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Intel Haswell HD 4600 Linux 3.11

Intel Core i7-4770K Haswell benchmarks of the Linux 3.8, 3.9, 3.10, and Linux 3.11 kernels on Ubuntu 13.10 x86_64. benchmarking by Michael Larabel for a future article on phoronix.

Automated Executive Summary

Linux 3.10 had the most wins, coming in first place for 58% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 3.10) was 1.193x the speed of the slowest (Linux 3.8). Linux 3.11 Git was 0.997x the speed of Linux 3.10, Linux 3.9 was 0.843x the speed of Linux 3.11 Git, Linux 3.8 was 0.997x the speed of Linux 3.9.

Test Systems:

Linux 3.11 Git

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Intel DH87RL, Chipset: Intel 4th Gen Core DRAM, Memory: 15360MB, Disk: 240GB OCZ VERTEX3, Graphics: Intel Haswell Desktop, Audio: Realtek ALC892, Network:

Intel Connection I217-V

OS: Ubuntu 13.10, Kernel: 3.11.0-999-generic (x86_64), Desktop: Unity 7.0.2, Display Server: X Server 1.14.2, Display Driver: intel 2.21.12, OpenGL: 3.1 Mesa 9.2.0-devel (git-7fd30a8), Compiler: GCC 4.8 + LLVM 3.3, 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-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-amd64 --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Graphics Notes: SNA

Linux 3.10

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Intel DH87RL, Chipset: Intel 4th Gen Core DRAM, Memory: 15360MB, Disk: 240GB OCZ VERTEX3, Graphics: Intel Haswell Desktop, Audio: Intel Haswell HDMI, Network: Intel Connection I217-V

OS: Ubuntu 13.10, Kernel: 3.10.0-031000-generic (x86_64), Desktop: Unity 7.0.2, Display Server: X Server 1.14.2, Display Driver: intel 2.21.12, OpenGL: 3.1 Mesa 9.2.0-devel (git-7fd30a8), Compiler: GCC 4.8 + LLVM 3.3, 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-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-amd64 --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Graphics Notes: SNA

Linux 3.9

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Intel DH87RL, Chipset: Intel 4th Gen Core DRAM, Memory: 15360MB, Disk: 240GB OCZ VERTEX3, Graphics: Intel Haswell Desktop, Audio: Intel Haswell HDMI, Network: Intel Connection I217-V

OS: Ubuntu 13.10, Kernel: 3.9.0-030900-generic (x86_64), Desktop: Unity 7.0.2, Display Server: X Server 1.14.2, Display Driver: intel 2.21.12, OpenGL: 3.1 Mesa 9.2.0-devel (git-7fd30a8), Compiler: GCC 4.8 + LLVM 3.3, 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-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-amd64 --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Graphics Notes: SNA

Linux 3.8

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Intel DH87RL, Chipset: Intel 4th Gen Core DRAM, Memory: 15360MB, Disk: 240GB OCZ VERTEX3, Graphics: Intel Haswell Desktop, Audio: Intel Haswell HDMI, Network: Intel Connection I217-V

OS: Ubuntu 13.10, Kernel: 3.8.0-030800-generic (x86_64), Desktop: Unity 7.0.2, Display Server: X Server 1.14.2, Display Driver: intel 2.21.12, OpenGL: 3.1 Mesa 9.2.0-devel (git-7fd30a8), Compiler: GCC 4.8 + LLVM 3.3, File-System:

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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-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-amd64 --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Graphics Notes: SNA

	Linux 3.11 Git	Linux 3.10	Linux 3.9	Linux 3.8
Nexuiz - 1920 x 1080 - Yes - Off (FPS)	38.94	**39.05**	**31.11**	31.12
Normalized	99.72%	100%	79.67%	79.69%
Standard Deviation	1%	0.6%	0.1%	0.3%
OpenArena - 1920 x 1080 (FPS)	38.67	**38.83**	32.27	**31.83**
Normalized	99.59%	100%	83.11%	81.97%
Standard Deviation	0.4%	0.4%	1.6%	0.2%
Reaction Quake 3 - 1920 x 1080 (FPS)	**117.20**	115.83	**72.77**	72.87
Normalized	100%	98.83%	62.09%	62.18%
Standard Deviation	0.9%	0.7%	1.8%	1.8%
Unvanquished - 1920 x 1080 (FPS)	**29.83**	29.80	25.97	**25.83**
Normalized	100%	99.9%	87.06%	86.59%
Standard Deviation	0.4%	0%	0.2%	0.4%
Urban Terror - 1920 x 1080 (FPS)	107.53	**108.97**	83.27	**82.80**
Normalized	98.68%	100%	76.42%	75.98%
Standard Deviation	1.3%	0.8%	1.2%	1.4%
Warsow - 1920 x 1080 (FPS)	**59.10**	58.93	47.27	**46.63**
Normalized	100%	99.71%	79.98%	78.9%
Standard Deviation	0.9%	1.1%	0.6%	0.7%
Xonotic - 1920 x 1080 - High (FPS)	73.73	**73.78**	61.39	**61.25**
Normalized	99.93%	100%	83.21%	83.02%
Standard Deviation	0.5%	0.6%	0.1%	0.2%
Xonotic - 1920 x 1080 - Ultra (FPS)	44.56	**44.57**	**40.27**	40.32
Normalized	99.98%	100%	90.35%	90.46%
Standard Deviation	0.2%	0.5%	0.2%	0.1%
GpuTest - Plot3D - 1680 x 1050	**4034**	3997	**3910**	3911
Normalized	100%	99.08%	96.93%	96.95%
Standard Deviation	0.1%	1.4%	0.1%	0%
GpuTest - Triangle - 1680 x 1050 (Points)	46228	**47691**	**36539**	36739
Normalized	96.93%	100%	76.62%	77.04%
Standard Deviation	11.3%	1.8%	1%	0%
GpuTest - Pixmark Piano - 1680 x 1050 (Points)	**89**	**90**	**89**	**89**
Normalized	98.89%	100%	98.89%	98.89%
Standard Deviation	0%	0.6%	0%	0%
GpuTest - Pixmark Volplosion - 1680 x 1050 (Points)	279	279	279	279
Standard Deviation	0%	0%	0%	0%

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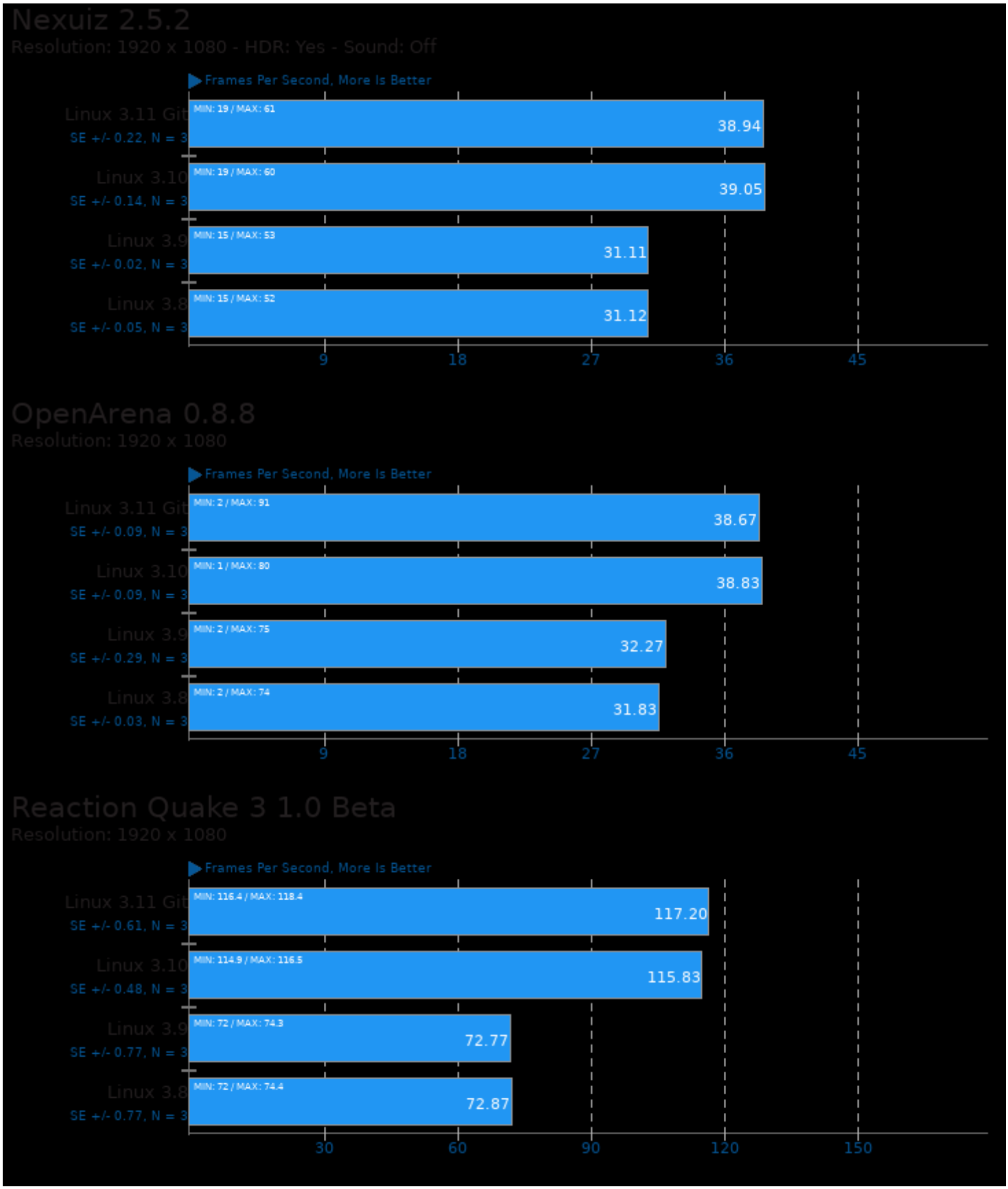

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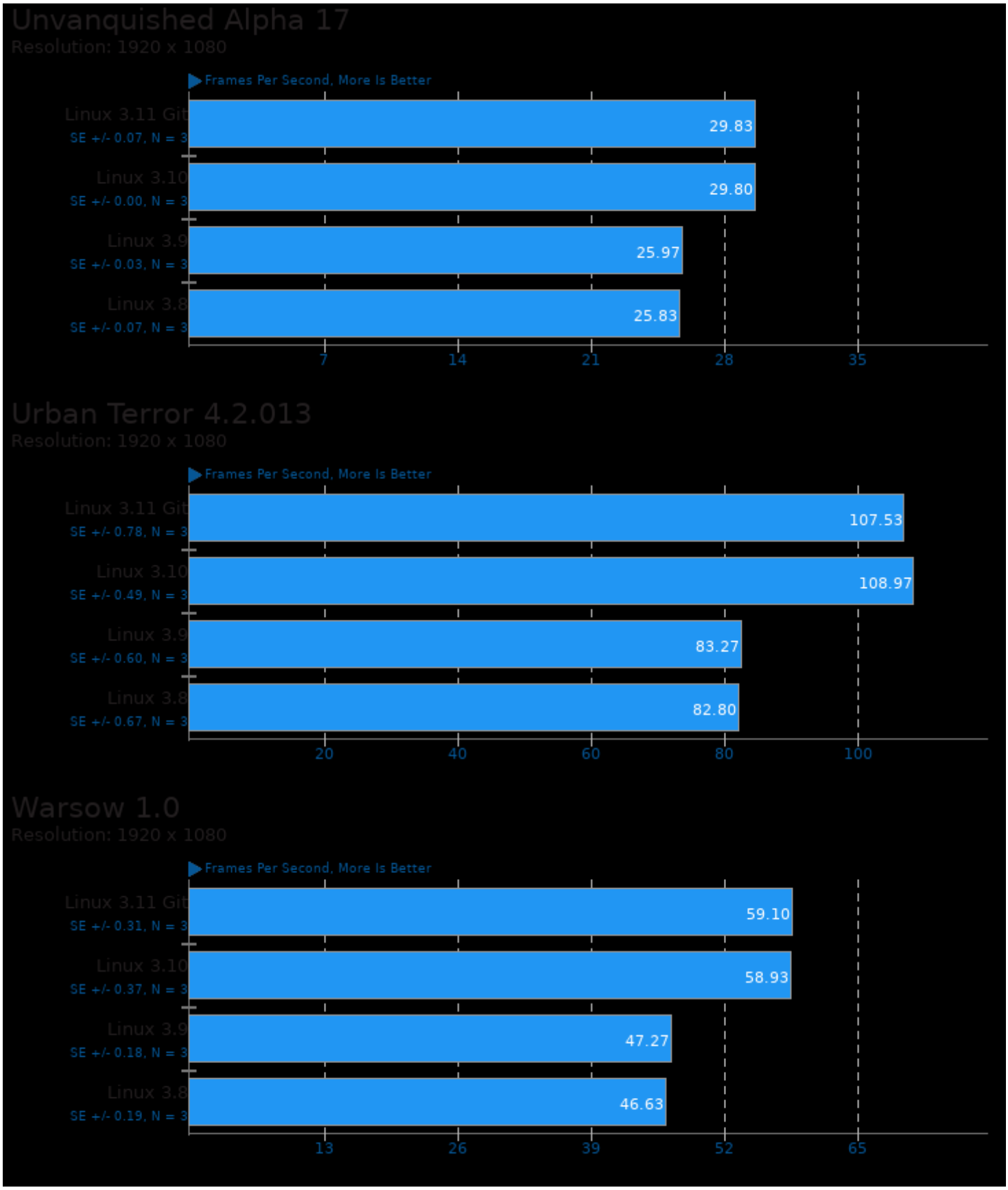

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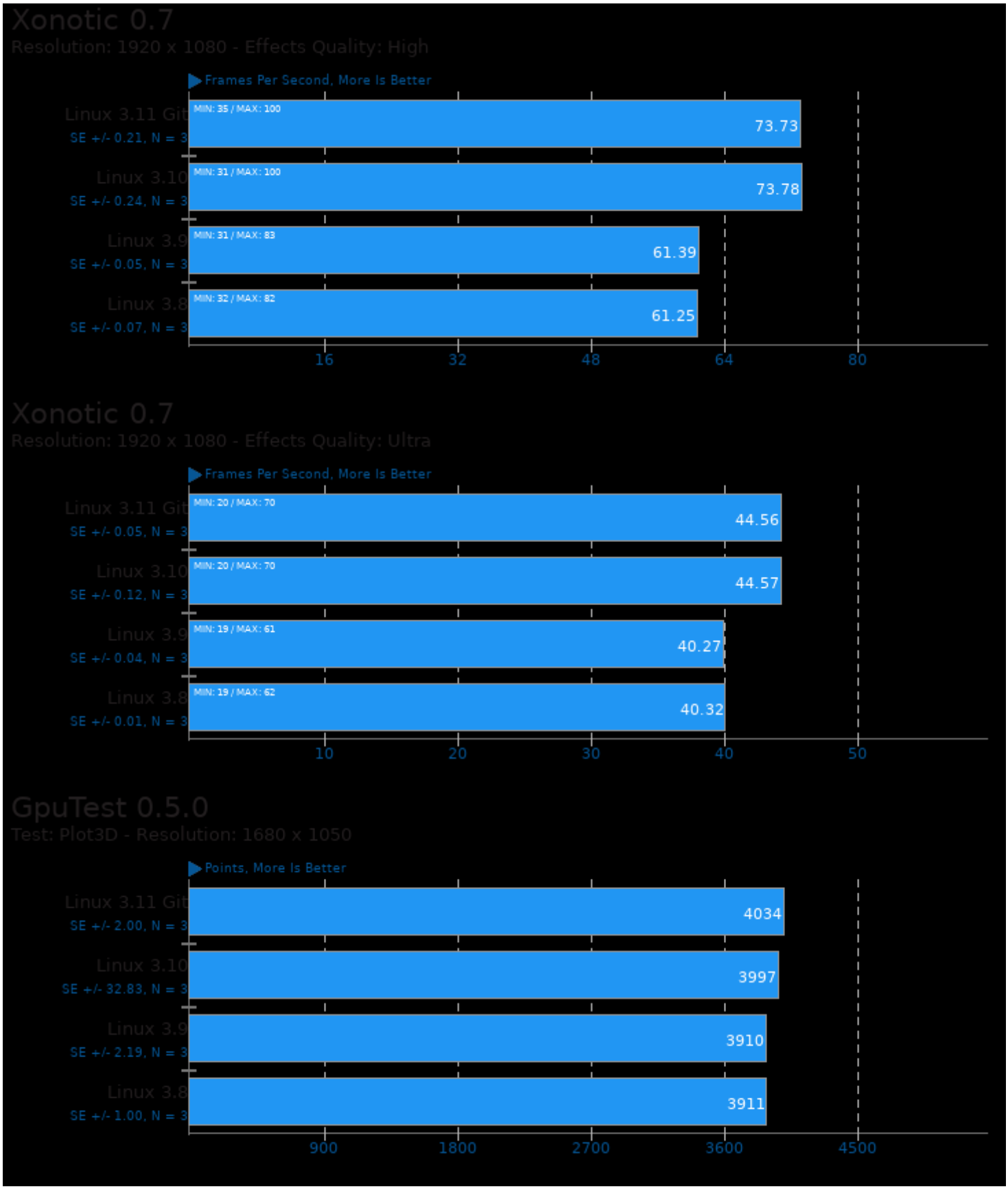

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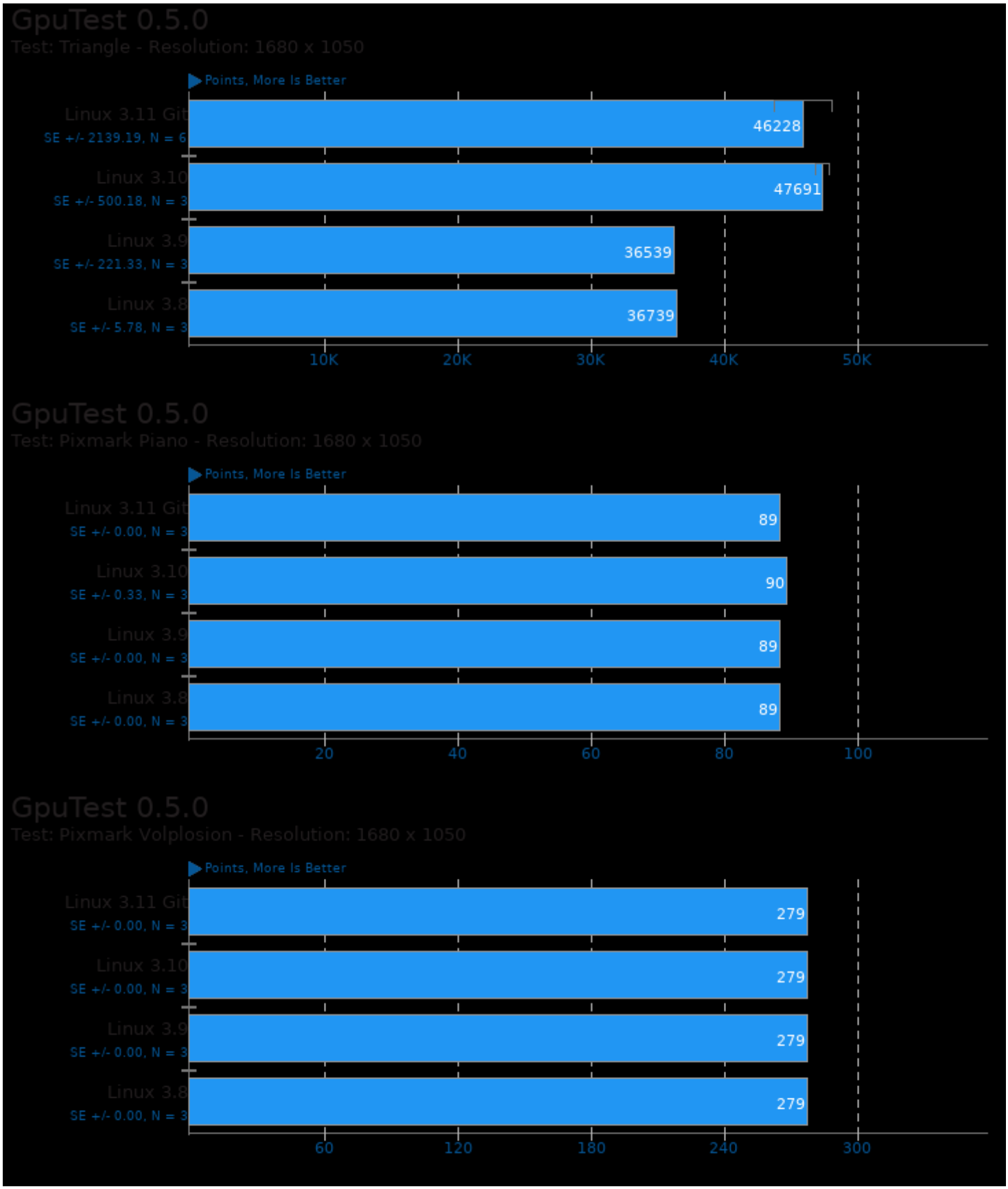

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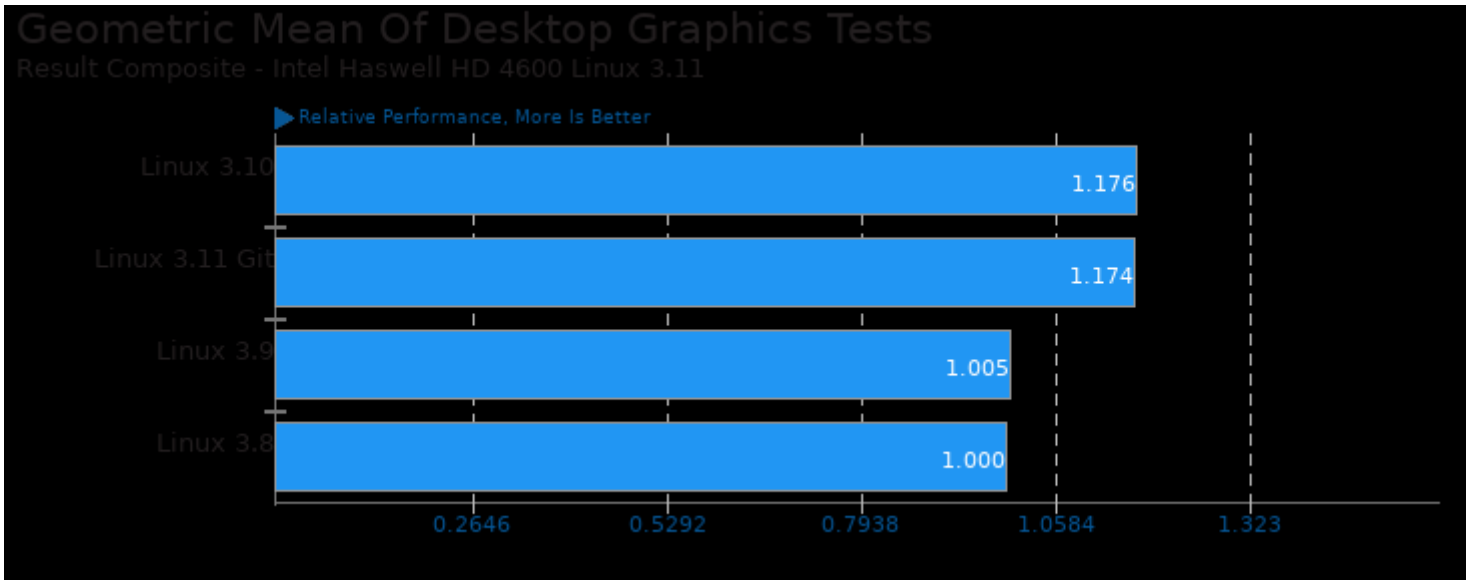
These geometric means are based upon test groupings / test suites for this result file.



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

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