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Intel Linux Power Use

Intel Core i7-4770K testing with a ECS Z87H3-A2X EXTREME v1.0 and Intel HD 4600 on Ubuntu 14.04 via the Phoronix Test Suite.

Automated Executive Summary

Linux 3.12 had the most wins, coming in first place for 60% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 3.12) was 1.017x the speed of the slowest (Linux 3.9). Linux 3.13 Git was 0.996x the speed of Linux 3.12 and Linux 3.9 was 0.987x the speed of Linux 3.13 Git.

Test Systems:

Linux 3.9

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: ECS Z87H3-A2X EXTREME v1.0, Chipset: Intel 4th Gen Core DRAM, Memory: 16384MB, Disk: 150GB Western Digital WD1500HLHX-0 + 240GB OCZ VERTEX3, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Haswell HDMI, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.04, Kernel: 3.9.0-030900-generic (x86_64), Desktop: Unity 7.1.2, Display Server: X Server 1.14.4, Display Driver: intel 2.99.904, OpenGL: 3.3 Mesa 10.0.0, Compiler: GCC 4.8, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: SNA

Linux 3.12

Processor: Intel Core i7-4770K @ 4.40GHz (8 Cores), Motherboard: ECS Z87H3-A2X EXTREME v1.0, Chipset: Intel 4th Gen Core DRAM, Memory: 16384MB, Disk: 150GB Western Digital WD1500HLHX-0 + 240GB OCZ VERTEX3, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Haswell HDMI, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.04, Kernel: 3.12.0-031200-generic (x86_64), Desktop: Unity 7.1.2, Display Server: X Server 1.14.4, Display Driver: intel 2.99.904, OpenGL: 3.3 Mesa 10.0.0, Compiler: GCC 4.8, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: SNA

Linux 3.13 Git

Processor: Intel Core i7-4770K @ 4.40GHz (8 Cores), Motherboard: ECS Z87H3-A2X EXTREME v1.0, Chipset: Intel 4th Gen Core DRAM, Memory: 16384MB, Disk: 150GB Western Digital WD1500HLHX-0 + 240GB OCZ VERTEX3, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Haswell HDMI, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.04, Kernel: 3.13.0-999-generic (x86_64), Desktop: Unity 7.1.2, Display Server: X Server 1.14.4, Display Driver: intel 2.99.904, OpenGL: 3.3 Mesa 10.0.0, Compiler: GCC 4.8, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: SNA

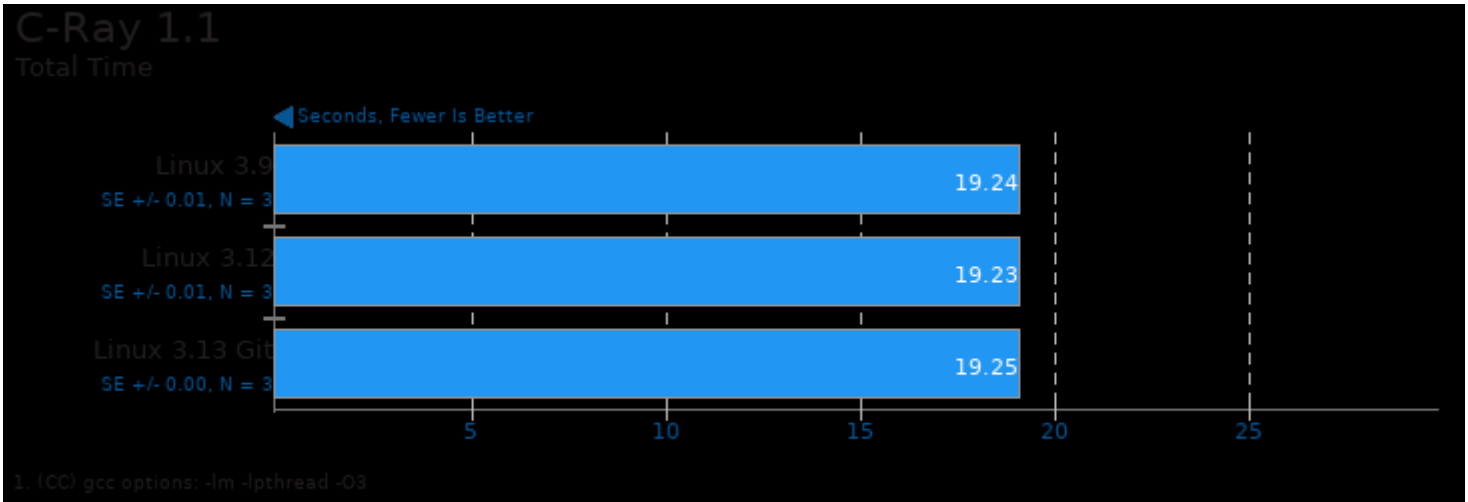
	Linux 3.9	Linux 3.12	Linux 3.13 Git
C-Ray - Total Time (sec)	19.24	**19.23**	**19.25**
Normalized	99.95%	100%	99.9%
Standard Deviation	0%	0.1%	0%
C-Ray - Total Time (Performance/Watt)	6.38	**7.01**	**6.33**
Normalized	91.01%	100%	90.3%
OpenArena - 1920 x 1080 (FPS)	**131.10**	137.47	**139.40**
Normalized	94.05%	98.62%	100%
Standard Deviation	0.3%	1.4%	0.3%

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OpenArena - 1920 x 1080 (FPS/Watt)	**1.73**	**1.82**	
Normalized	95.05%	100%	
Xonotic - 1920 x 1080 - High (FPS)	**53.02**	**55.04**	54.82
Normalized	96.33%	100%	99.6%
Standard Deviation	1.1%	0.1%	0.2%
Xonotic - 1920 x 1080 - High (FPS/Watt)	**0.66**	**0.65**	**0.65**
Normalized	100%	98.48%	98.48%
LAME MP3 Encoding - WAV To MP3 (sec)	10.90	**10.86**	**10.93**
Normalized	99.63%	100%	99.36%
Standard Deviation	0.5%	0.2%	0.7%
x264 - H.2.V.E (FPS)	**209.94**	209.16	**204.48**
Normalized	100%	99.63%	97.4%
Standard Deviation	3.2%	3.1%	1.4%
LAME MP3 Encoding - WAV To MP3 (Performance/Watt)		**7.09**	**6.78**
Normalized		100%	95.63%
x264 - H.2.V.E (FPS/Watt)		**1.79**	**2.03**
Normalized		88.18%	100%

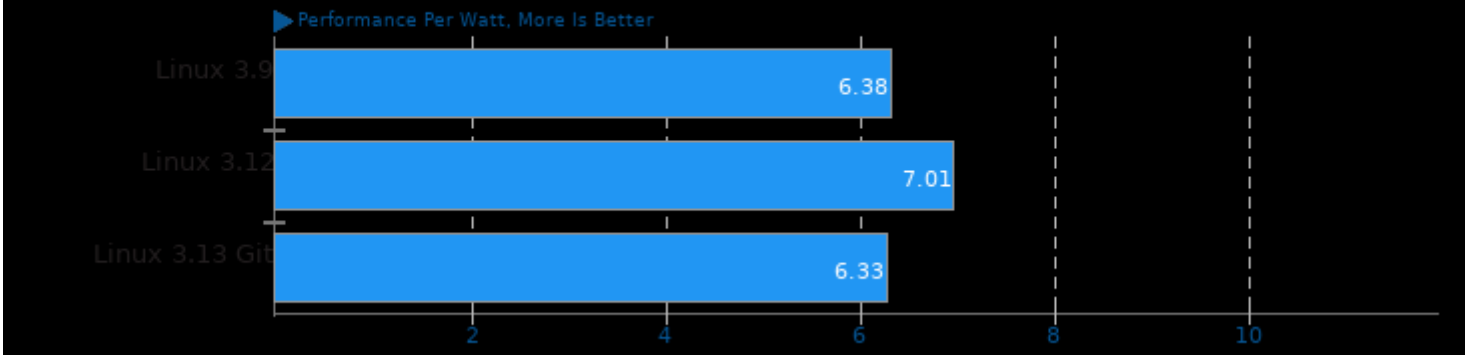
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C-Ray 1.1
Total Time

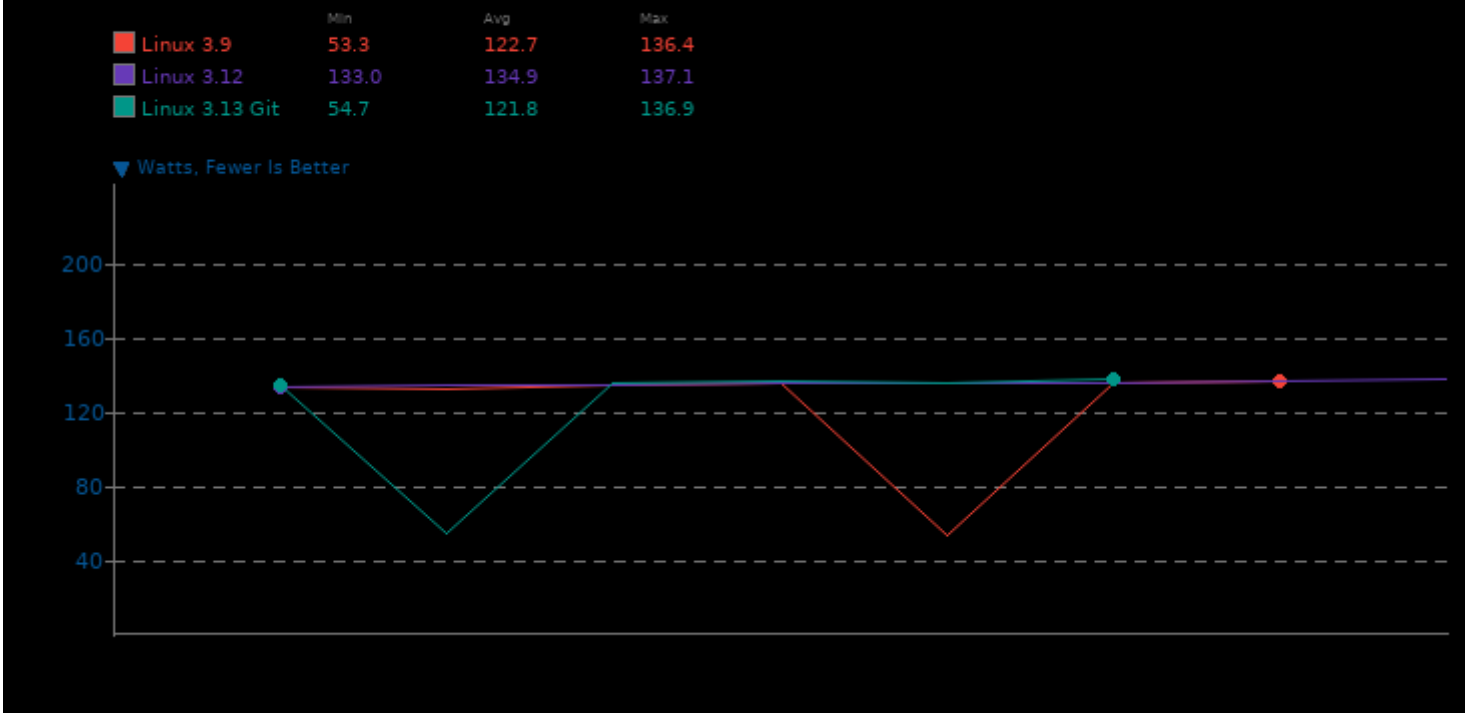


1. (CC) gcc options: -lm -lpthread -O3

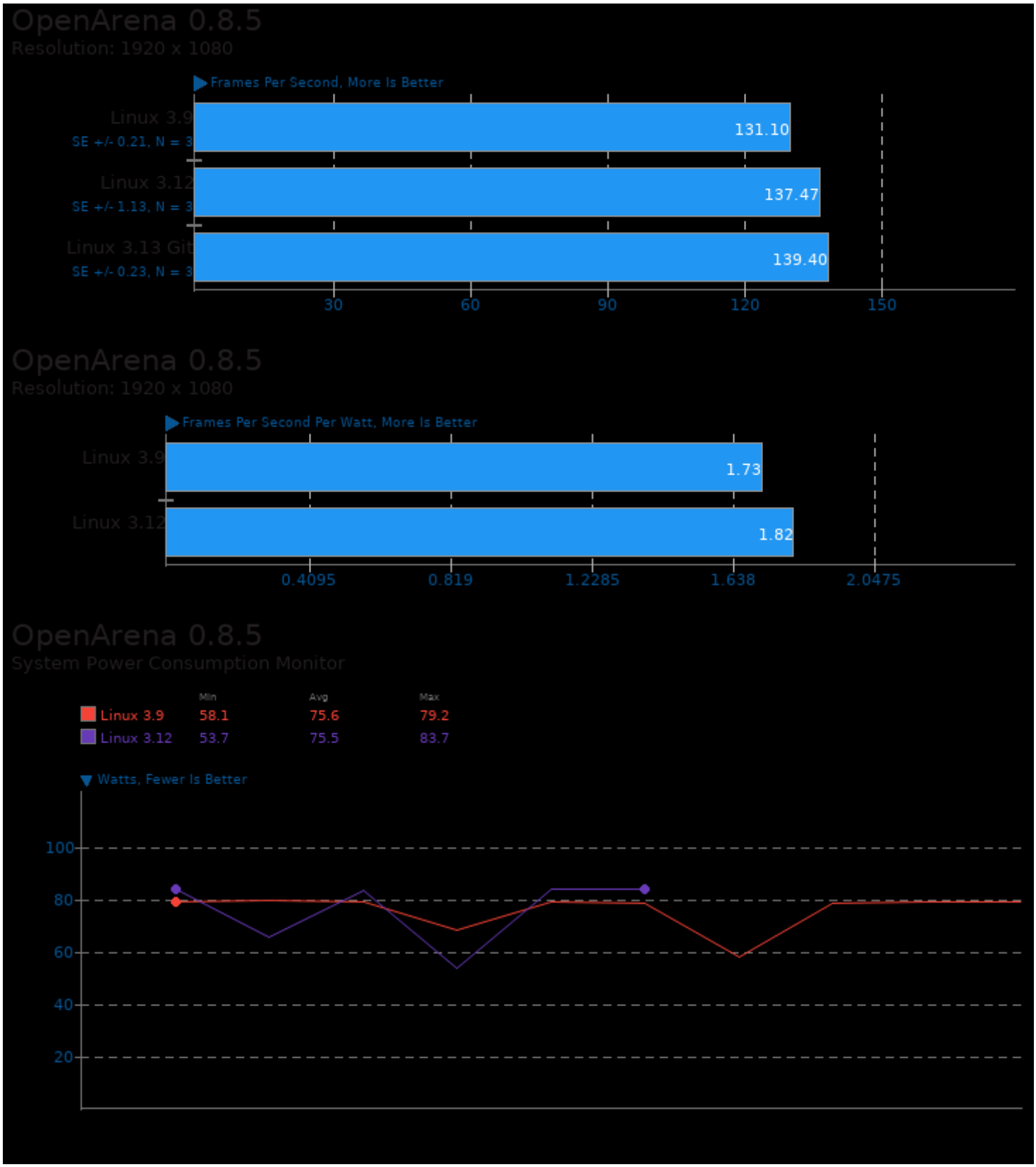
C-Ray 1.1
Total Time



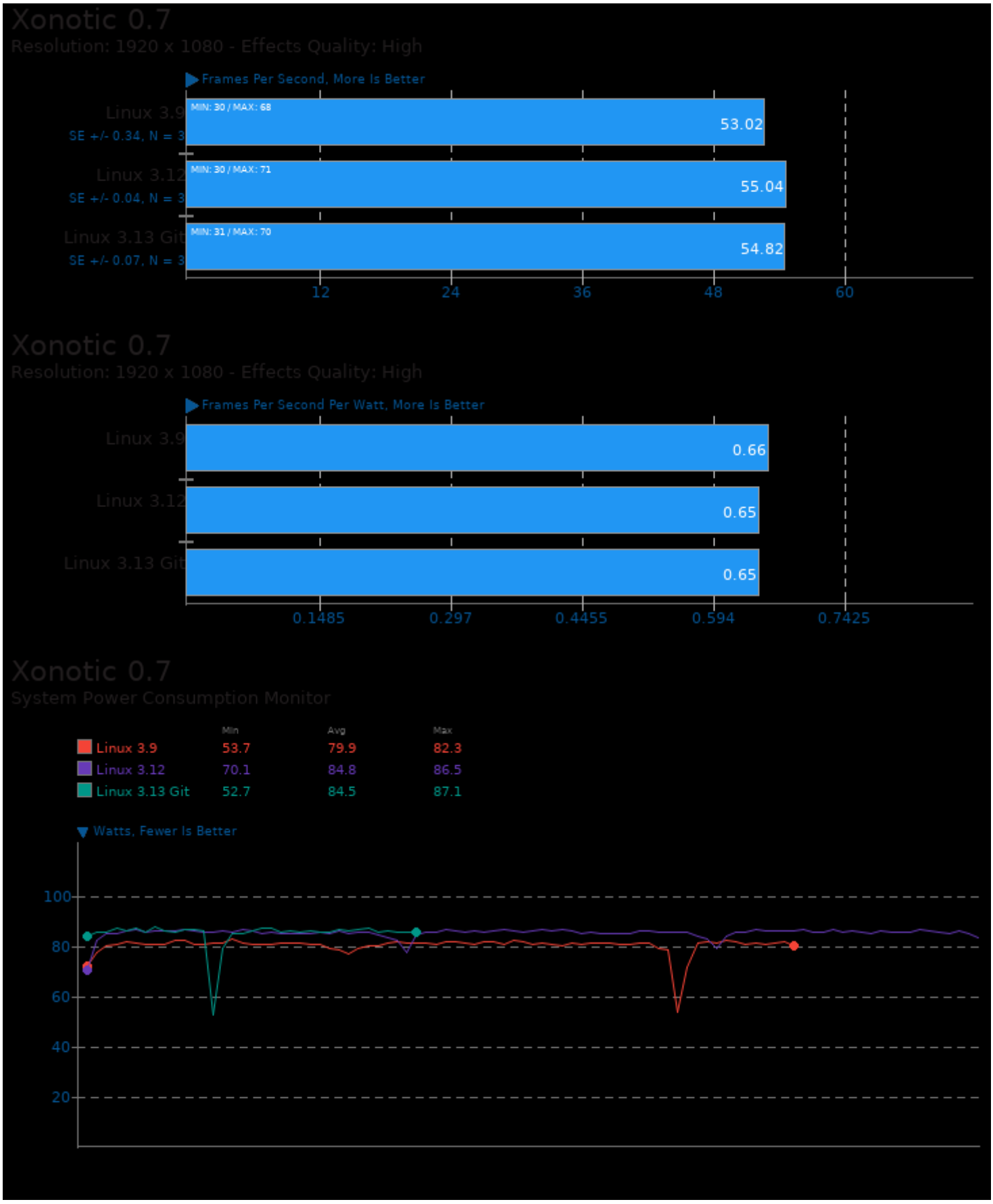
C-Ray 1.1
System Power Consumption Monitor



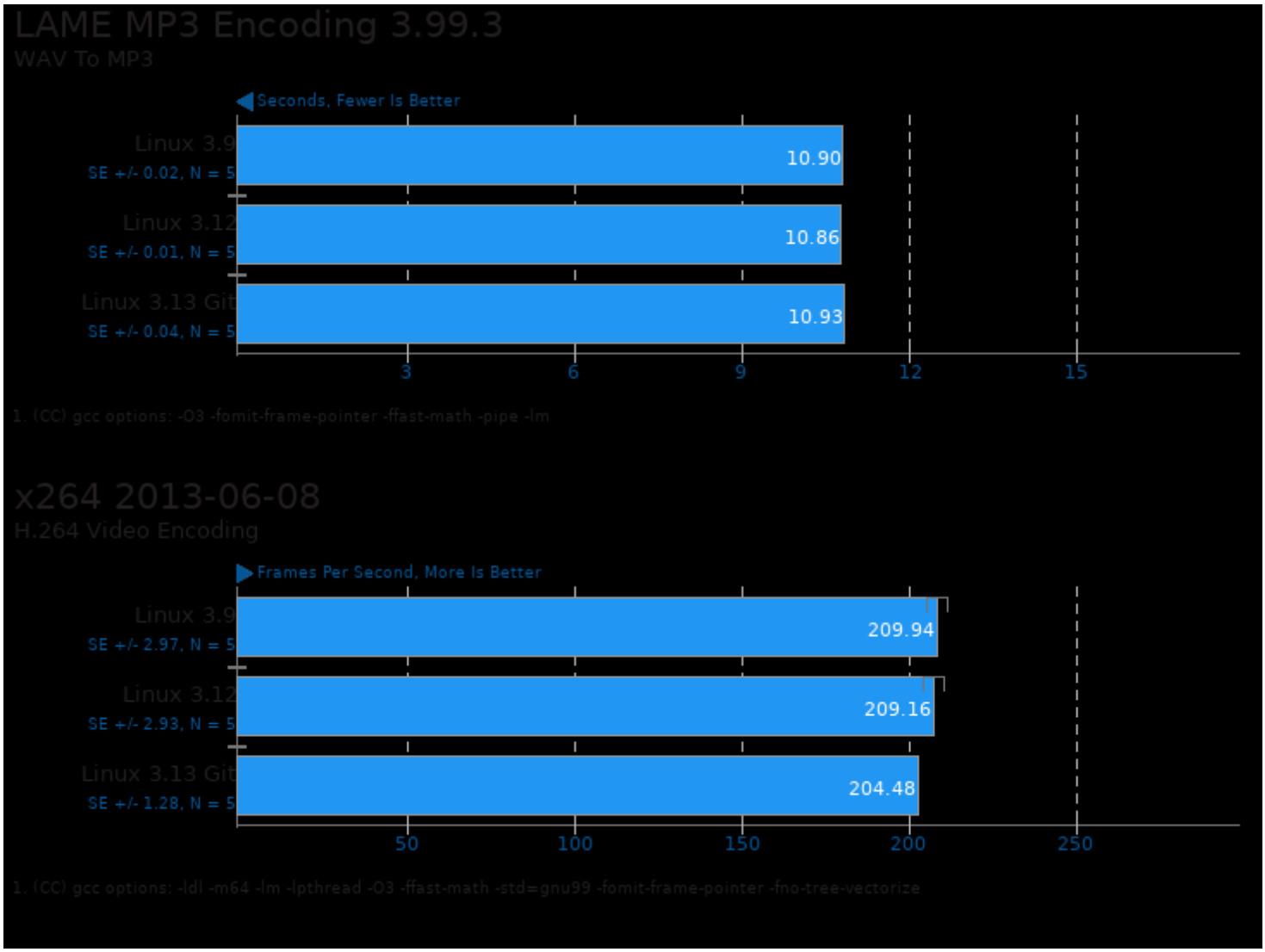
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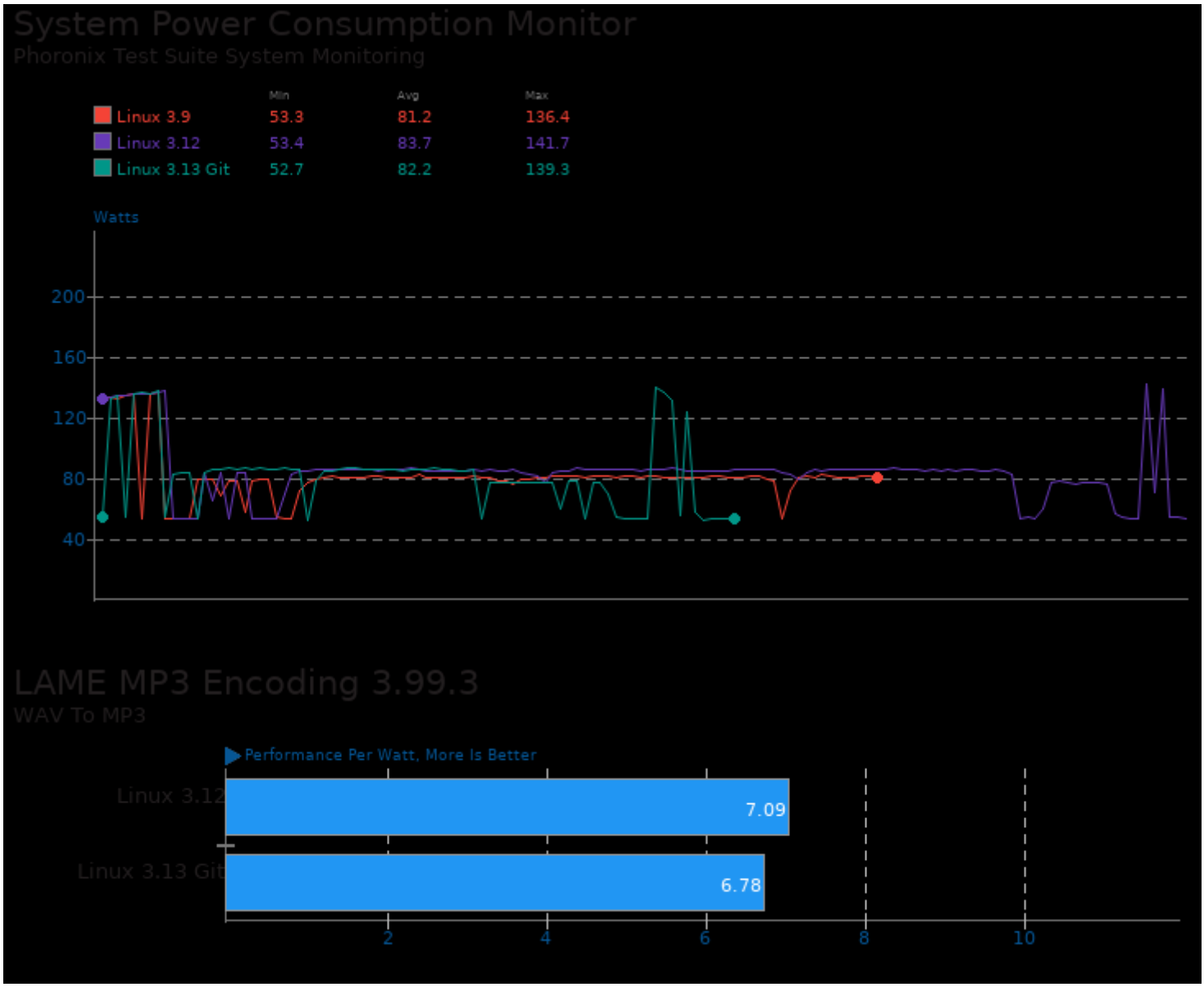
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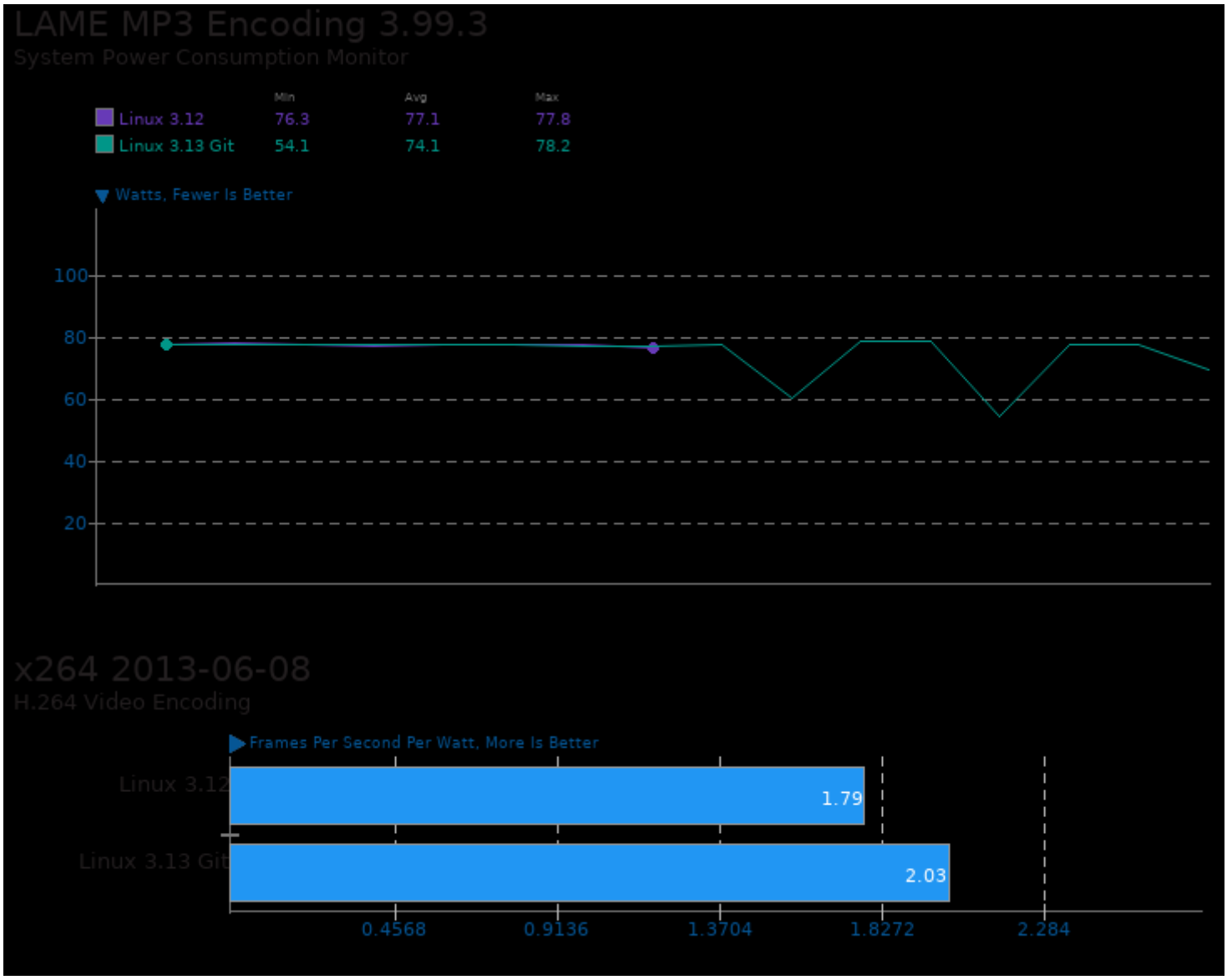
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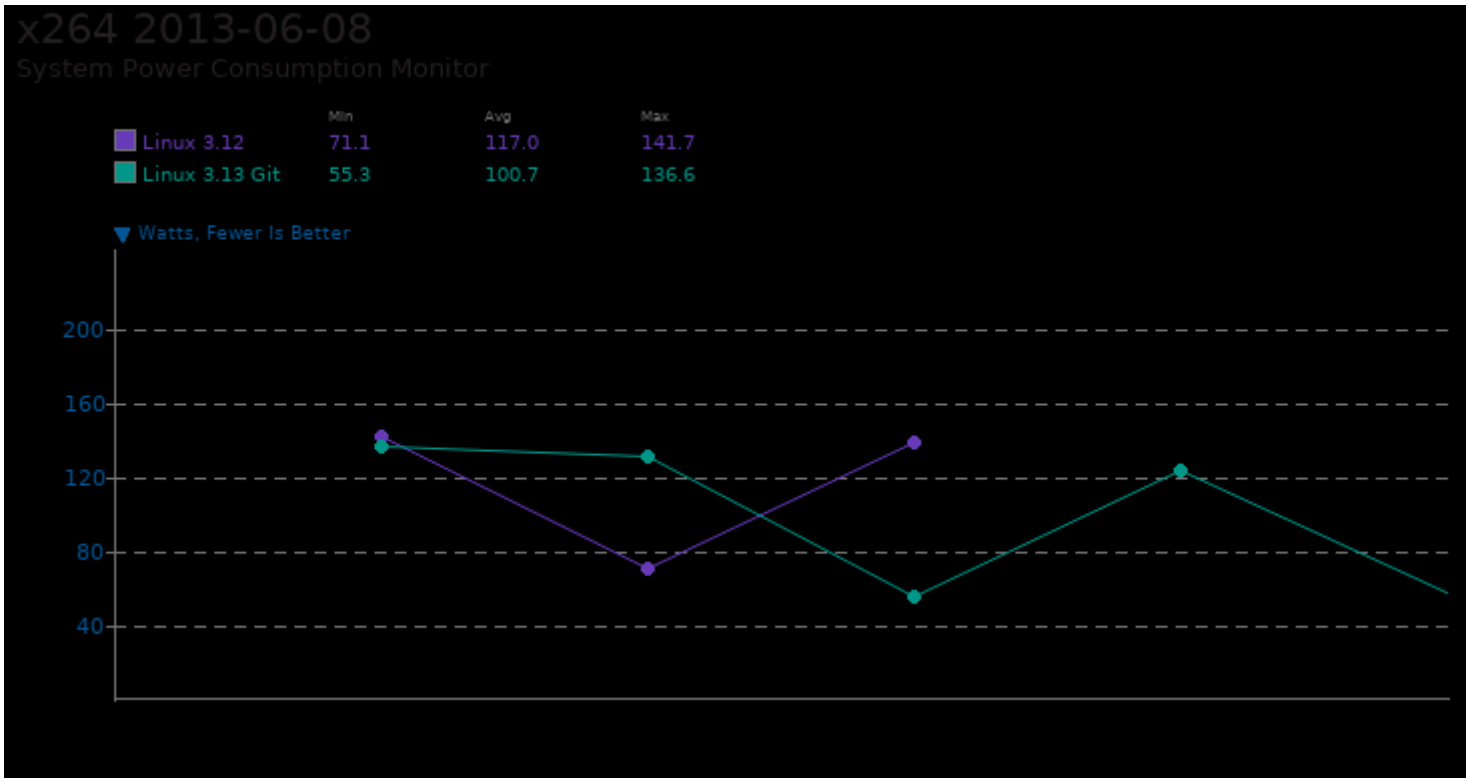
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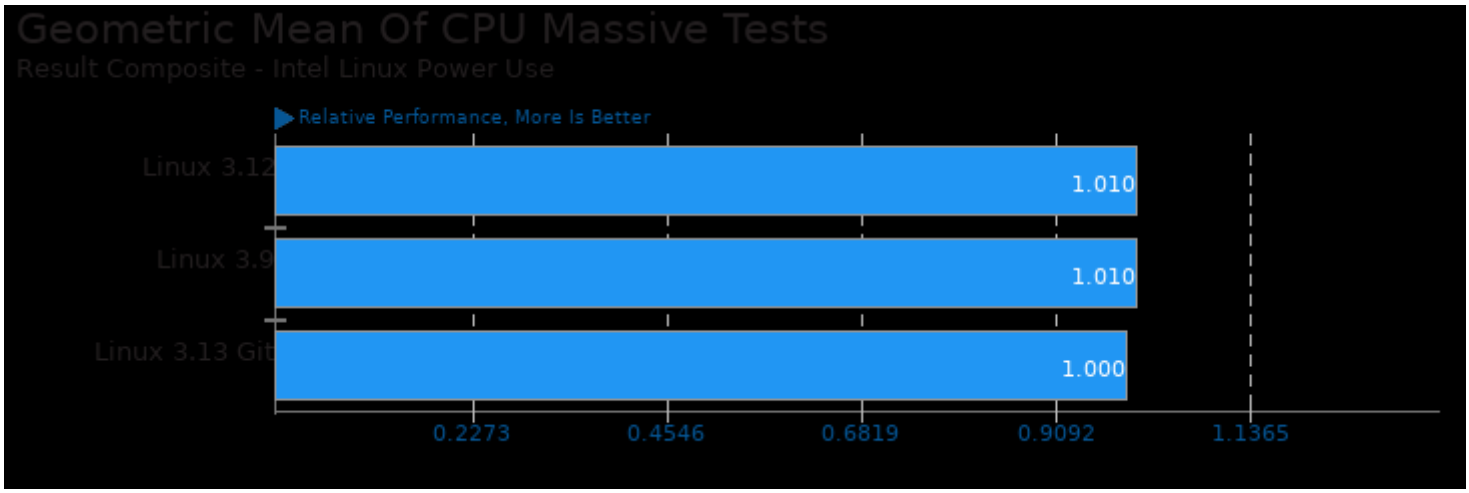


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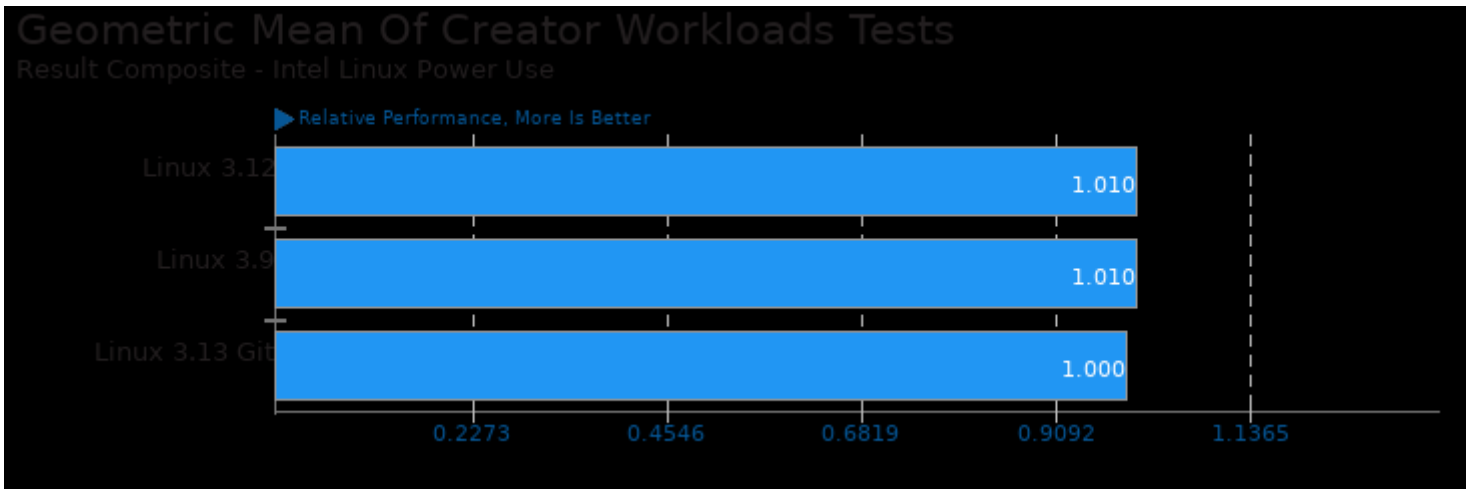
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/c-ray, pts/encode-mp3 and pts/x264

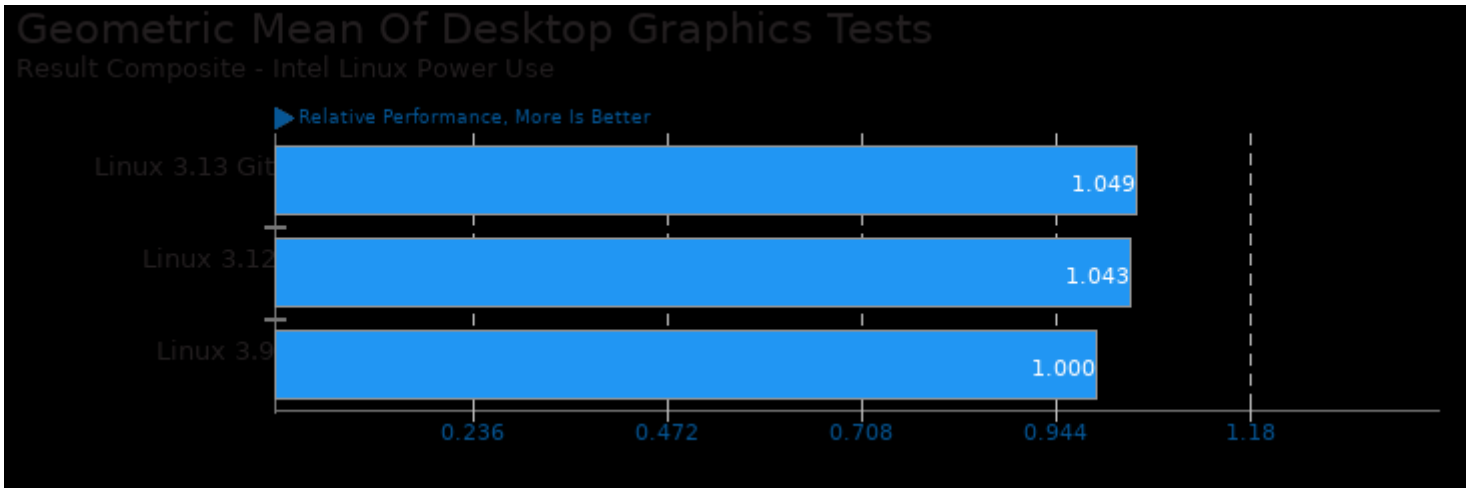


Geometric mean based upon tests: pts/c-ray, pts/x264 and pts/encode-mp3

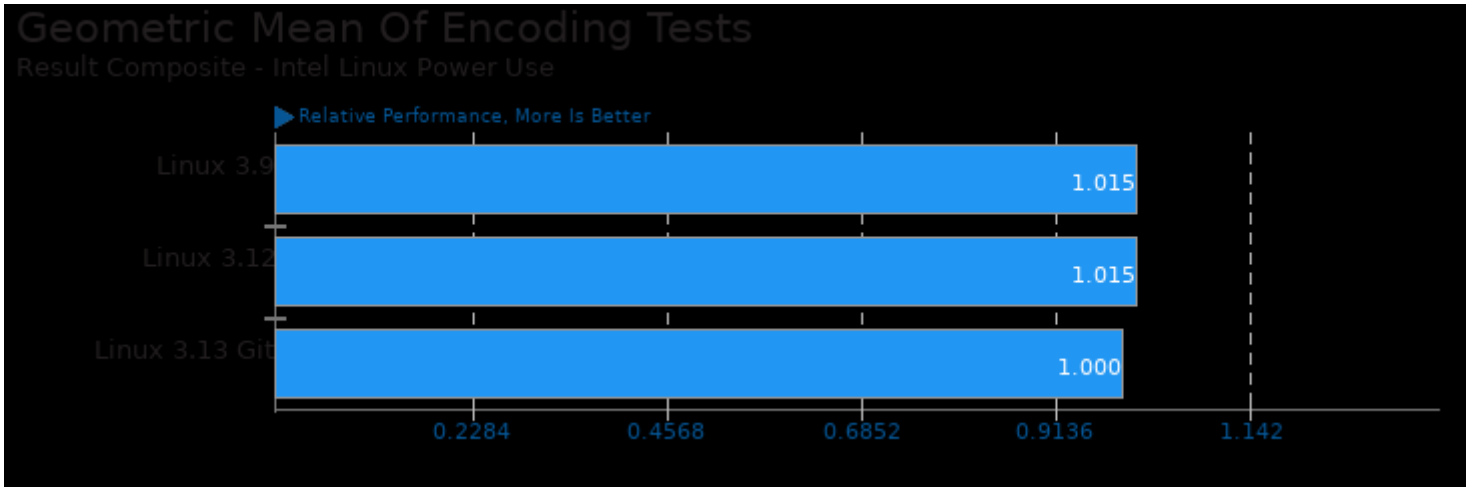


Geometric mean based upon tests: pts/c-ray, pts/x264 and pts/encode-mp3

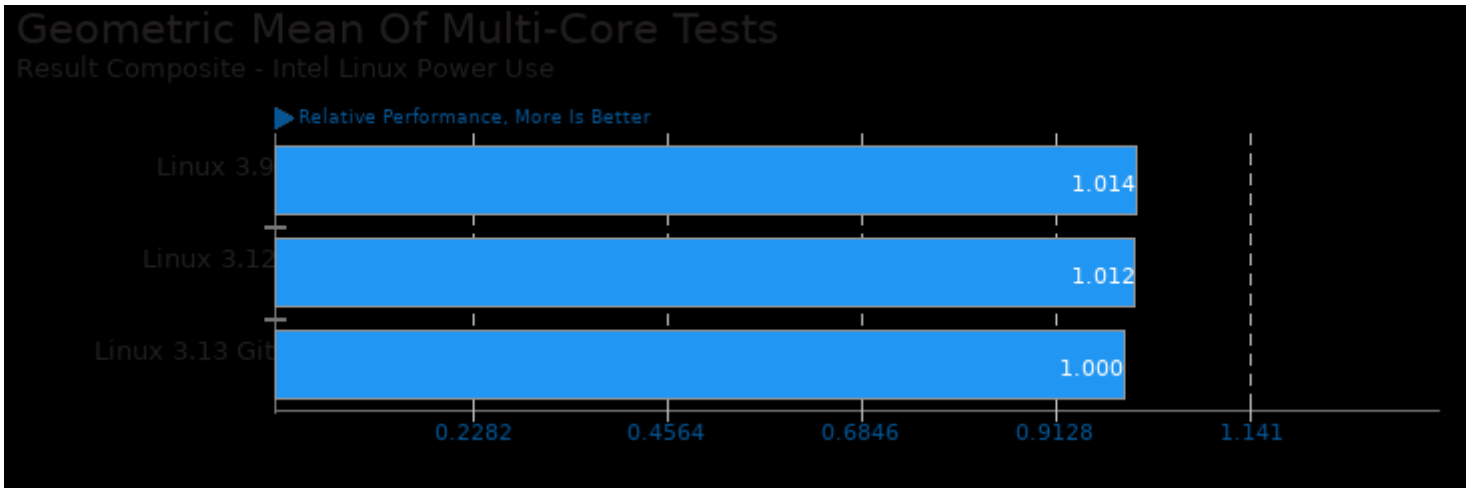
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Geometric mean based upon tests: pts/xonotic and pts/openarena

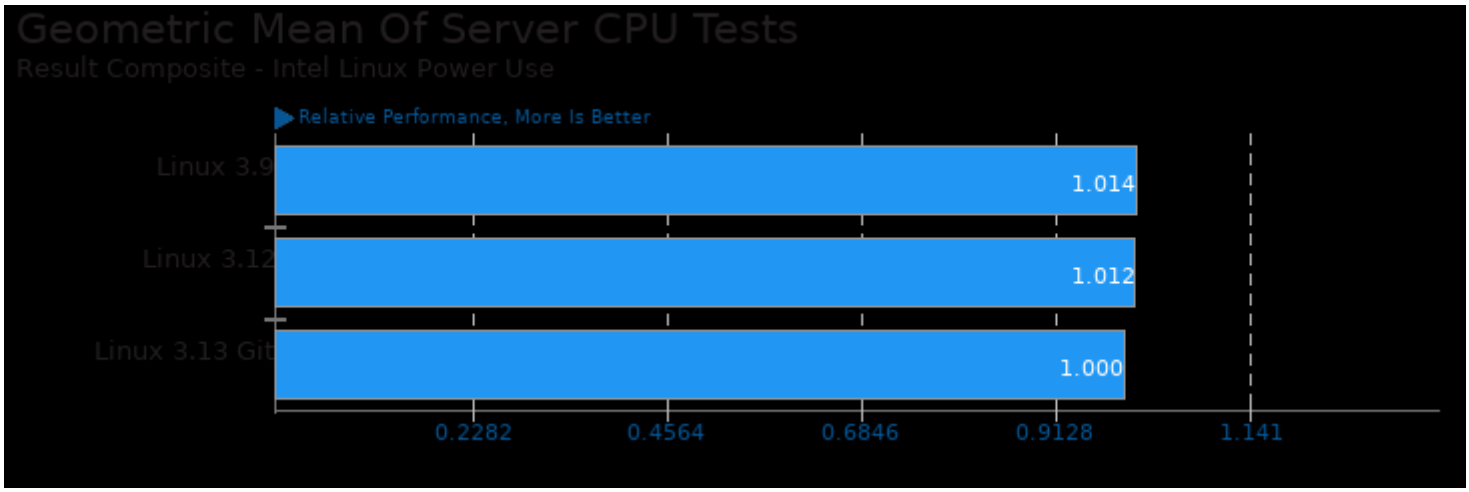


Geometric mean based upon tests: pts/encode-mp3 and pts/x264



Geometric mean based upon tests: pts/c-ray and pts/x264

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Geometric mean based upon tests: pts/x264 and pts/c-ray

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 05:08.