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AMD A10-7800 Radeon R7 12 Compute Cores 4C+8G testing with a MSI A88XM-E35 (MS-7721) v6.0 and MSI AMD Radeon R7 512MB on Ubuntu 16.10 via the Phoronix Test Suite.

Automated Executive Summary

MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute had the most wins, coming in first place for 55% of the tests.

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

C-Ray (Total Time) at 1.915x
Warsow (Resolution: 800 x 600) at 1.576x
Xonotic (Resolution: 800 x 600 - Effects Quality: Ultimate) at 1.53x
X-Plane (Quality Setting: Ultra - Resolution: 800 x 600) at 1.464x
Xonotic (Resolution: 800 x 600 - Effects Quality: Low) at 1.37x
NoiseLevel (Phoronix Test Suite v7.0.0) at 1.289x
GIMP (Test: unsharp-mask) at 1.249x
Xonotic (Resolution: 800 x 600 - Effects Quality: Ultra) at 1.229x
CacheBench (Test: Read / Modify / Write) at 1.169x
GIMP (Test: auto-levels) at 1.154x.

Test Systems:

AMD A4-6320 APU

MSI AMD Radeon HD 8370D

Processor: AMD A4-6320 APU @ 3.80GHz (2 Cores), Motherboard: MSI A88XM-E35 (MS-7721) v6.0, Chipset: AMD Family 15h, Memory: 16384MB, Disk: 750GB Seagate ST3750528AS, Graphics: MSI AMD Radeon HD 8370D 512MB, Audio: AMD Trinity HDMI Audio, Monitor: X193HQL + BenQ GW2265, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 16.10, Kernel: 4.8.0-30-generic (x86_64), Desktop: KDE Frameworks 5, Display Server: X Server 1.18.4, Display Driver: modesetting 1.18.4, OpenGL: 4.1 Mesa 12.0.6 Gallium 0.4 (LLVM 3.8.1), Compiler: GCC 6.2.0 20161005 + Clang 3.8.1-12ubuntu1, File-System: ext4, Screen Resolution: 3286x1080

Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: EXA

AMD A10-7800 Radeon R7 12 Compute Cores 4C

MSI AMD Radeon R7

MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute

Processor: AMD A10-7800 Radeon R7 12 Compute Cores 4C+8G @ 3.50GHz (4 Cores), Motherboard: MSI A88XM-E35 (MS-7721) v6.0, Chipset: AMD Family 15h, Memory: 16384MB, Disk: 750GB Seagate ST3750528AS, Graphics: MSI AMD Radeon R7 512MB, Audio: AMD Kaveri HDMI/DP, Monitor: BenQ GW2265 + X193HQL, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 16.10, Kernel: 4.8.0-42-generic (x86_64), Desktop: KDE Frameworks 5, Display Server: X Server 1.18.4, Display Driver: modesetting 1.18.4, OpenGL: 4.1 Mesa 12.0.6 Gallium 0.4 (LLVM 3.8.1), Compiler: GCC 6.2.0 20161005 + Clang 3.8.1-12ubuntu1, File-System: ext4, Screen Resolution: 3286x1080

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

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	AMD A4-6320 APU	MSI AMD Radeon HD 8370D	AMD A10-7800 Radeon R7 12 Compute Cores 4C	MSI AMD Radeon R7	MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute
C-Ray - Total Time (sec)	110.67		57.79		
Normalized	52.22%		100%		
Standard Deviation	1.1%		0.4%		
X-Plane - High - 800 x 600 (FPS)		29		52	57
Normalized		50.88%		91.23%	100%
Standard Deviation		4%		6.7%	
Unigine Heaven - 800 x 600 - Windowed (FPS)		2.07			13.91
Normalized		14.88%			100%
Standard Deviation		14%			1.6%
Warsow - 800 x 600 (FPS)		40.30			63.53
Normalized		63.43%			100%
Standard Deviation		0.7%			1.9%
Xonotic - 800 x 600 - Low (FPS)		159.76			116.60
Normalized		100%			72.98%
Standard Deviation		1%			0.9%
Xonotic - 800 x 600 - High (FPS)		76.54			79.18
Normalized		96.67%			100%
Standard Deviation		0.2%			0.2%
Xonotic - 800 x 600 - Ultra (FPS)		57.40			70.55
Normalized		81.36%			100%
Standard Deviation		2.8%			0.4%
Xonotic - 800 x 600 - Ultimate (FPS)		36.56			55.95
Normalized		65.34%			100%
Standard Deviation		3.3%			0.4%
X-Plane - Ultra - 800 x 600 (FPS)		28			41
Normalized		68.29%			100%
Standard Deviation					1.4%
NoiseLevel - P.T.S.v.0.0 (Activity Level)		43680057			33879270
Normalized		77.56%			100%
CacheBench - Read (MB/s)		1704			1555
Normalized		100%			91.23%
Standard Deviation		1%			0%
CacheBench - Write (MB/s)		10559			11497
Normalized		91.84%			100%
Standard Deviation		3.3%			0.8%
CacheBench - R.M.W (MB/s)		19538			22846
Normalized		85.52%			100%
Standard Deviation		3.2%			0.2%
VP8 libvpx Encoding - vpxenc (FPS)		1.05			1.05
Standard Deviation		1%			3.1%
GnuPG - L.4.3.P.F.E (sec)		17.51			19.21
Normalized		100%			91.15%
Standard Deviation		0%			3.5%
GIMP - resize (sec)		5.67			7.40
Normalized		100%			76.62%

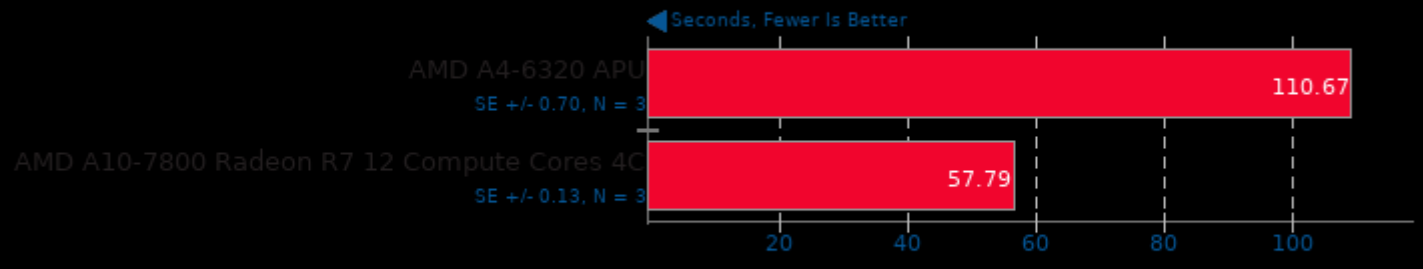
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Standard Deviation	0.3%	17.6%
GIMP - auto-levels (sec)	**10.94**	**12.62**
Normalized	100%	86.69%
Standard Deviation	0.5%	1.3%
GIMP - unsharp-mask (sec)	**20.70**	**25.85**
Normalized	100%	80.08%
Standard Deviation	0.8%	0.9%
Unigine Heaven - 800 x 600 - Fullscreen (FPS)		20.74
Standard Deviation		0.2%

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C-Ray 1.1

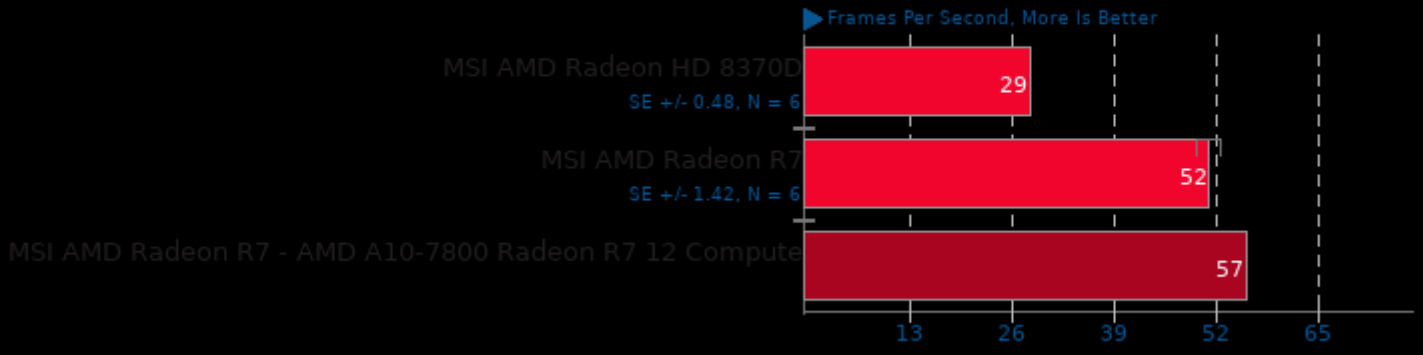
Total Time



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

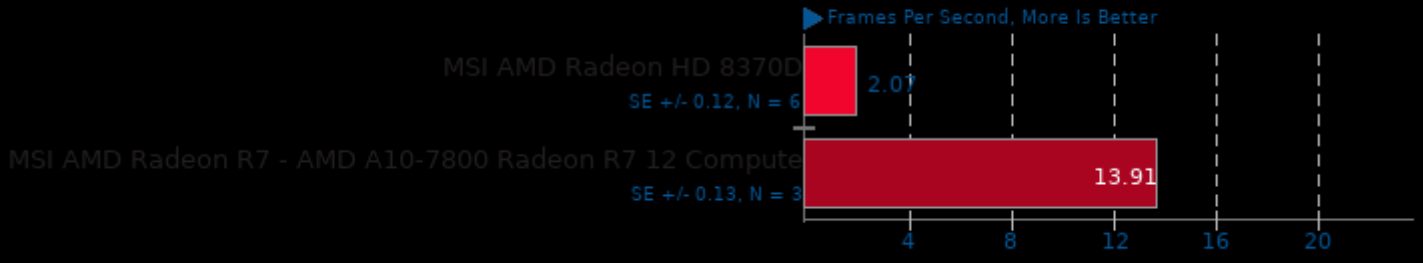
X-Plane 9.45

Quality Setting: High - Resolution: 800 x 600



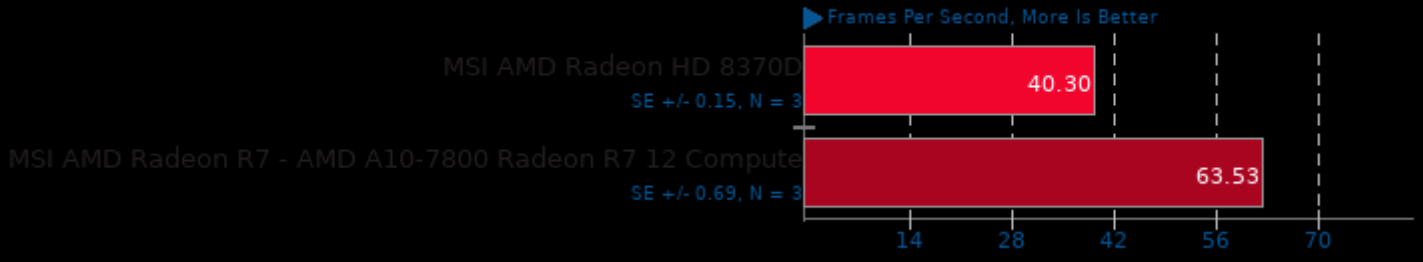
Unigine Heaven 4.0

Resolution: 800 x 600 - Mode: Windowed

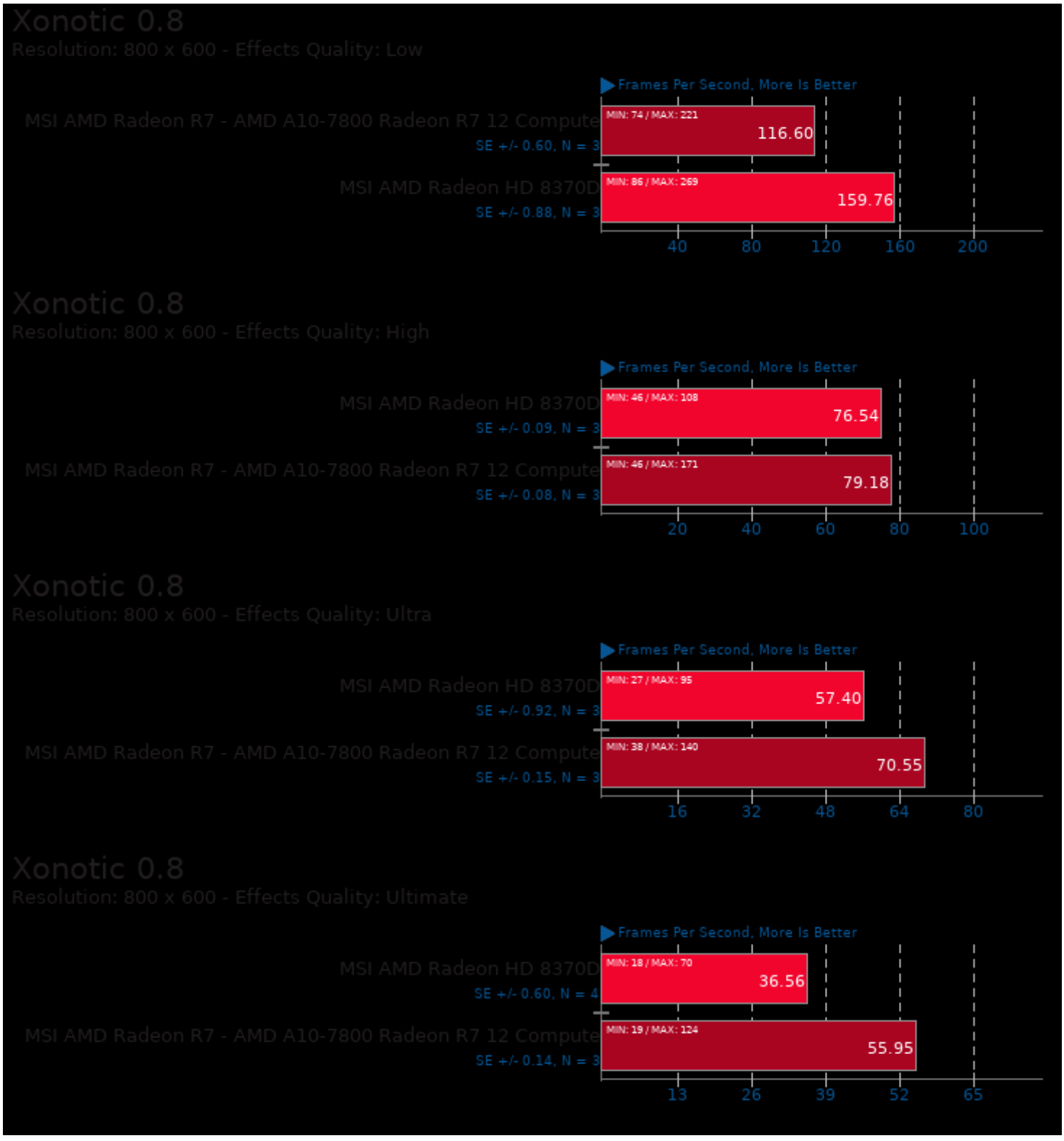


Warsow 1.51

Resolution: 800 x 600



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Xonotic 0.8
Resolution: 800 x 600 - Effects Quality: Low
Frames Per Second, More Is Better
MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute
SE +/- 0.60, N = 3
MIN: 74 / MAX: 221
116.60
MSI AMD Radeon HD 8370D
SE +/- 0.88, N = 3
MIN: 86 / MAX: 269
159.76
40
80
120
160
200
Xonotic 0.8
Resolution: 800 x 600 - Effects Quality: High
Frames Per Second, More Is Better
MSI AMD Radeon HD 8370D
SE +/- 0.09, N = 3
MIN: 46 / MAX: 108
76.54
MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute
SE +/- 0.08, N = 3
MIN: 46 / MAX: 171
79.18
20
40
60
80
100
Xonotic 0.8
Resolution: 800 x 600 - Effects Quality: Ultra
Frames Per Second, More Is Better
MSI AMD Radeon HD 8370D
SE +/- 0.92, N = 3
MIN: 27 / MAX: 95
57.40
MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute
SE +/- 0.15, N = 3
MIN: 38 / MAX: 140
70.55
16
32
48
64
80
Xonotic 0.8
Resolution: 800 x 600 - Effects Quality: Ultimate
Frames Per Second, More Is Better
MSI AMD Radeon HD 8370D
SE +/- 0.60, N = 4
MIN: 18 / MAX: 70
36.56
MSI AMD Radeon R7 - AMD A10-7800 Radeon R7 12 Compute
SE +/- 0.14, N = 3
MIN: 19 / MAX: 124
55.95
13
26
39
52
65

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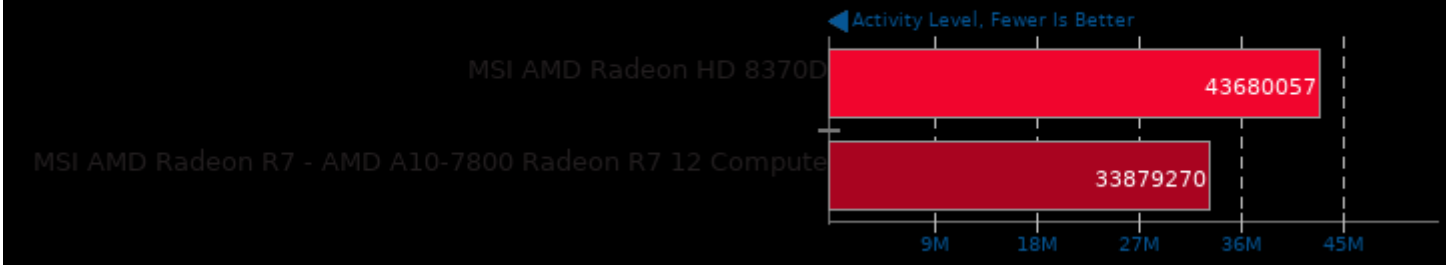
X-Plane 9.45

Quality Setting: Ultra - Resolution: 800 x 600



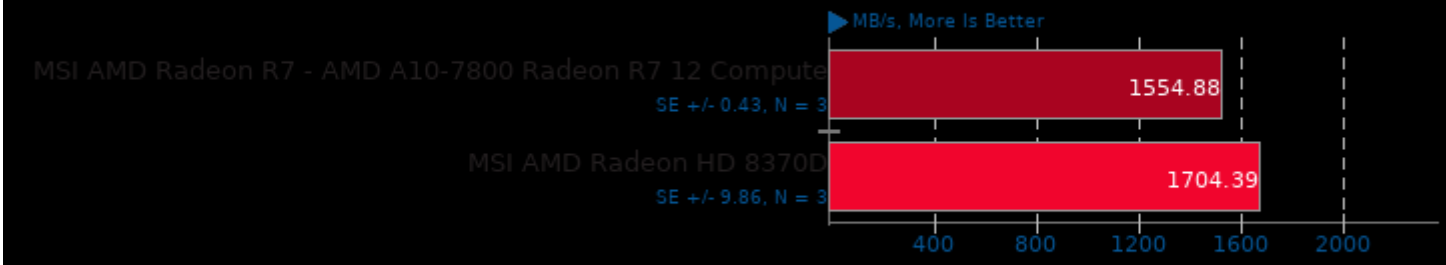
NoiseLevel

Phoronix Test Suite v7.0.0



CacheBench

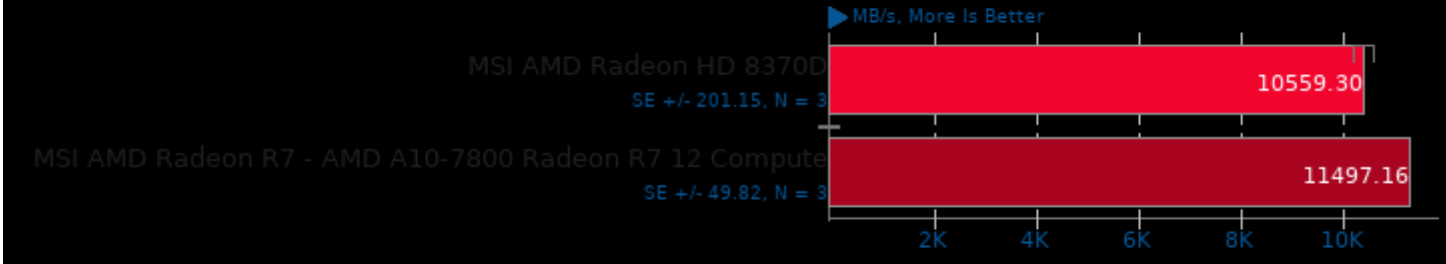
Test: Read



1. (CC) gcc options: -lrt

CacheBench

Test: Write

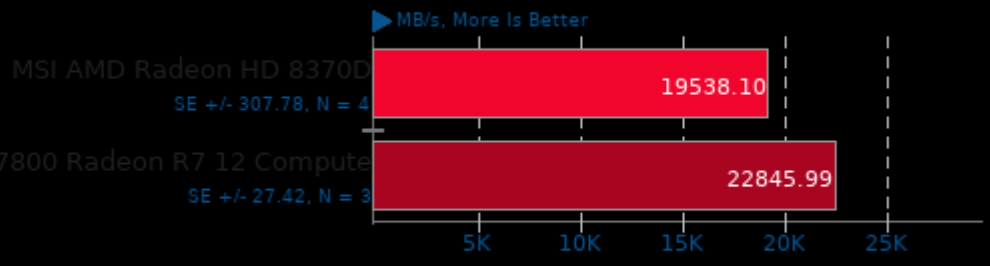


1. (CC) gcc options: -lrt

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CacheBench

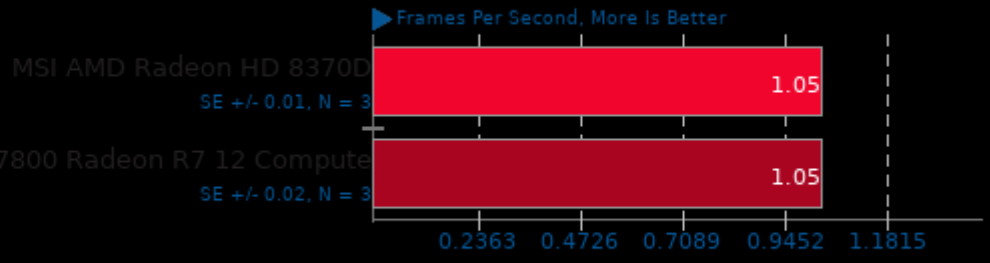
Test: Read / Modify / Write



1. (CC) gcc options: -lrt

VP8 libvpx Encoding 1.6.0

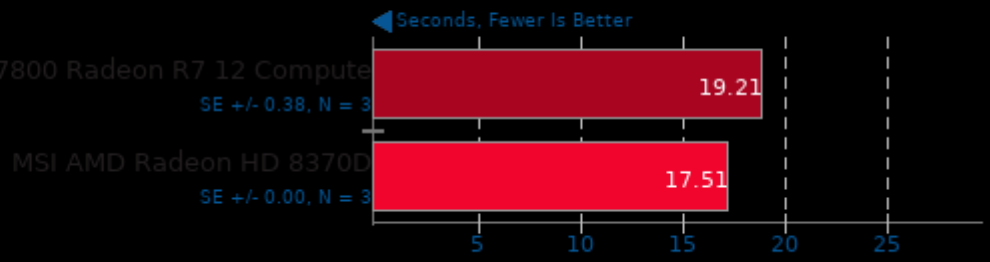
vpxenc



1. (CXX) g++ options: -m64 -lvpx -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE

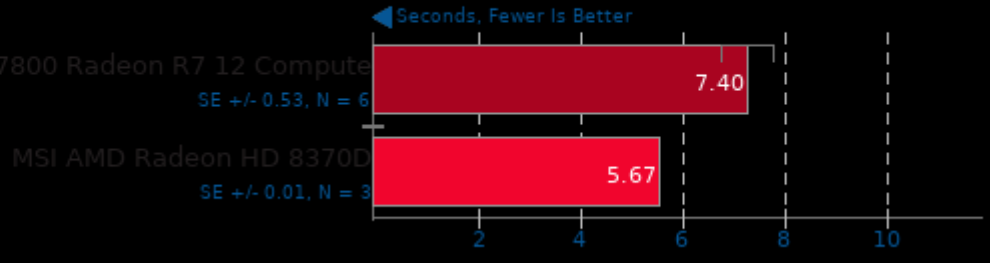
GnuPG

Linux 4.3 Package File Encryption

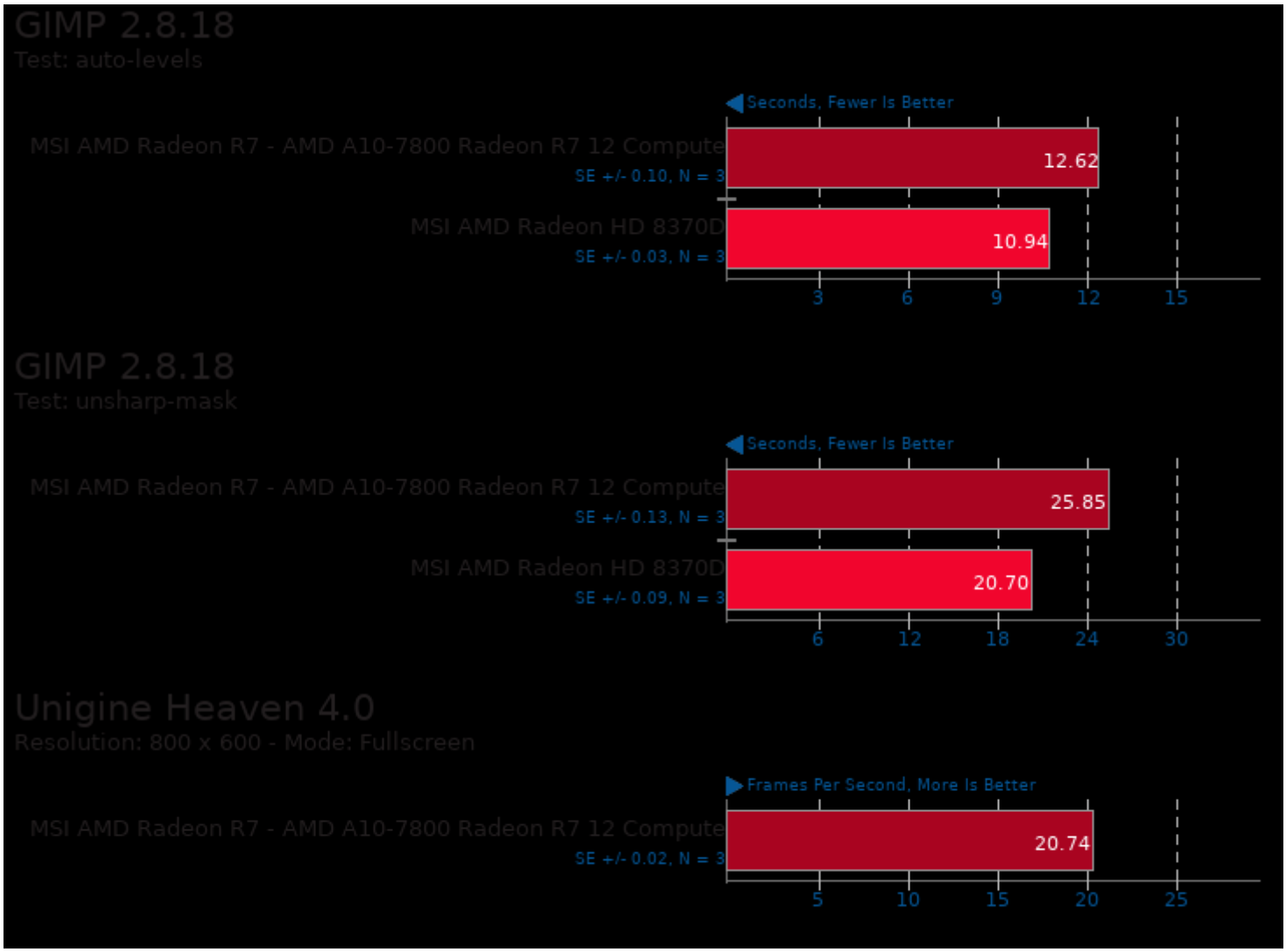


GIMP 2.8.18

Test: resize



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