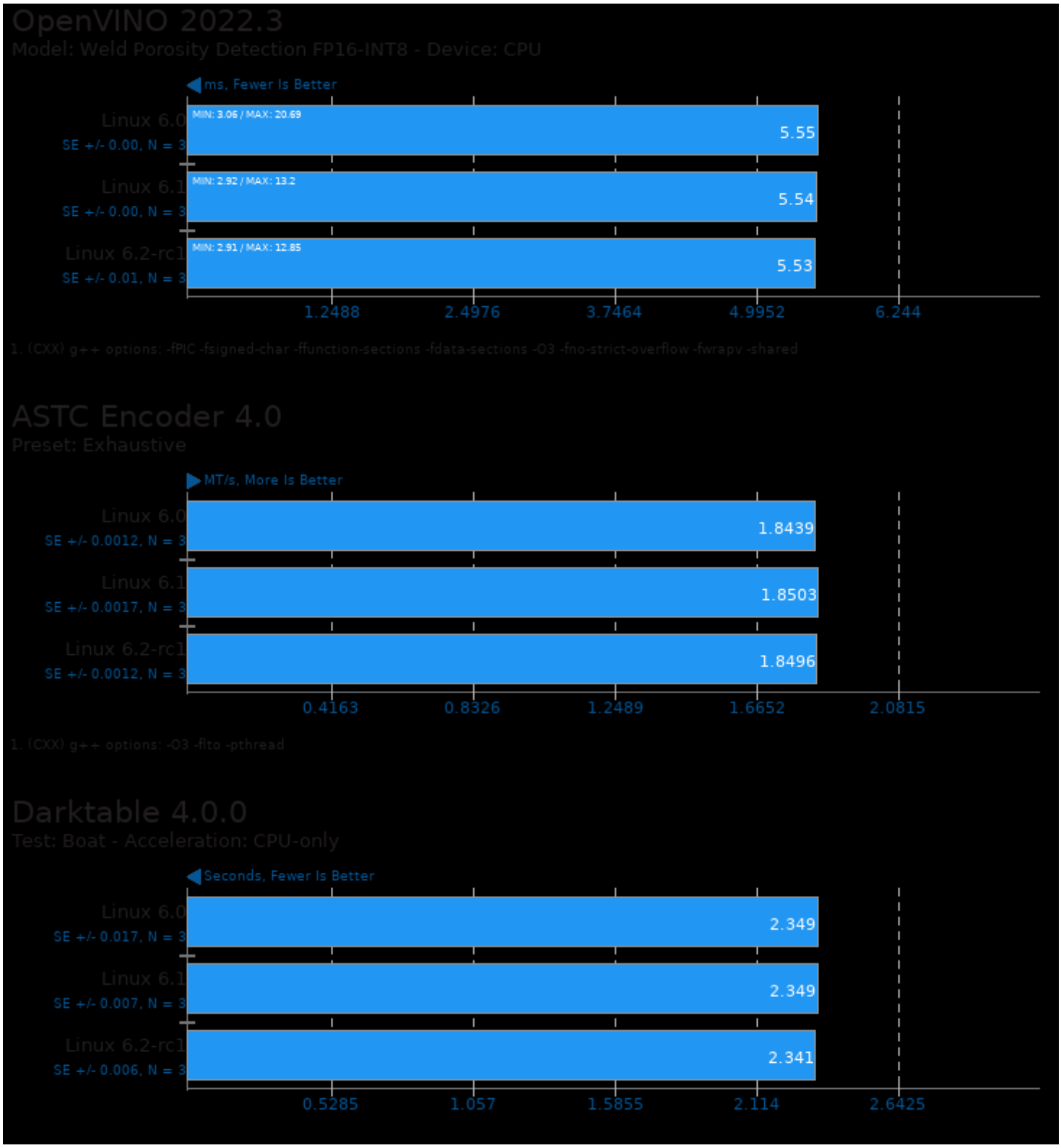


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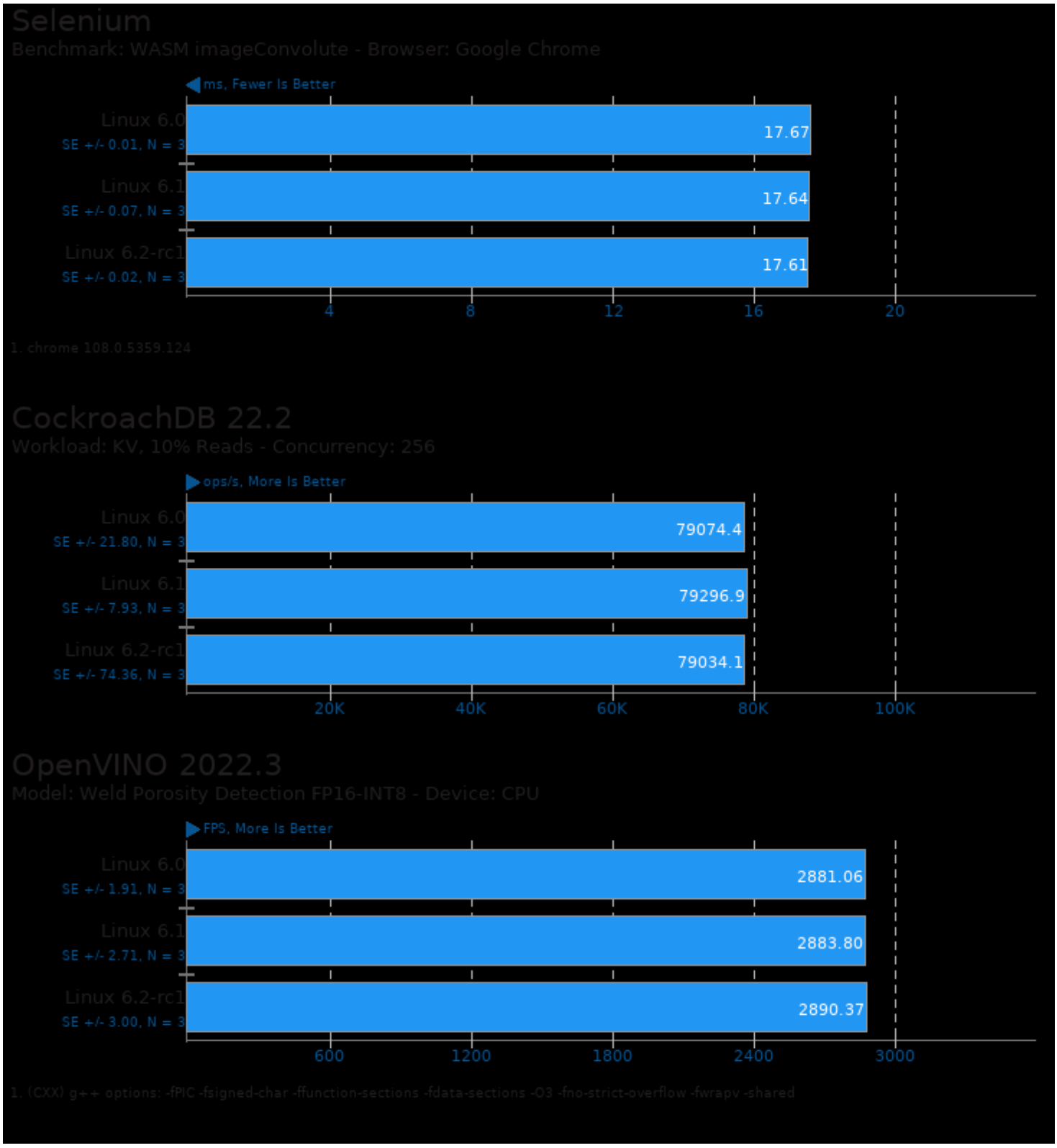


Linux 6.2 Kernel Benchmark Ryzen 9 7950X




OpenVINO 2022.3
Model: Weld Porosity Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
Linux 6.0
SE +/- 0.00, N = 3
MIN: 3.06 / MAX: 20.69
5.55
Linux 6.1
SE +/- 0.00, N = 3
MIN: 2.92 / MAX: 13.2
5.54
Linux 6.2-rc1
SE +/- 0.01, N = 3
MIN: 2.91 / MAX: 12.85
5.53
1.2488
2.4976
3.7464
4.9952
6.244
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -shared
ASTC Encoder 4.0
Preset: Exhaustive
MT/s, More Is Better
Linux 6.0
SE +/- 0.0012, N = 3
1.8439
Linux 6.1
SE +/- 0.0017, N = 3
1.8503
Linux 6.2-rc1
SE +/- 0.0012, N = 3
1.8496
0.4163
0.8326
1.2489
1.6652
2.0815
1. (CXX) g++ options: -O3 -flto -pthread
Darktable 4.0.0
Test: Boat - Acceleration: CPU-only
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.017, N = 3
2.349
Linux 6.1
SE +/- 0.007, N = 3
2.349
Linux 6.2-rc1
SE +/- 0.006, N = 3
2.341
0.5285
1.057
1.5855
2.114
2.6425

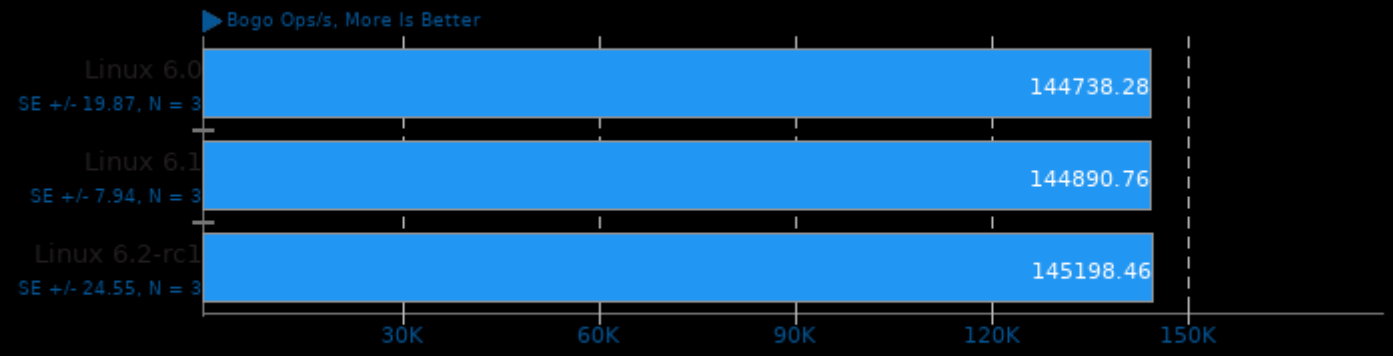
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Linux 6.2 Kernel Benchmark Ryzen 9 7950X

Stress-NG 0.14.06

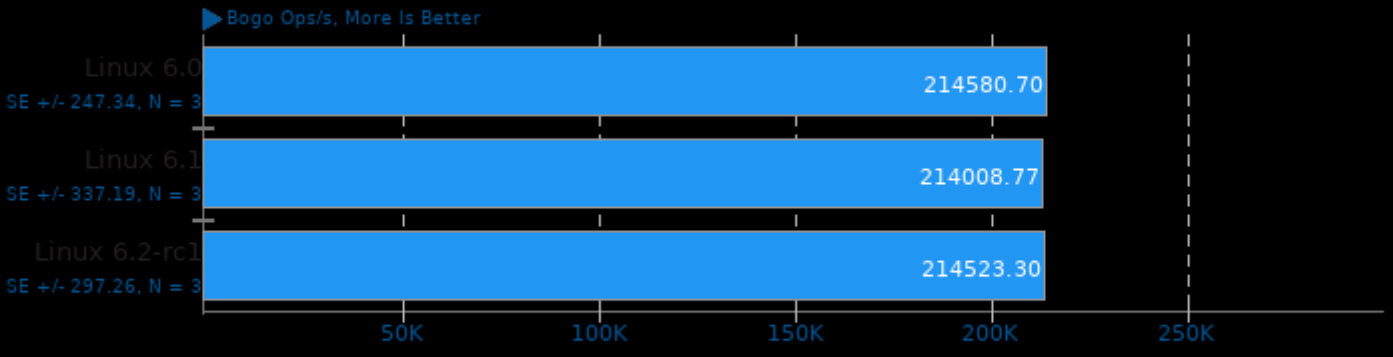
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

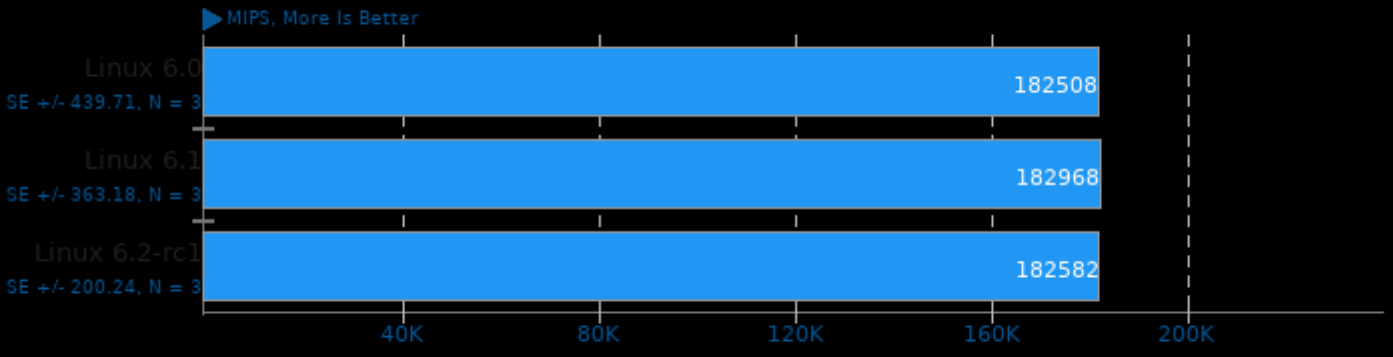
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -lgbm -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

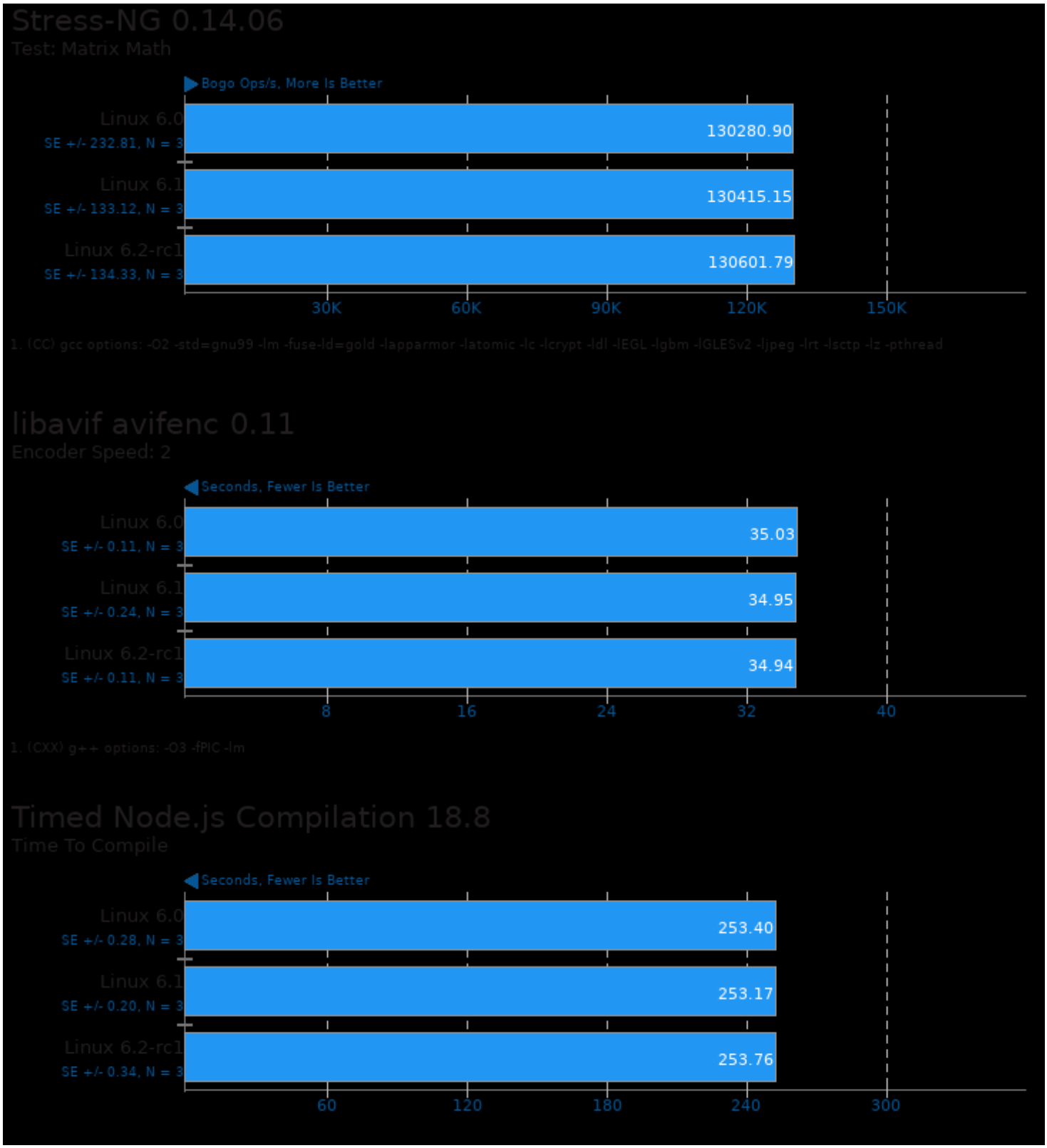
7-Zip Compression 22.01

Test: Decompression Rating

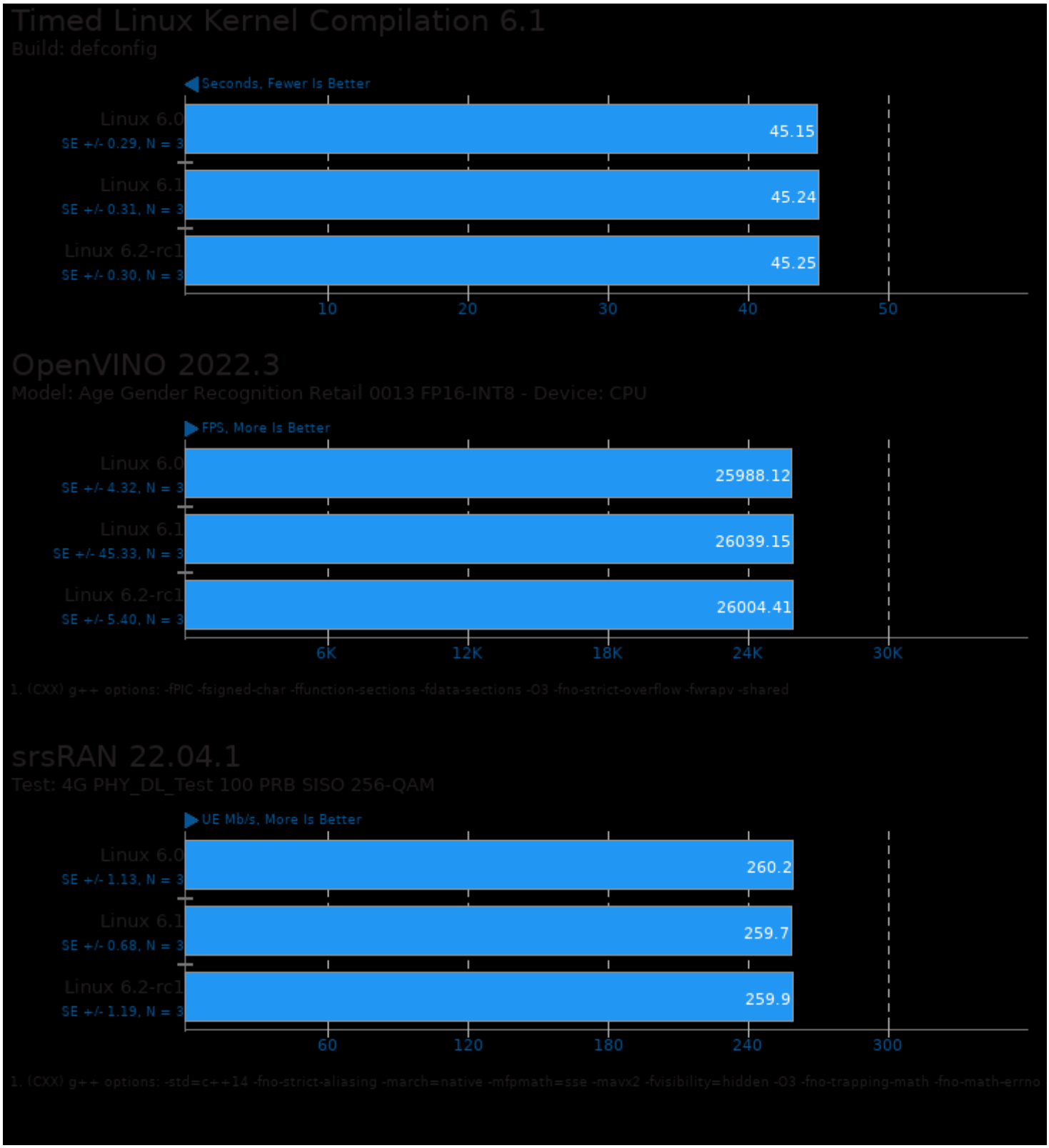


1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC

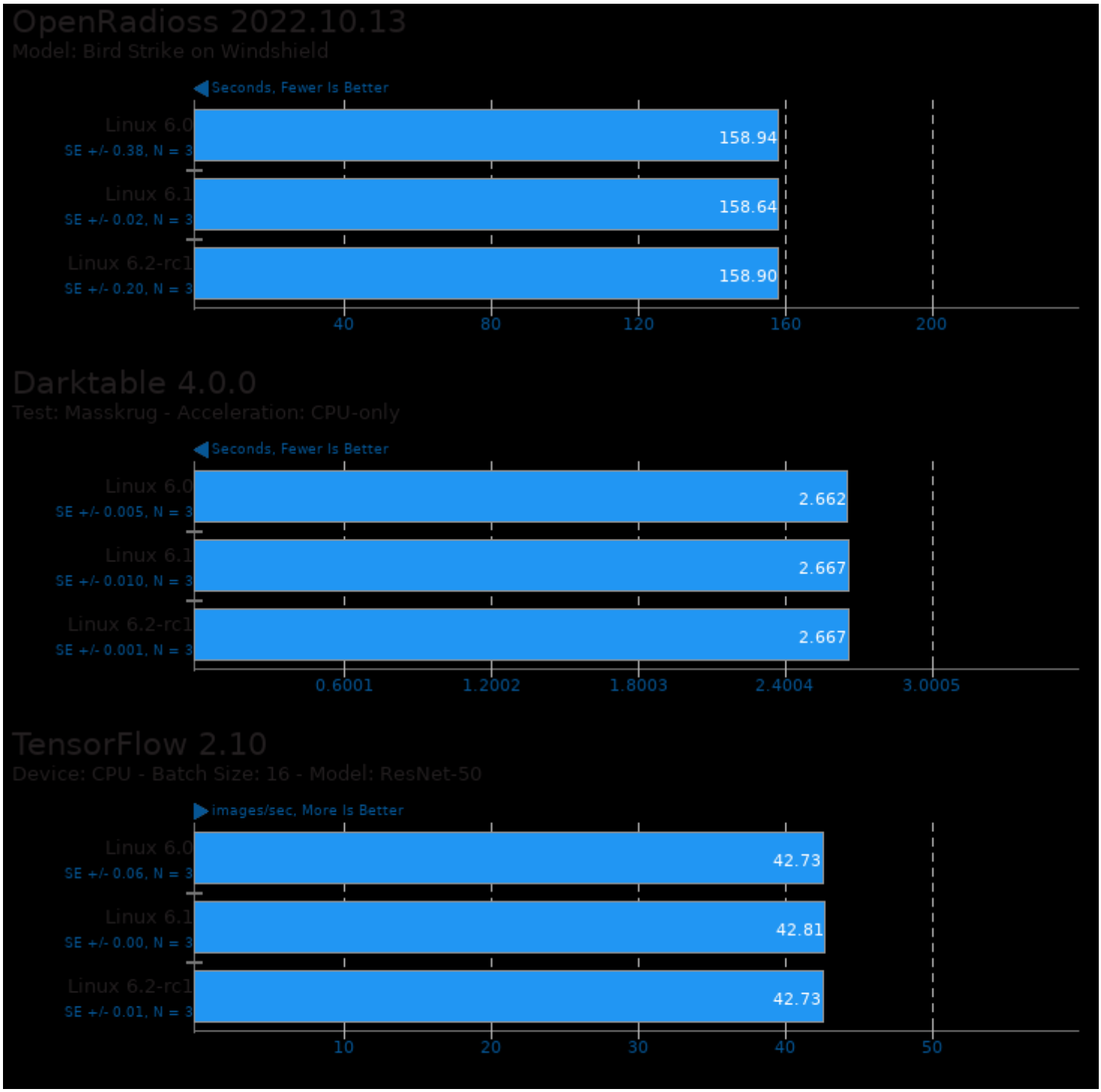
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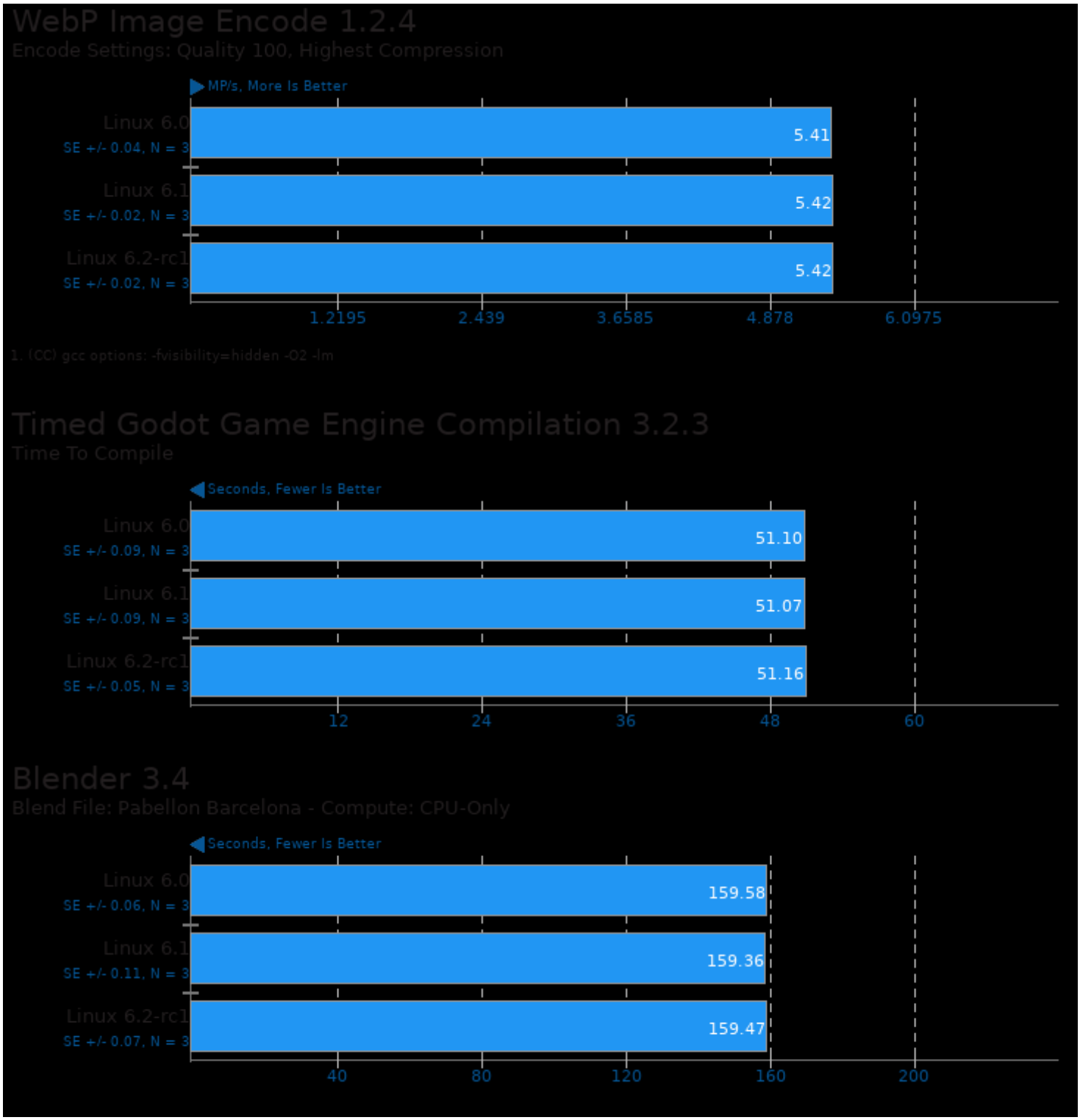


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

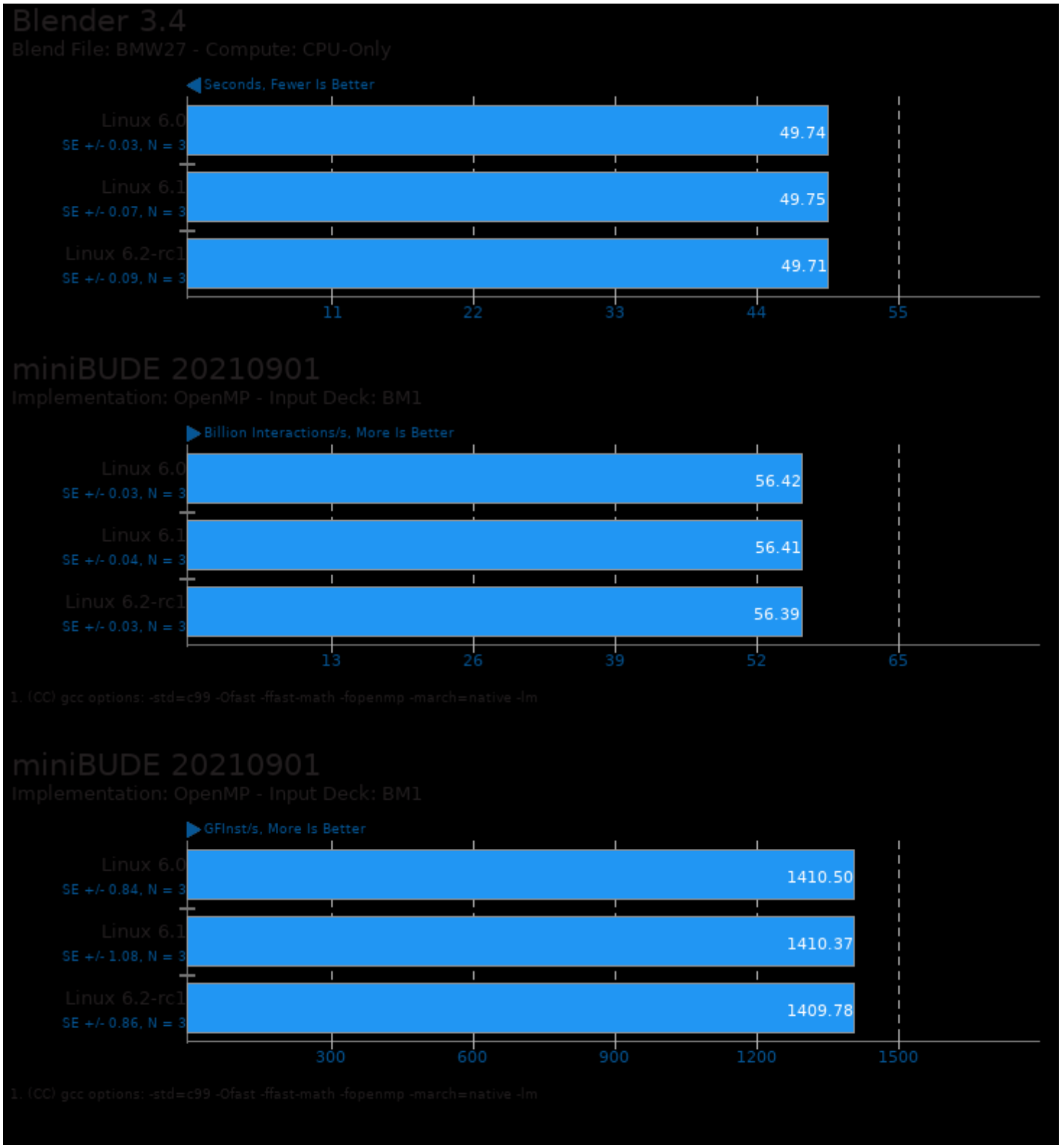


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

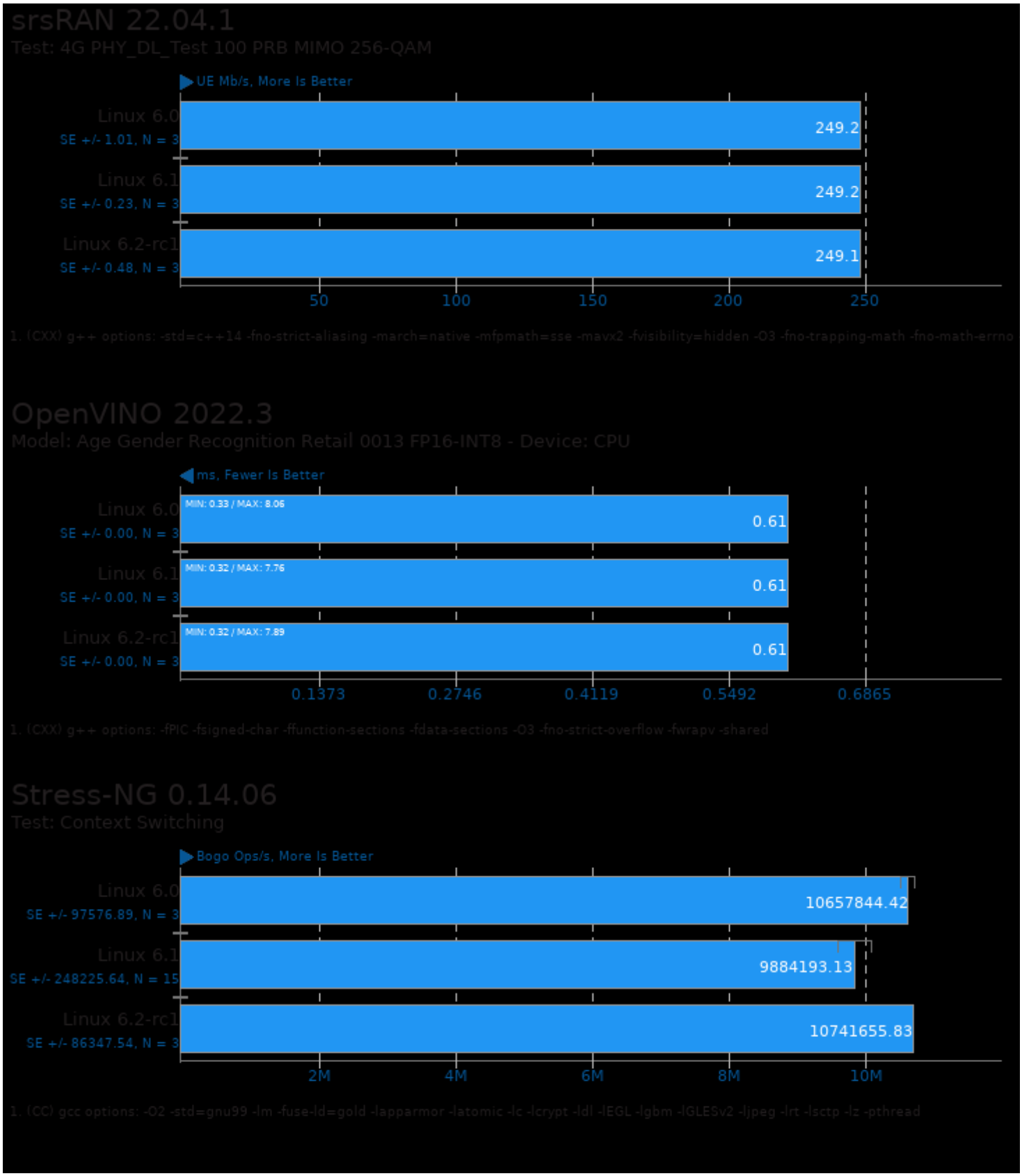



WebP Image Encode 1.2.4
Encode Settings: Quality 100, Highest Compression
MP/s, More Is Better
Linux 6.0
SE +/- 0.04, N = 3
5.41
Linux 6.1
SE +/- 0.02, N = 3
5.42
Linux 6.2-rc1
SE +/- 0.02, N = 3
5.42
1.2195
2.439
3.6585
4.878
6.0975
1. (CC) gcc options: -fvisibility=hidden -O2 -lm
Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.09, N = 3
51.10
Linux 6.1
SE +/- 0.09, N = 3
51.07
Linux 6.2-rc1
SE +/- 0.05, N = 3
51.16
12
24
36
48
60
Blender 3.4
Blend File: Pabellon Barcelona - Compute: CPU-Only
Seconds, Fewer Is Better
Linux 6.0
SE +/- 0.06, N = 3
159.58
Linux 6.1
SE +/- 0.11, N = 3
159.36
Linux 6.2-rc1
SE +/- 0.07, N = 3
159.47
40
80
120
160
200

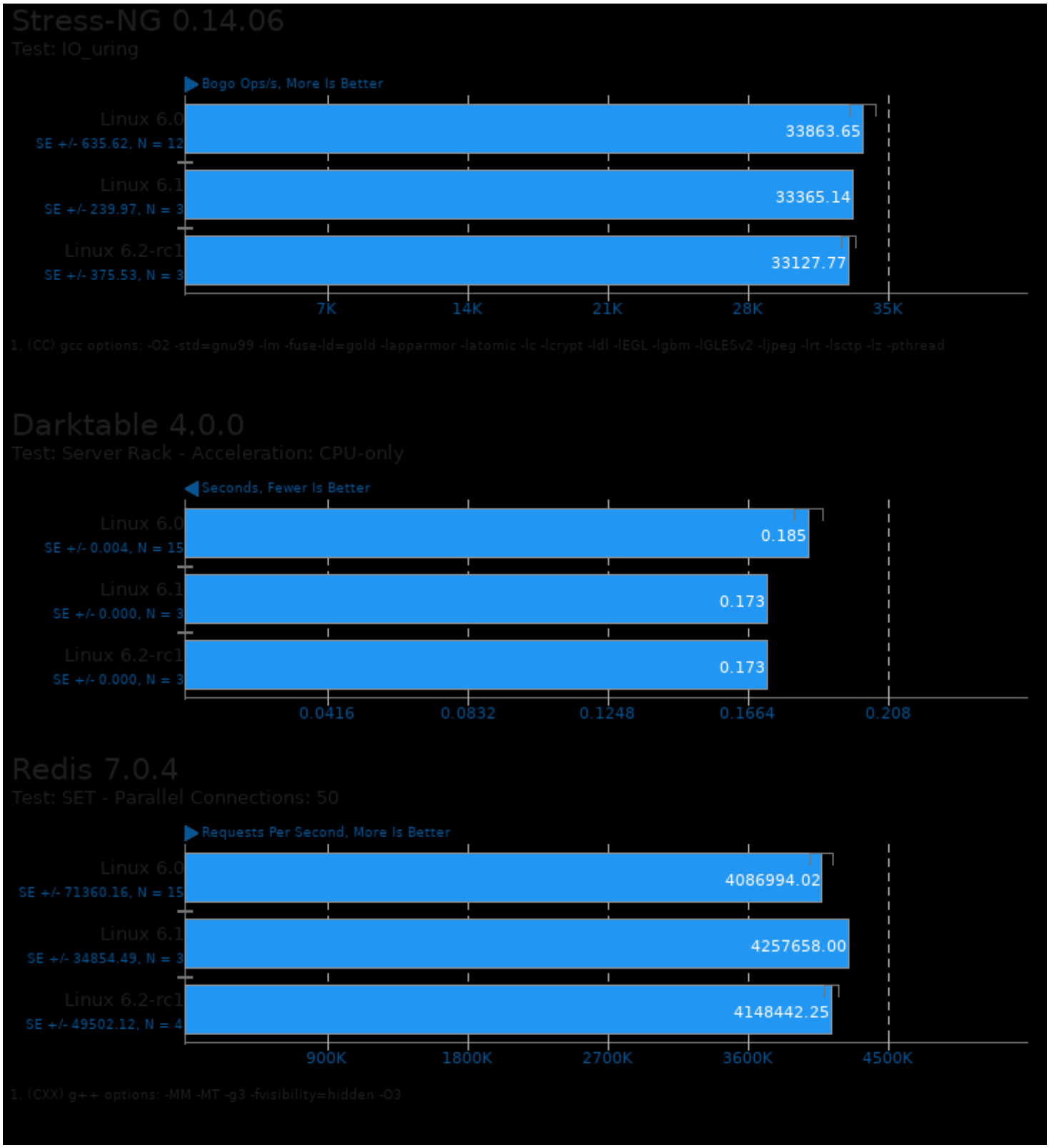
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



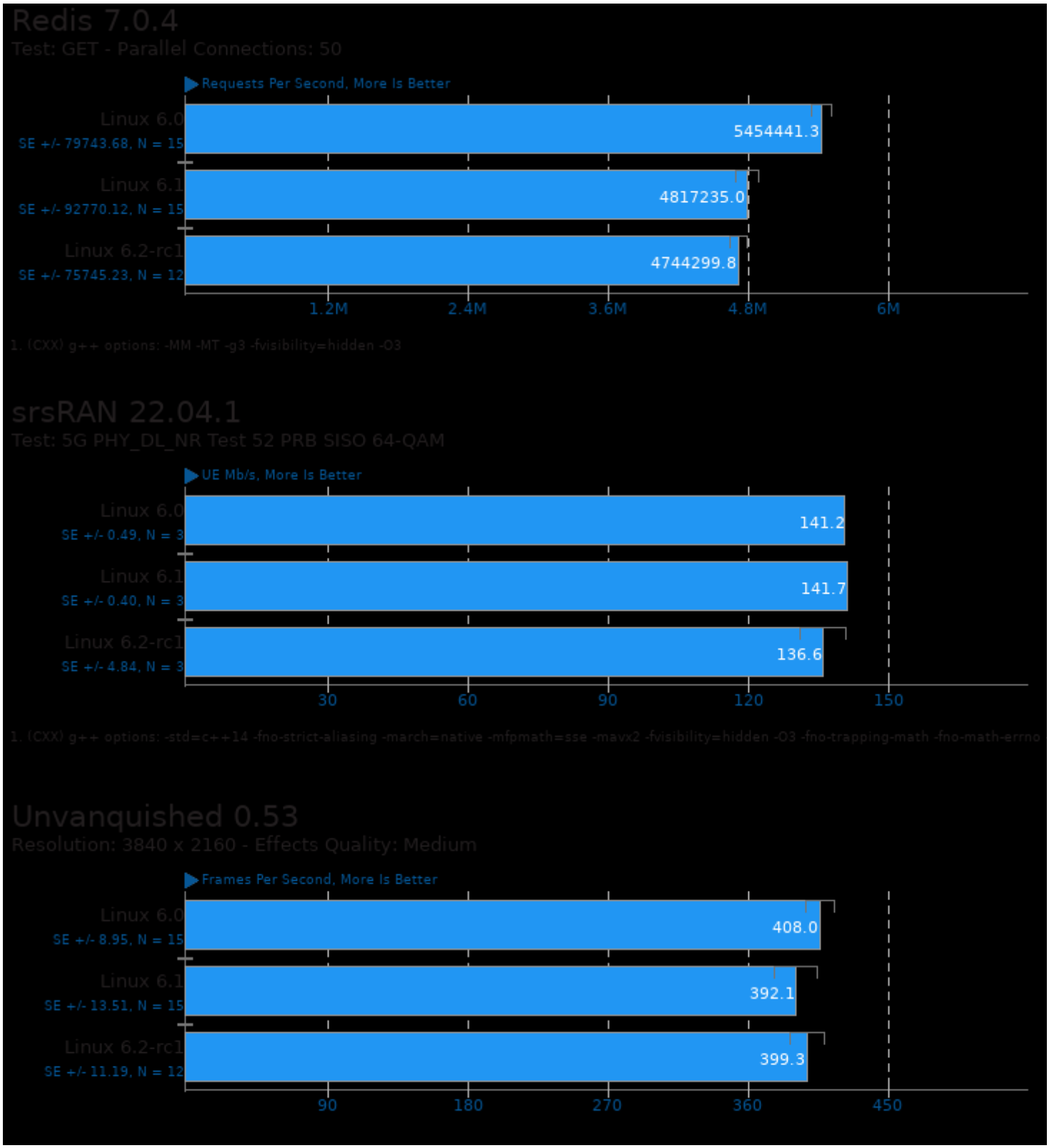
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



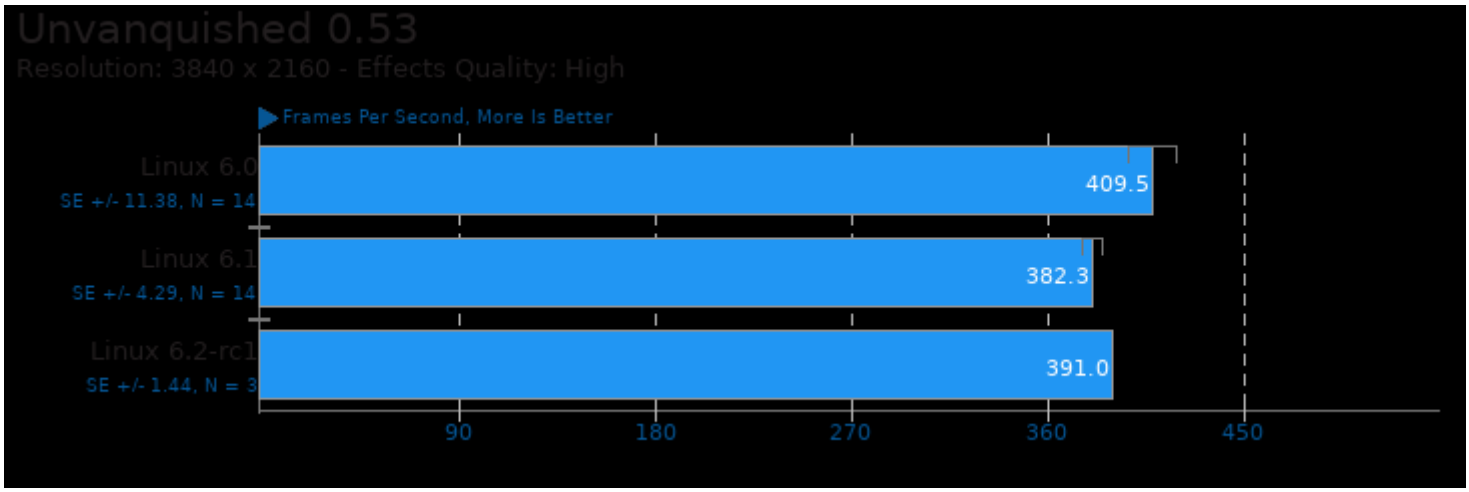
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Linux 6.2 Kernel Benchmark Ryzen 9 7950X

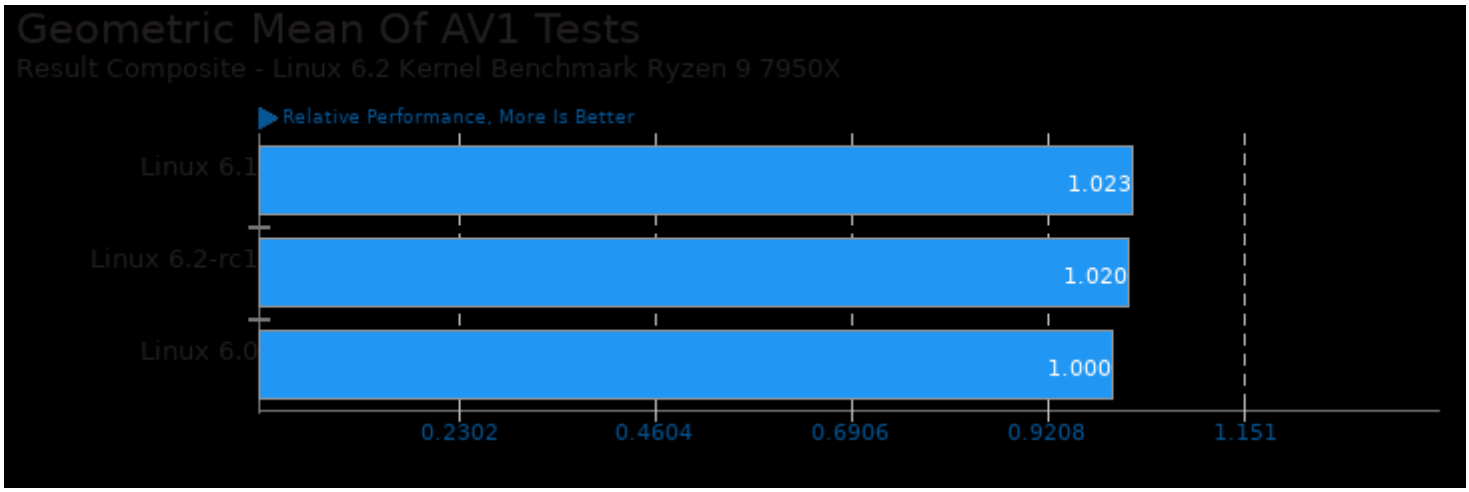


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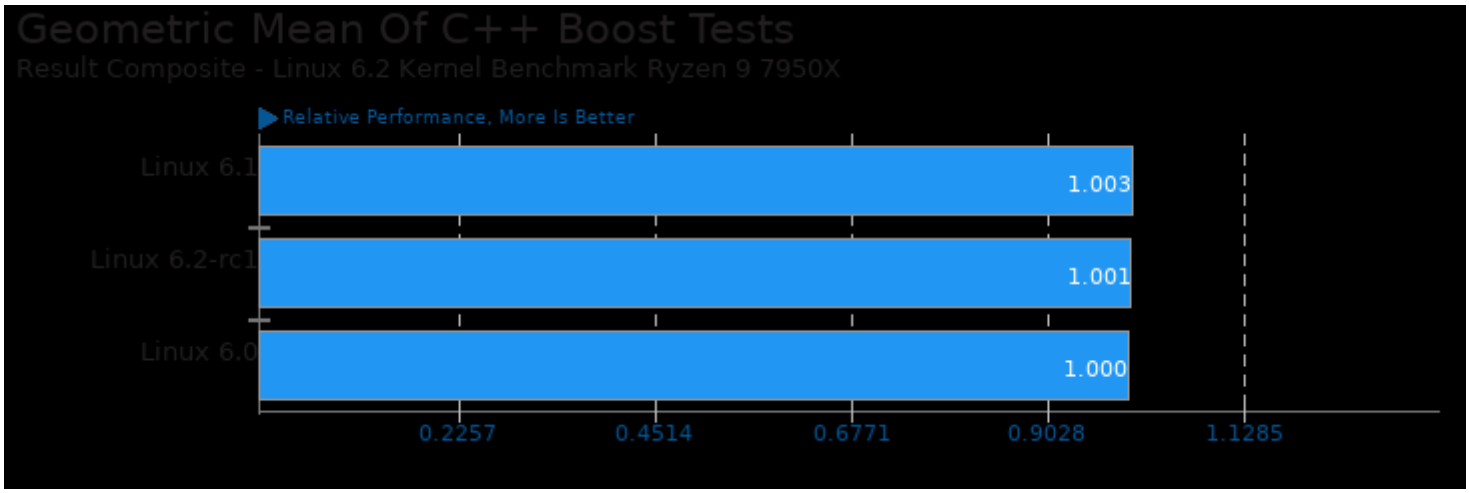


Linux 6.2 Kernel Benchmark Ryzen 9 7950X

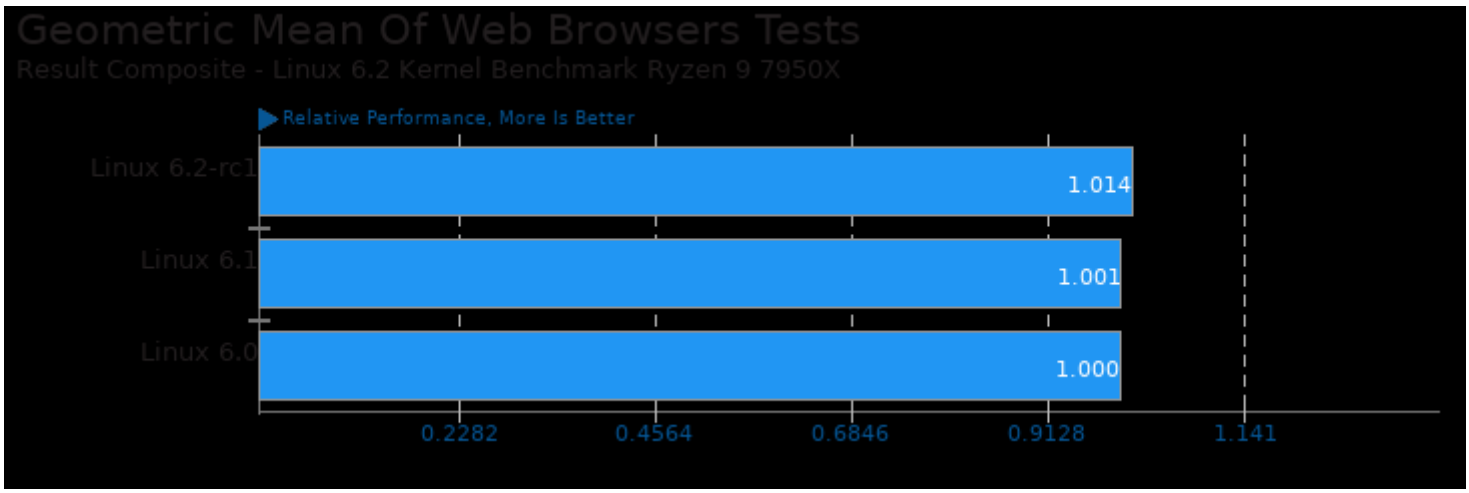
These geometric means are based upon test groupings / test suites for this result file.



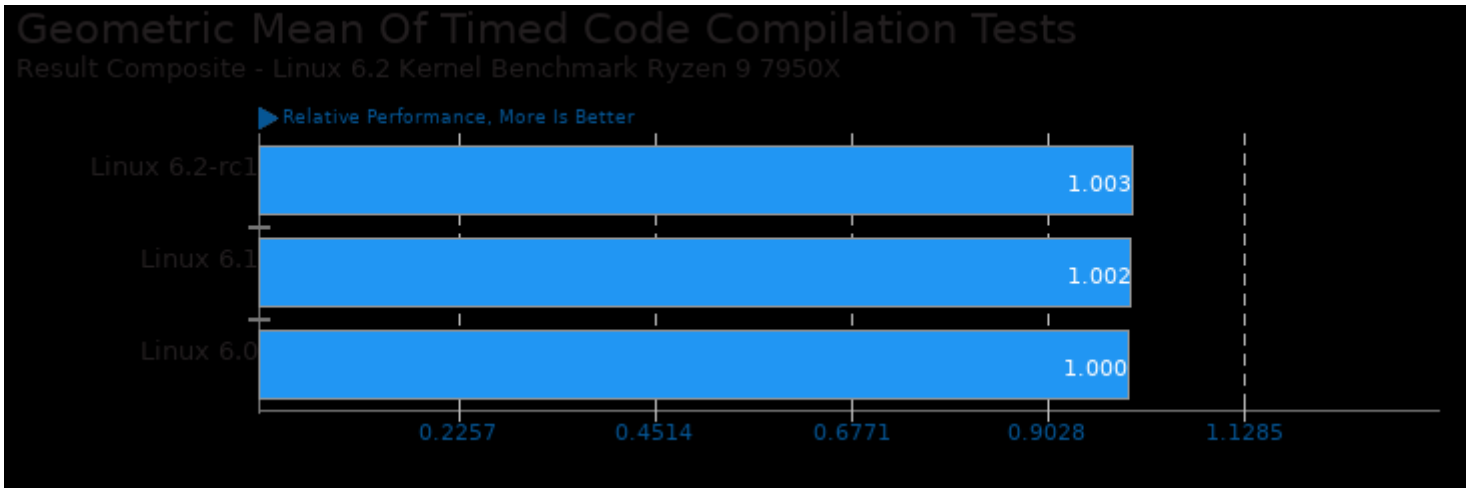
Geometric mean based upon tests: pts/svt-av1 and pts/avifenc



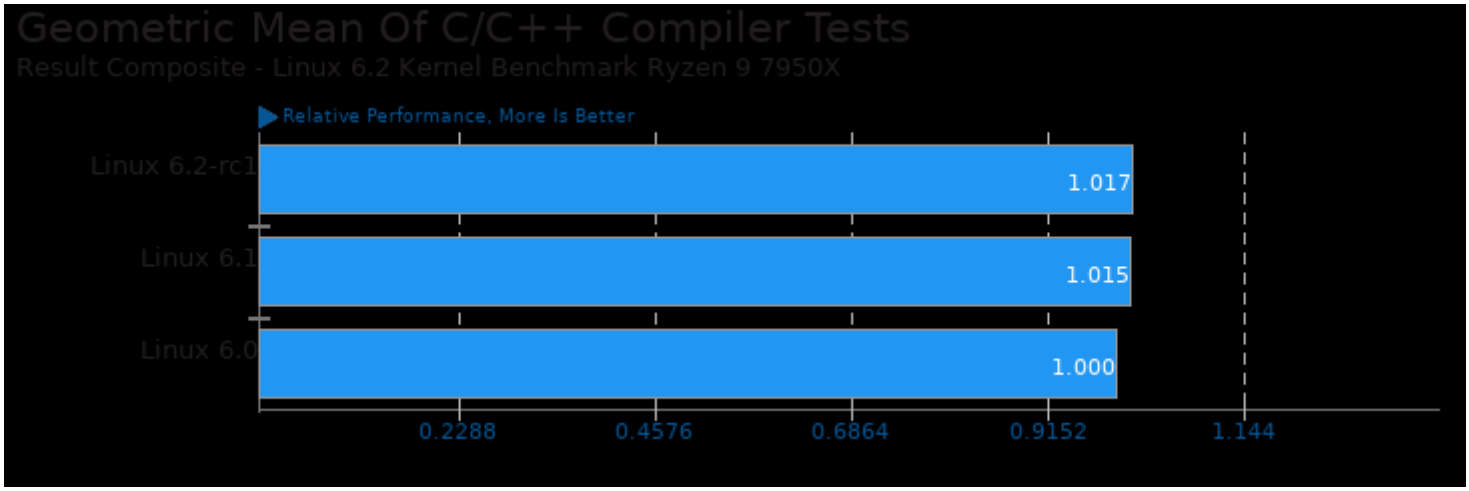
Geometric mean based upon tests: pts/srsran and pts/openfoam



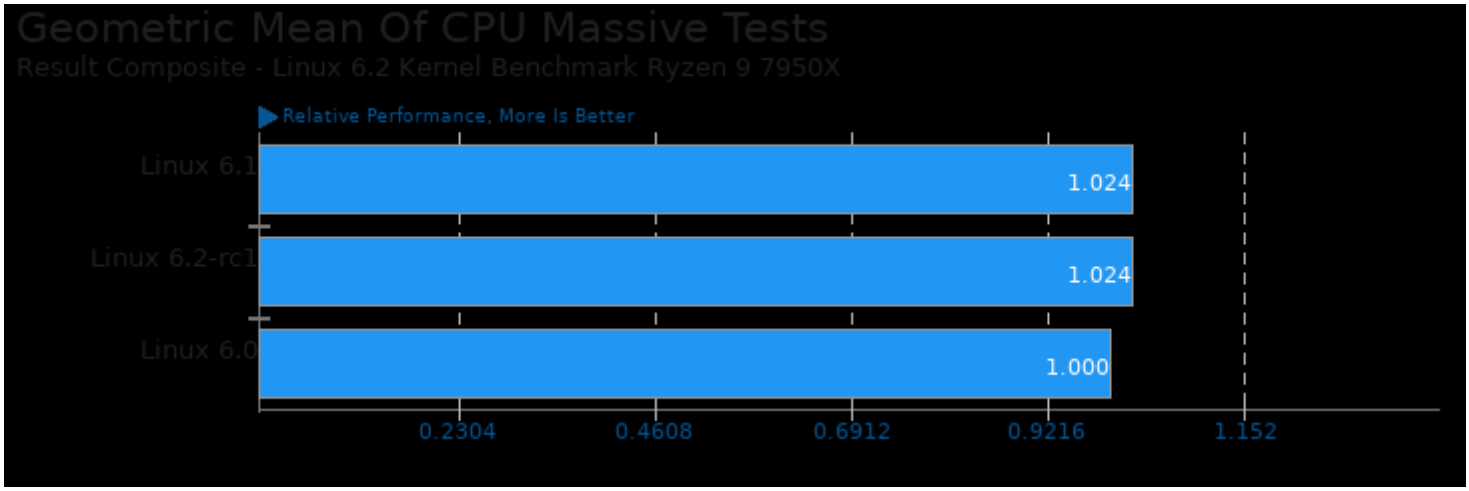
Geometric mean based upon tests: system/selenium



Geometric mean based upon tests: pts/build-php, pts/build-linux-kernel, pts/build-python, pts/build-godot, pts/build-wasmer and pts/build-nodejs



Geometric mean based upon tests: pts/build-php, pts/compress-7zip, pts/sqlite-speedtest, pts/lammps, pts/aircrack-ng and pts/svt-av1



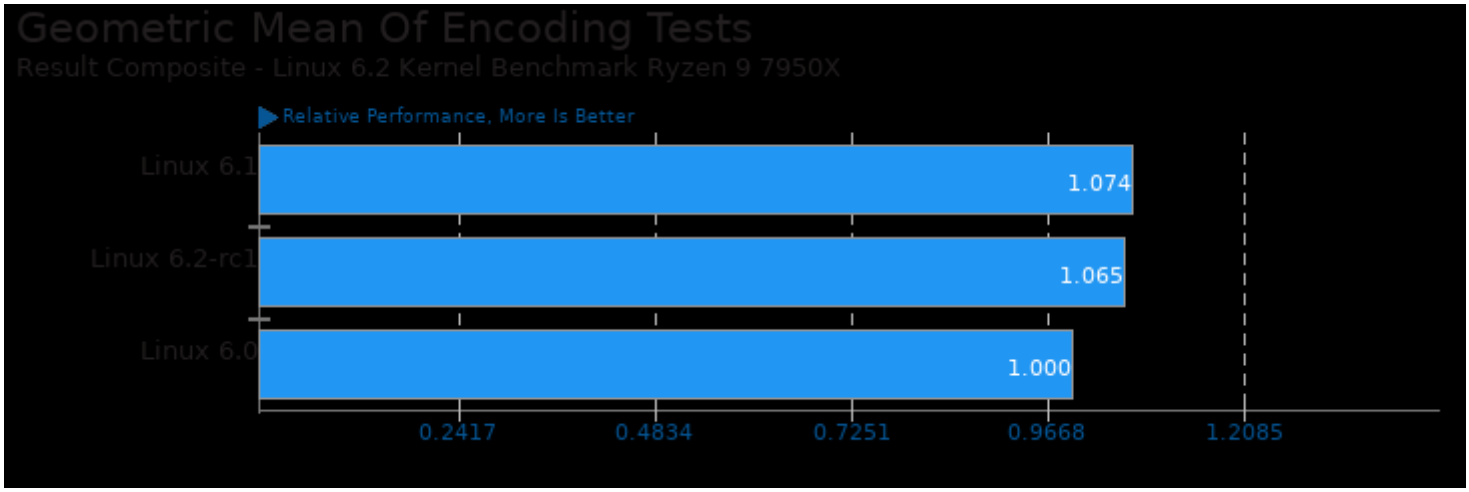
Geometric mean based upon tests: pts/build-linux-kernel, pts/build-php, pts/compress-7zip, pts/svt-av1, pts/lammps, pts/redis, pts/stress-ng, pts/tensorflow, pts/blender and system/darktable



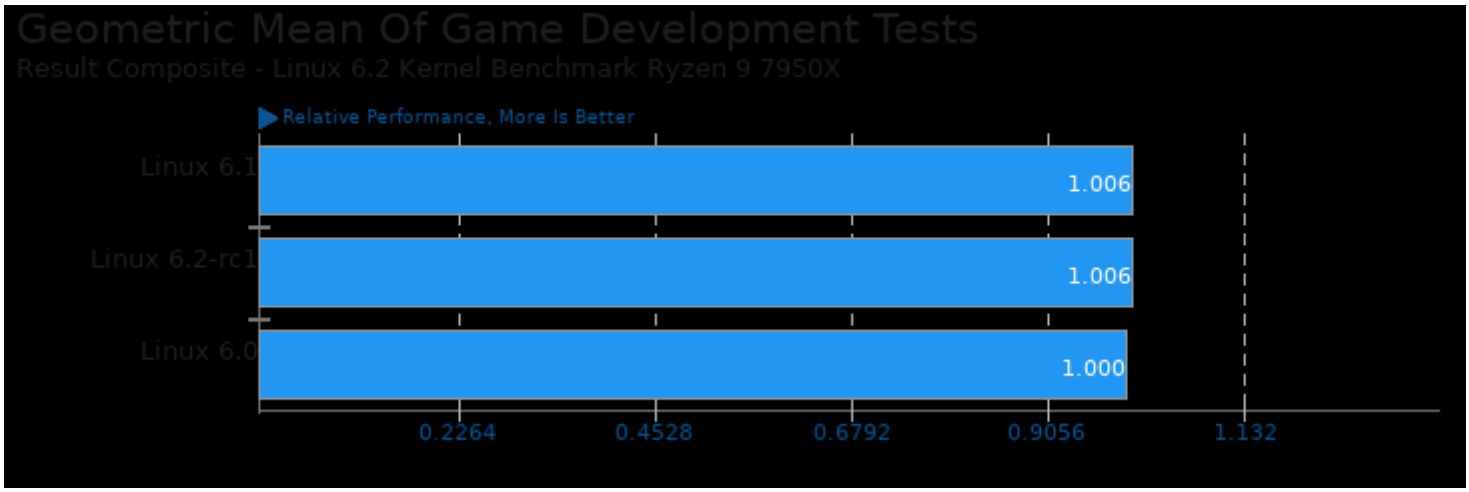
Geometric mean based upon tests: pts/blender, pts/ffmpeg, pts/svt-av1, pts/avifenc, pts/stargate, pts/webp, pts/jpegxl, system/rawtherapee, system/gimp, system/darktable, pts/openvkl, pts/openvino, pts/astcenc and pts/build-godot



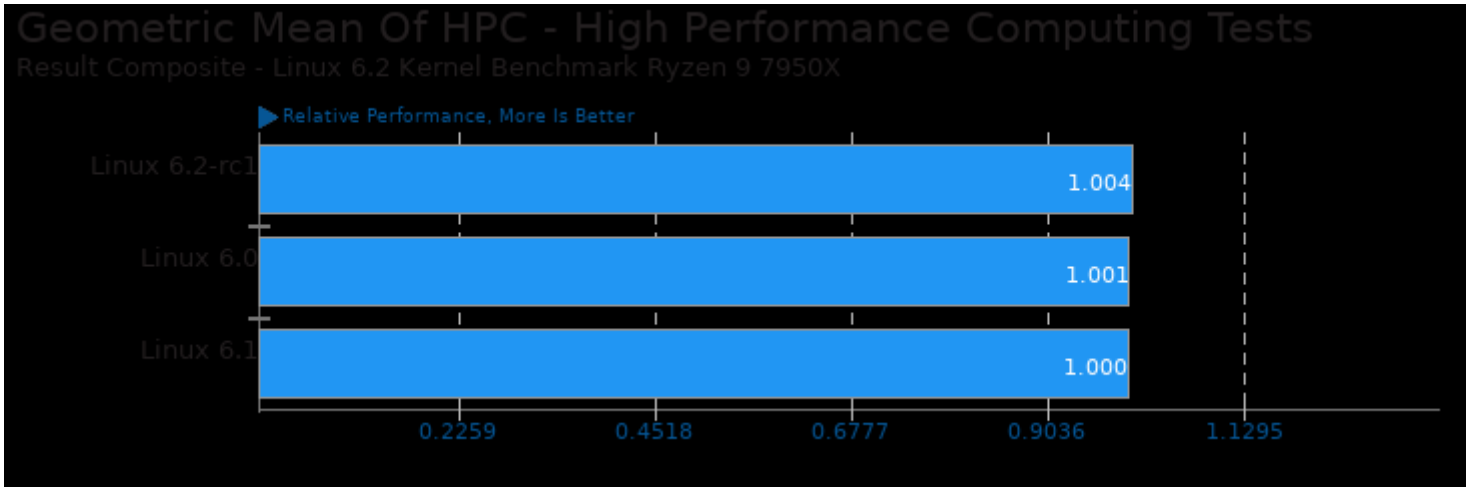
Geometric mean based upon tests: pts/sqlite-speedtest, pts/redis, pts/clickhouse, pts/spark and pts/cockroach



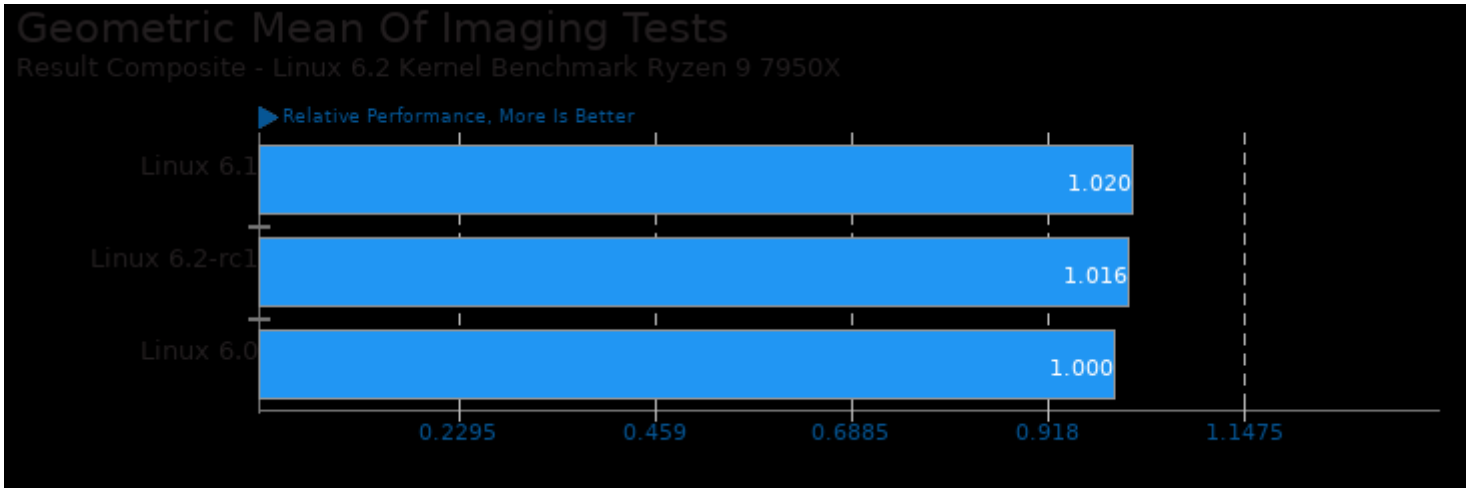
Geometric mean based upon tests: pts/stargate, pts/ffmpeg, pts/svt-av1 and pts/avifenc



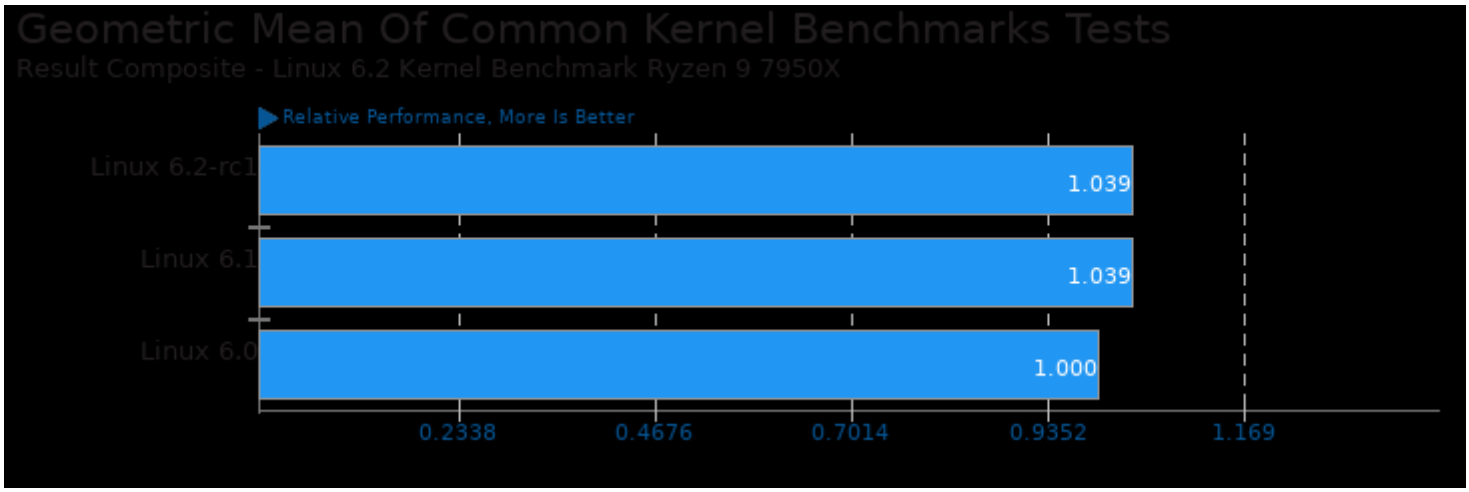
Geometric mean based upon tests: pts/astcenc, pts/build-godot, pts/blender and pts/openvkl



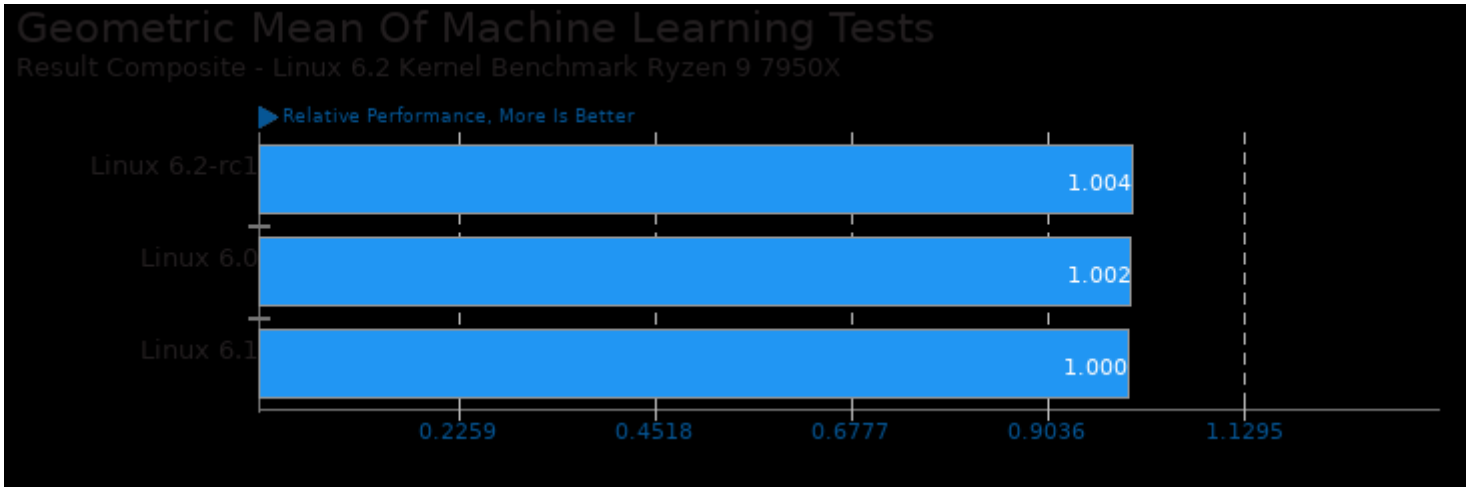
Geometric mean based upon tests: pts/lammps, pts/openfoam, pts/tensorflow, pts/openvino, pts/openradioss and pts/minibude



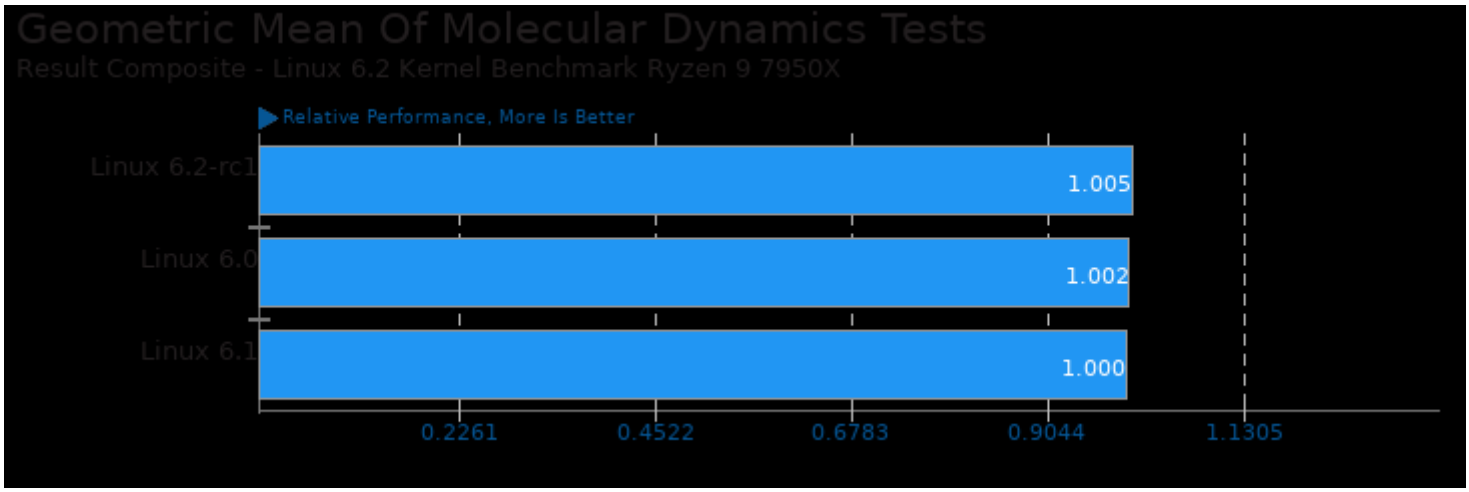
Geometric mean based upon tests: pts/webp, pts/jpegxl, system/rawtherapee, system/gimp, system/darktable and pts/avifenc



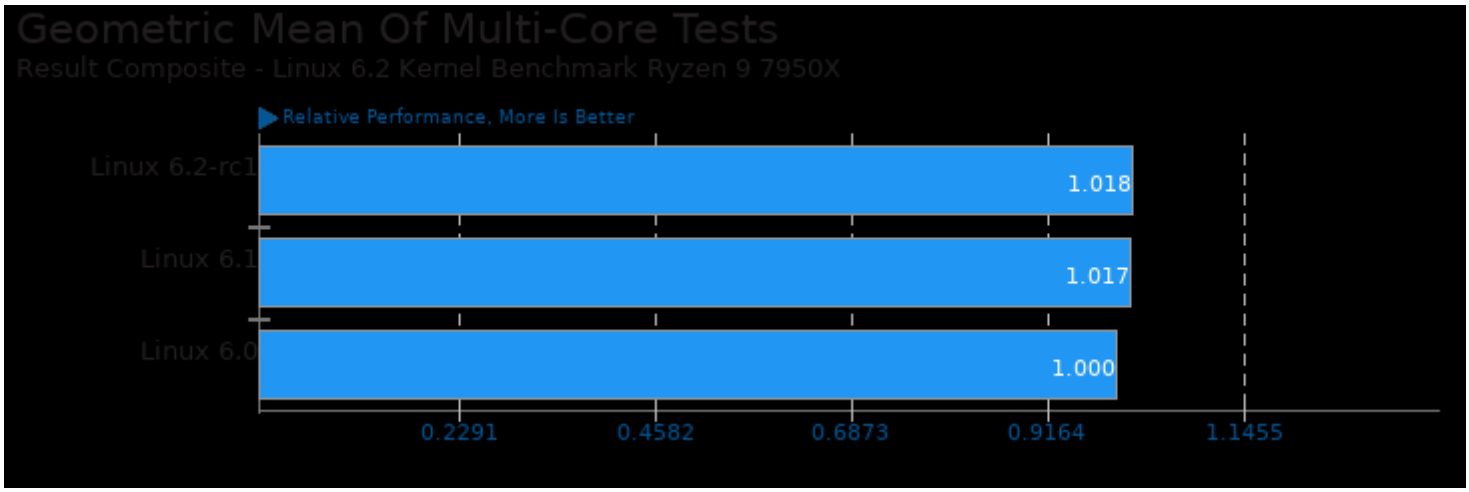
Geometric mean based upon tests: pts/sqlite-speedtest and pts/stress-ng



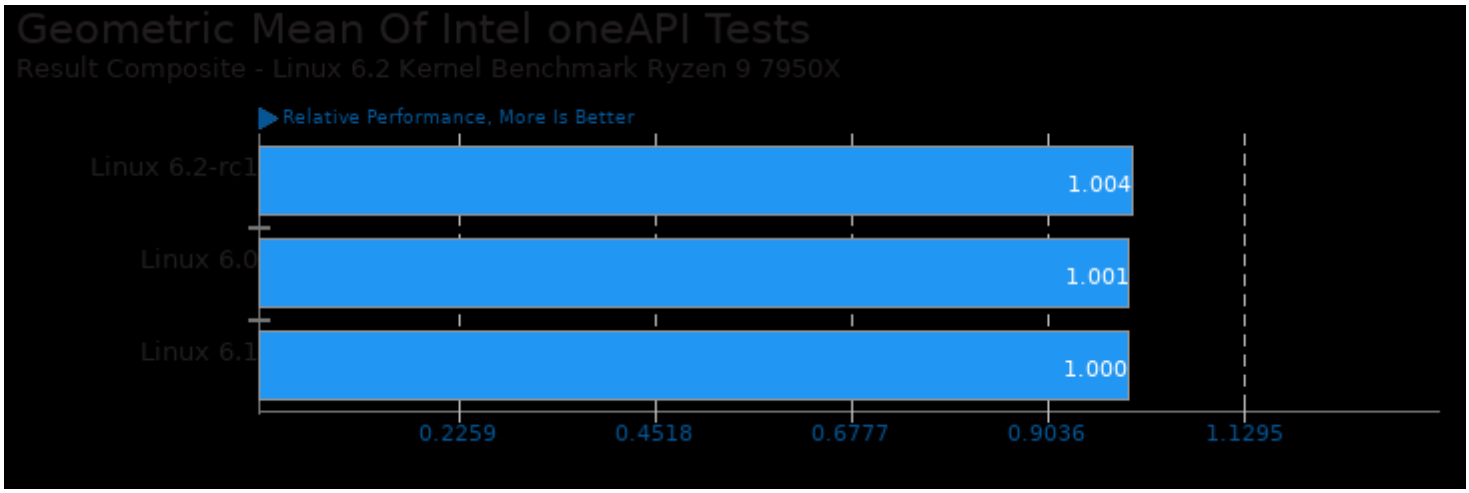
Geometric mean based upon tests: pts/tensorflow and pts/openvino



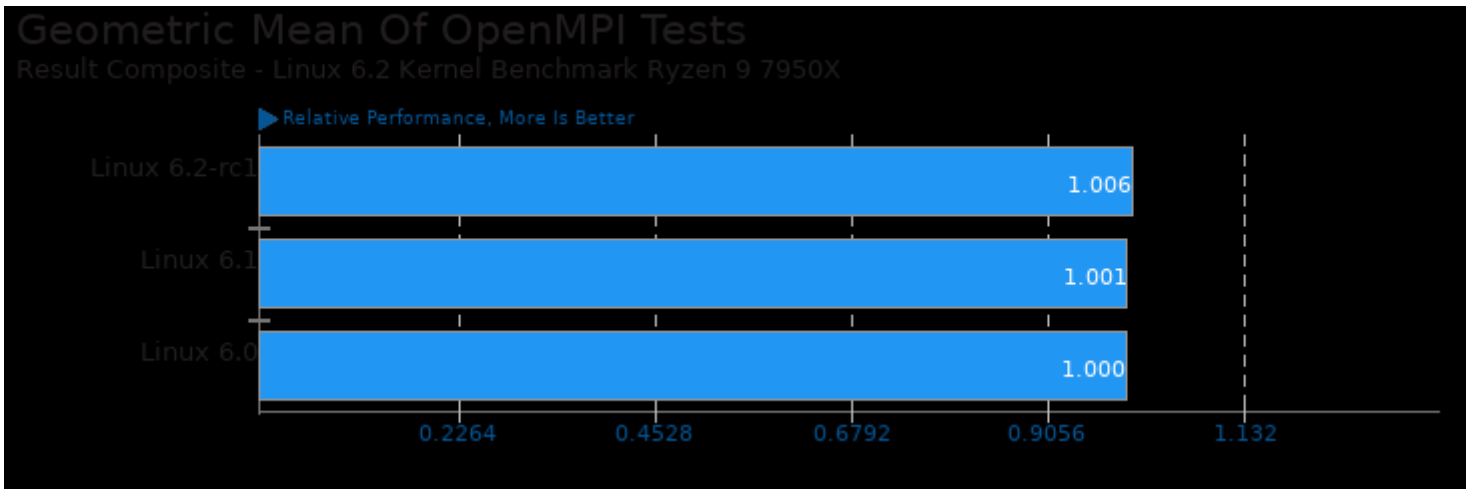
Geometric mean based upon tests: pts/lammps and pts/openfoam



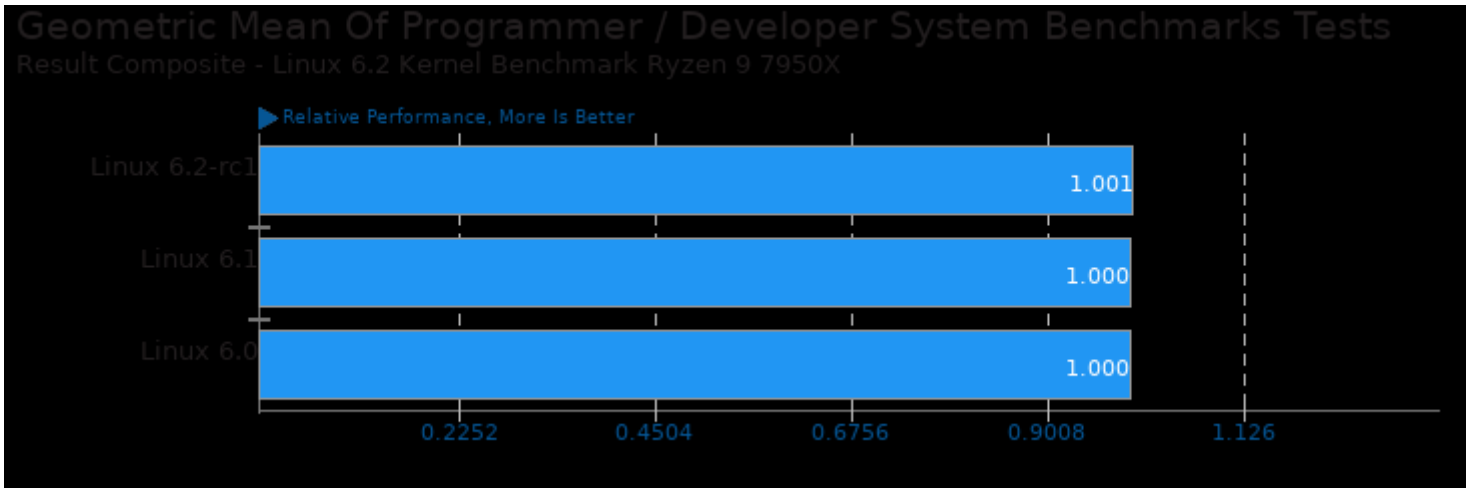
Geometric mean based upon tests: pts/blender, pts/aircrack-ng, pts/ffmpeg, pts/svt-av1, pts/avifenc, pts/lammps, pts/compress-7zip, pts/build-php, pts/build-linux-kernel, pts/build-python, pts/build-godot, pts/build-wasmer, pts/build-nodejs, pts/openvkl and pts/openvino



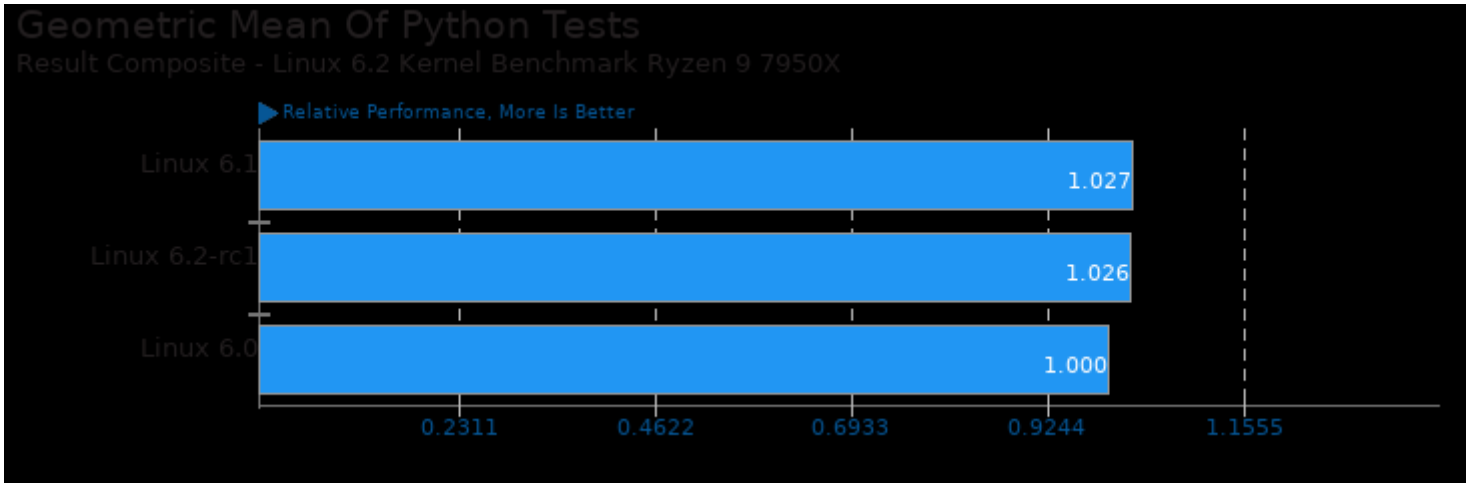
Geometric mean based upon tests: pts/openvkl and pts/openvino



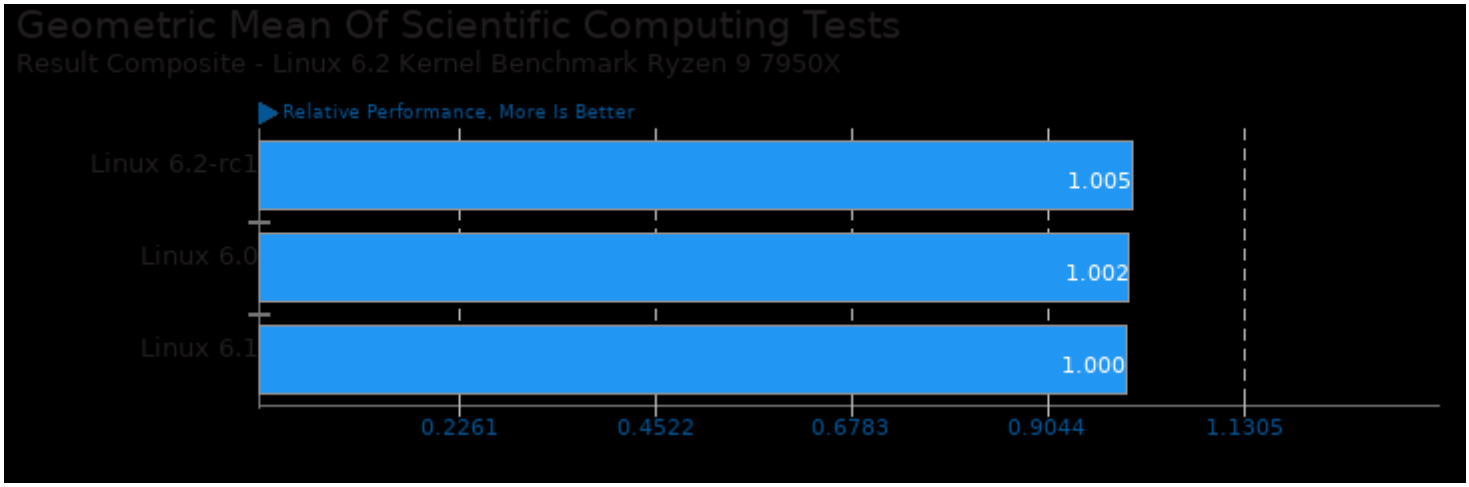
Geometric mean based upon tests: pts/lammps, pts/openradioss and pts/openfoam



Geometric mean based upon tests: pts/sqlite-speedtest, pts/build-php, pts/build-linux-kernel, pts/build-python, pts/build-godot, pts/build-wasmer and pts/build-nodejs

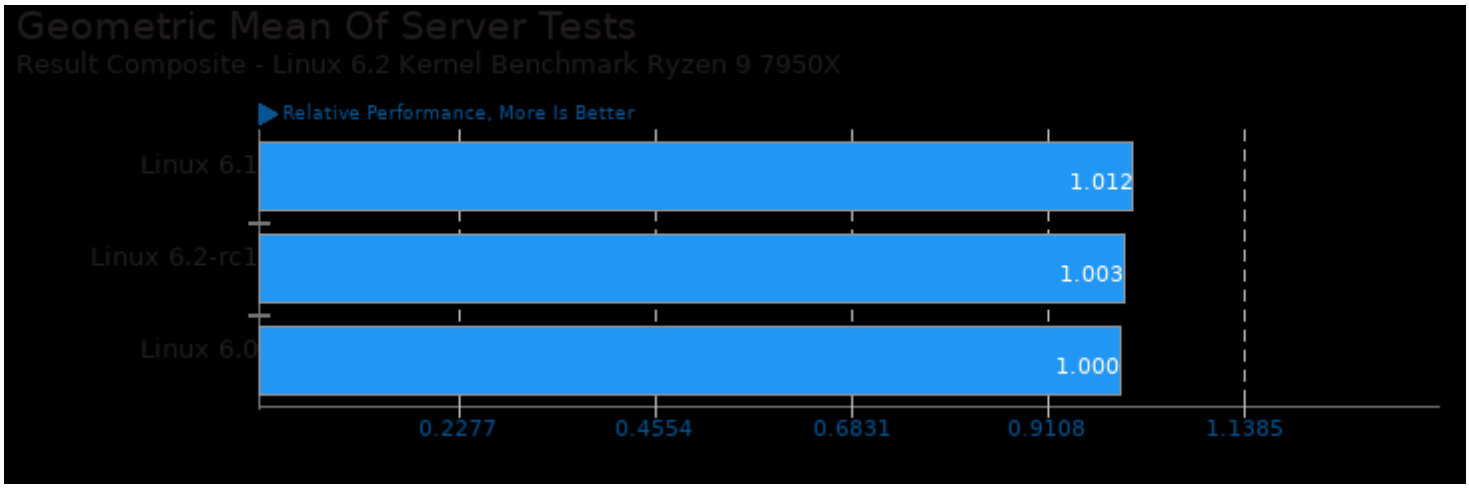


Geometric mean based upon tests: pts/stargate, pts/ffmpeg, pts/spark, system/selenium, pts/openvino, pts/build-nodejs, pts/tensorflow and pts/build-godot

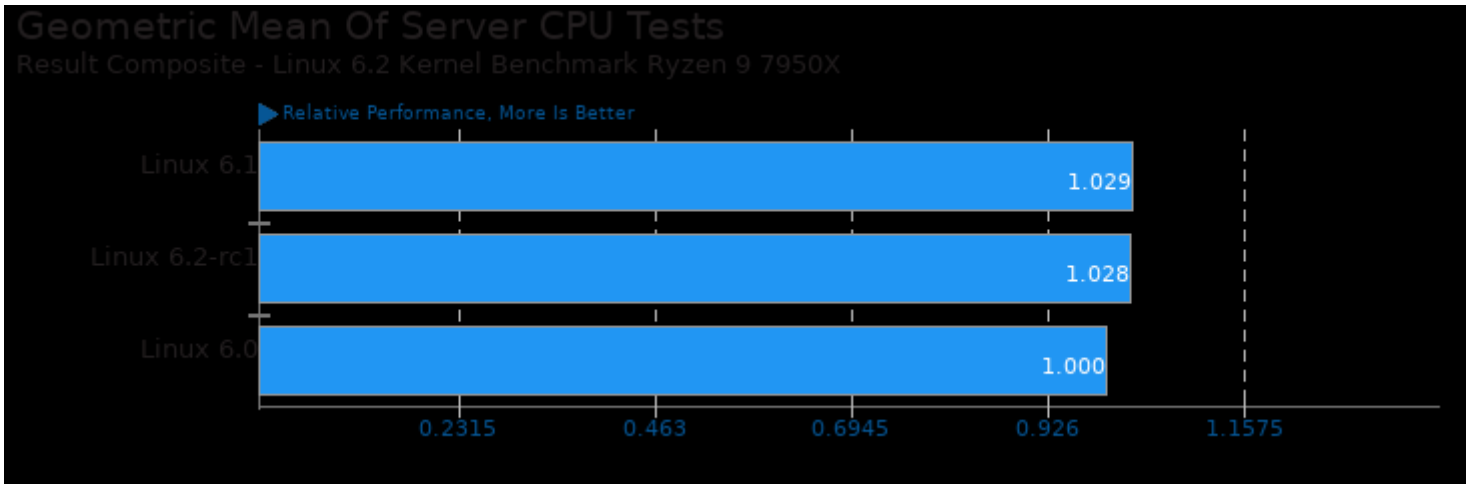


Geometric mean based upon tests: pts/lammps and pts/openfoam

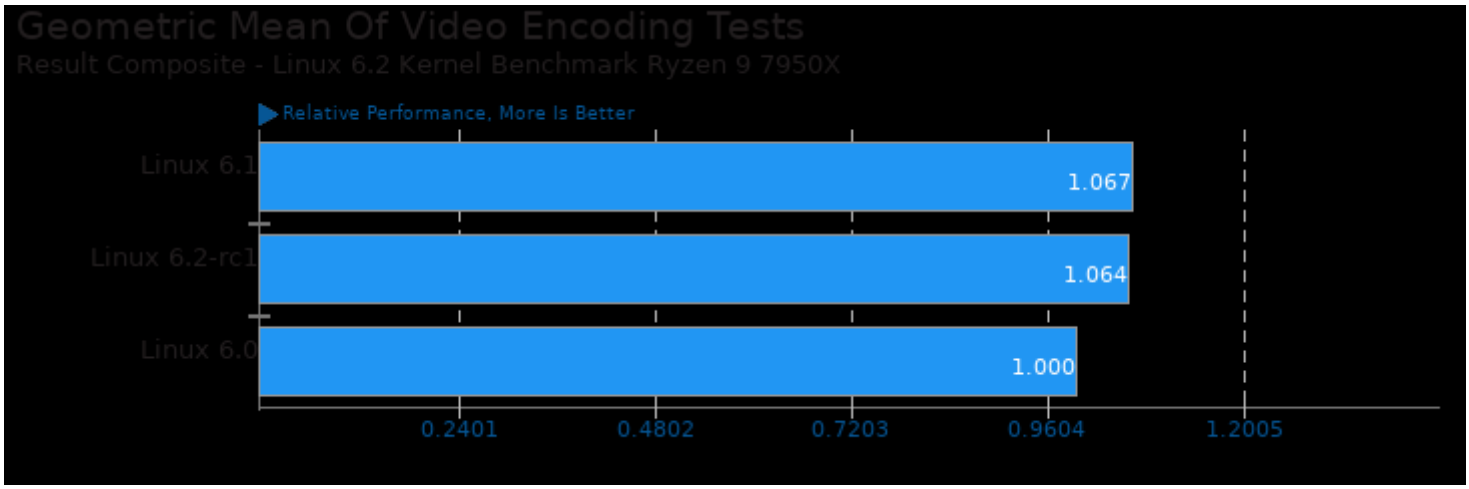
Linux 6.2 Kernel Benchmark Ryzen 9 7950X



Geometric mean based upon tests: pts/redis, pts/sqlite-speedtest, pts/clickhouse, pts/spark and pts/cockroach



Geometric mean based upon tests: pts/svt-av1, pts/compress-7zip, pts/build-linux-kernel, pts/build-php, system/gimp, pts/redis, pts/stress-ng and pts/blender



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 04:56.