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Sandy Bridge OpenGL Linux Intel 2021

Intel Core i7-2700K testing of Crocus Gallium3D by Michael Larabel.

Automated Executive Summary

i965 had the most wins, coming in first place for 85% of the tests.

Based on the geometric mean of all complete results, the fastest (i965) was 1.291x the speed of the slowest (Crocus).

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

GLmark2 (Resolution: 1920 x 1080) at 35.589x

OpenArena (Resolution: 1920 x 1080 - Total Frame Time) at 34x

DDrakeNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time) at 14.3x

DDrakeNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time) at 14.075x

DDrakeNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 12.208x

DDrakeNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 10.965x

yquake2 (Renderer: OpenGL 3.x - Resolution: 1920 x 1080) at 2.867x

DDrakeNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 2.855x

ParaView (Test: Wavelet Contour - Resolution: 1920 x 1080) at 1.554x

ParaView (Test: Wavelet Contour - Resolution: 1920 x 1080) at 1.554x.

Test Systems:

i965

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8GB, Disk: 525GB Crucial CT525MX3, Graphics: Intel HD 3000 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: G237HL, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 21.04, Kernel: 5.11.0-18-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, OpenGL: 3.3 Mesa 21.2.0-devel (git-849ab4e 2021-06-17 hirsute-oibaf-ppa), Vulkan: 1.1.180, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
 Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,objc++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --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: intel_cpufreq schedutil - CPU Microcode: 0x2f - Thermal 2.4.3
 Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-Ubuntu-0ubuntu2)
 Python Notes: Python 3.9.5
 Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IPBP: conditional IBRS_FW STIBP: conditional RSB filling + srbd: Not affected + tsx_async_abort: Not affected

Crocus

Processor: Intel Core i7-2700K @ 3.90GHz (4 Cores / 8 Threads), Motherboard: BIOSTAR B75MU3B v5.0 (4.6.5 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8GB, Disk: 525GB Crucial CT525MX3, Graphics: Intel HD 3000 SNB GT2 2GB (1350MHz), Audio: Realtek ALC662 rev1, Monitor: G237HL, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 21.04, Kernel: 5.11.0-18-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, OpenGL: 3.3 Mesa 21.2.0-devel (git-849ab4e 2021-06-17 hirsute-oibaf-ppa), Vulkan: 1.1.180, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
 Environment Notes: MESA_LOADER_DRIVER_OVERRIDE=crocus
 Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,objc++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --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: intel_cpufreq schedutil - CPU Microcode: 0x2f - Thermal 2.4.3
 Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-Ubuntu-0ubuntu2)
 Python Notes: Python 3.9.5
 Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps

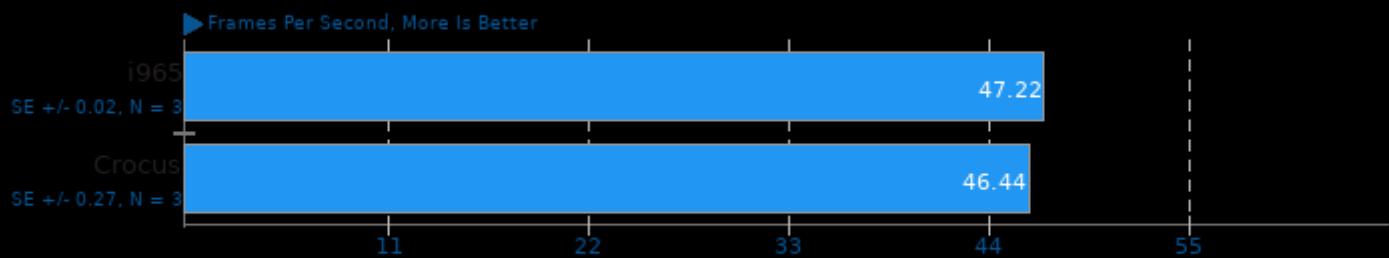
barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbd: Not affected + tsx_async_abort: Not affected

	i965	Crocus
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 2.0 - Default - RaiNyMore2 (FPS)	47.22	46.44
Normalized	100%	98.35%
Standard Deviation	0.1%	1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.0 - Default - RaiNyMore2 (FPS)	47.06	47.01
Normalized	100%	99.89%
Standard Deviation	0.2%	0.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	29.74	29.73
Normalized	100%	99.97%
Standard Deviation	0%	0.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 2.0 - Default - Multeasymap (FPS)	110.34	104.19
Normalized	100%	94.43%
Standard Deviation	0.2%	0.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.0 - Default - Multeasymap (FPS)	109.45	104.55
Normalized	100%	95.52%
Standard Deviation	0.3%	0.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	67.12	66.43
Normalized	100%	98.97%
Standard Deviation	0.6%	0%
OpenArena - 1920 x 1080 (FPS)	35.4	35.0
Normalized	100%	98.87%
Standard Deviation	0.3%	0.2%
Xonotic - 1920 x 1080 - Low (FPS)	155.9490417	150.2655782
Normalized	100%	96.36%
Standard Deviation	0.1%	0.2%
Xonotic - 1920 x 1080 - High (FPS)	56.6490007	55.0381081
Normalized	100%	97.16%
Standard Deviation	0.1%	0.1%
Xonotic - 1920 x 1080 - Ultra (FPS)	32.0393306	31.0148573
Normalized	100%	96.8%
Standard Deviation	0.1%	0%
Xonotic - 1920 x 1080 - Ultimate (FPS)	19.2365539	18.8297523
Normalized	100%	97.89%
Standard Deviation	0%	0%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	375.6	131.0
Normalized	100%	34.88%
Standard Deviation	0.9%	0.1%
GLmark2 - 1920 x 1080 (Score)	11780	331
Normalized	100%	2.81%
ParaView - Wavelet Volume - 1920 x 1080 (Frames /	506.51	609.82
Normalized	83.06%	100%

	Standard Deviation	1.2%	1.1%
ParaView - Wavelet Volume - 1920 x 1080 (MiVoxels / Sec)	8104	9757	
	Normalized	83.06%	100%
	Standard Deviation	1.2%	1.1%
ParaView - Wavelet Contour - 1920 x 1080 (Frames / Sec)	539.25	347.05	
	Normalized	100%	64.36%
	Standard Deviation	0.3%	2.4%
ParaView - Wavelet Contour - 1920 x 1080 (MiPolys / Sec)	5620	3617	
	Normalized	100%	64.36%
	Standard Deviation	0.3%	2.4%
Java 2D Microbenchmark - Text Rendering (Units/sec)	19704	21753	
	Normalized	90.58%	100%
	Standard Deviation	1.5%	3%
Java 2D Microbenchmark - Image Rendering	866507	847783	
	Normalized	100%	97.84%
	Standard Deviation	0.1%	0.1%
Java 2D Microbenchmark - A.R.T (Units/sec)	702320	701577	
	Normalized	100%	99.89%
	Standard Deviation	0.3%	0.3%
Java 2D Microbenchmark - V.G.R (Units/sec)	706235	675658	
	Normalized	100%	95.67%
	Standard Deviation	0.4%	0.4%

DDrakeNetwork 15.3.1

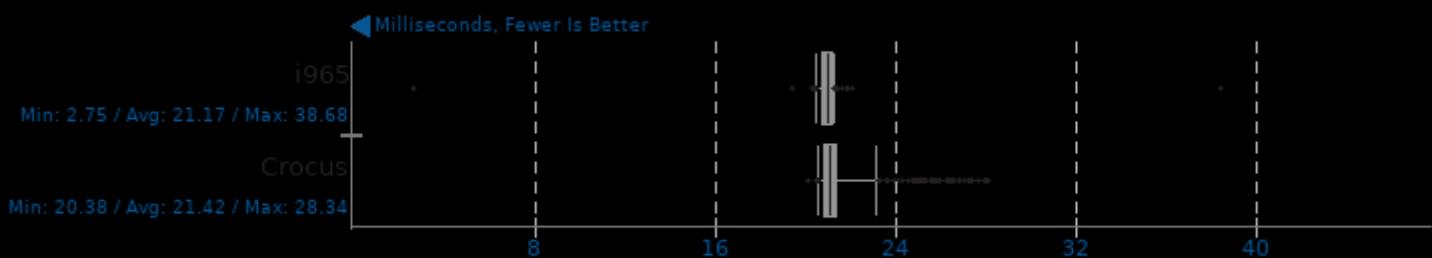
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

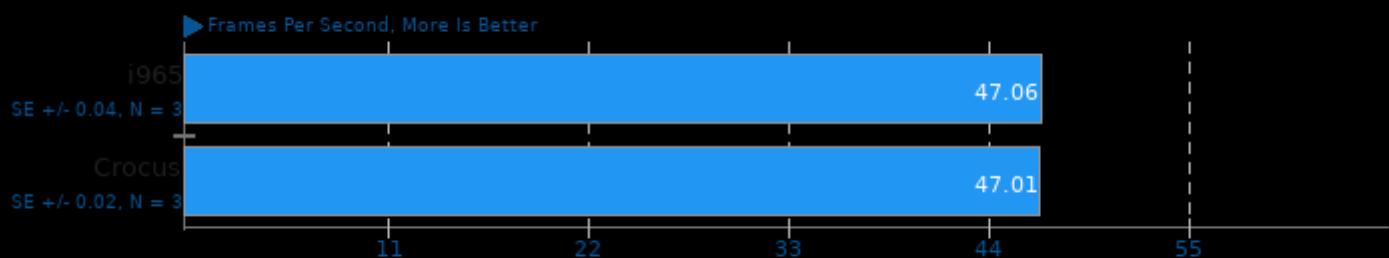
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

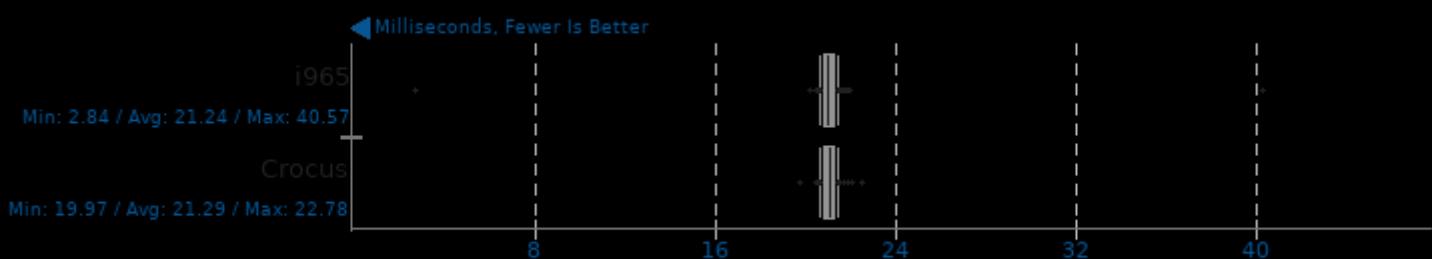
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

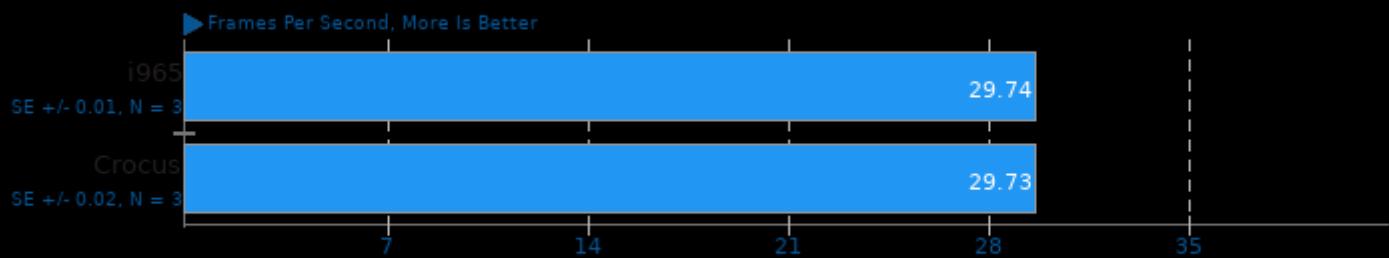
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

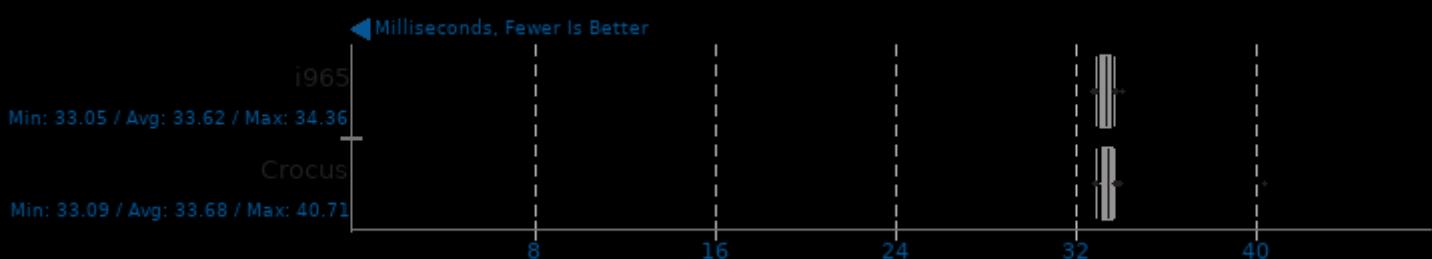
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

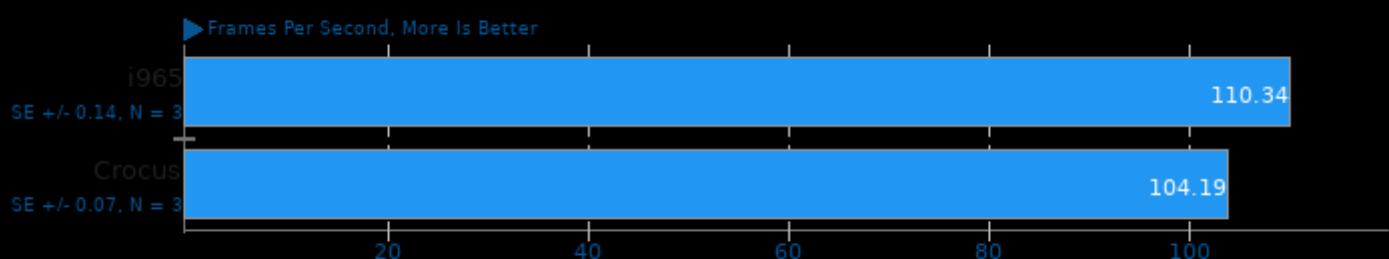
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

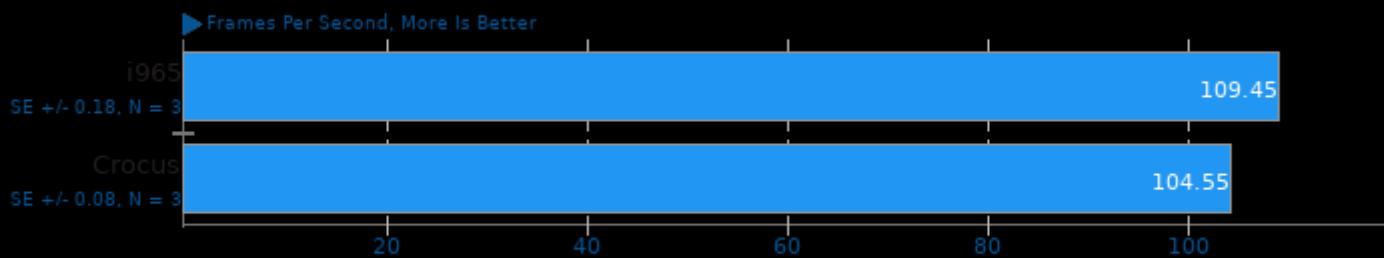
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 2.0 - Zoom: Default - Demo: Multeasymap - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

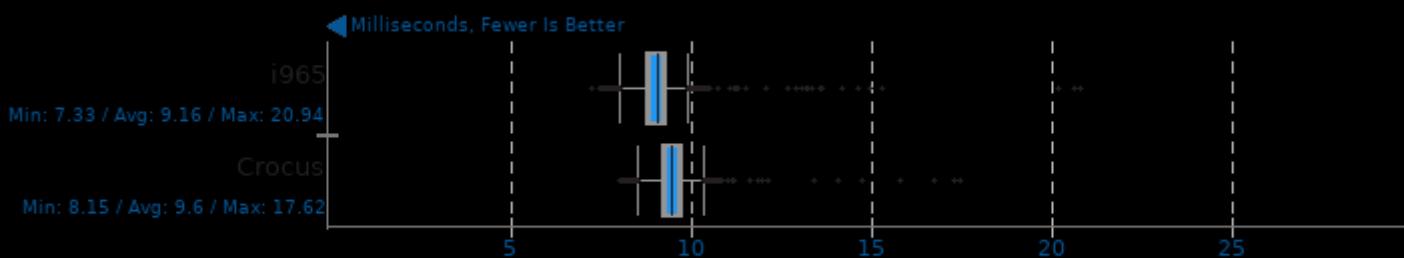
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

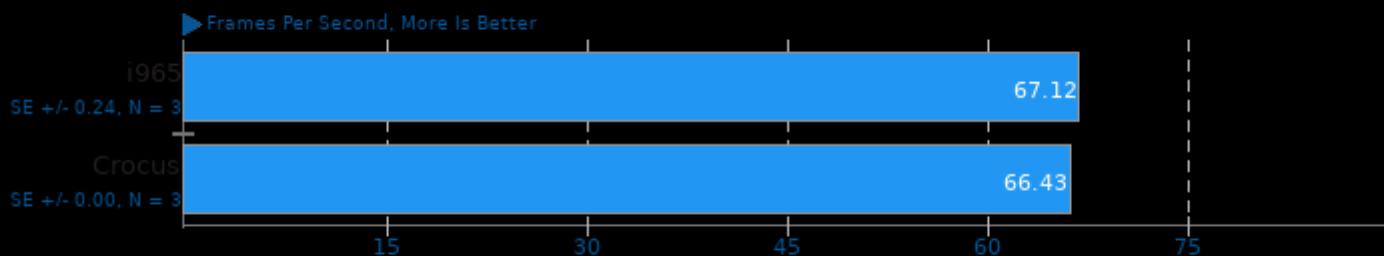
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.0 - Zoom: Default - Demo: Multeasymap - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

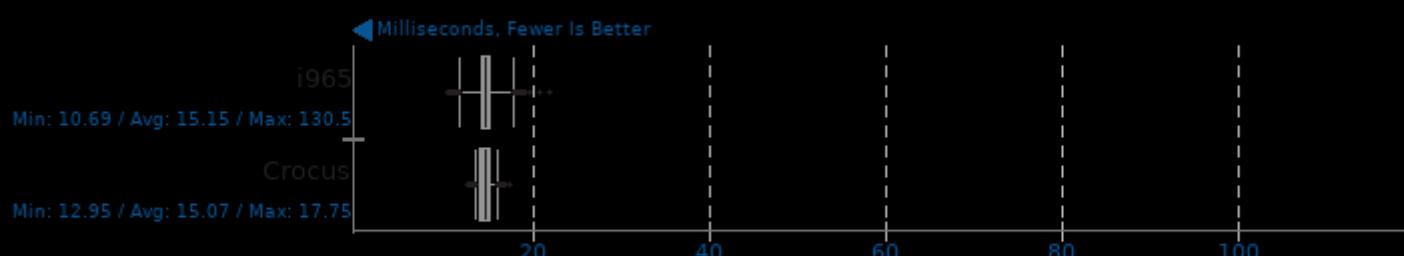
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

DDrakeNetwork 15.3.1

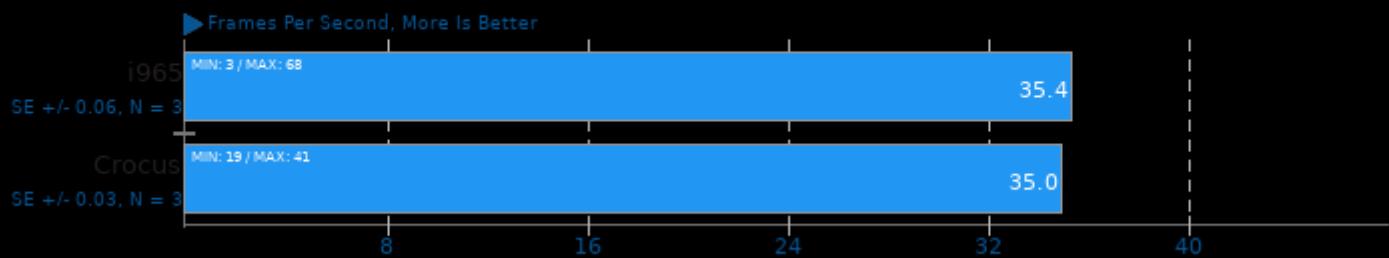
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -gio-2.0 -gobject-2.0 -glib-2.0

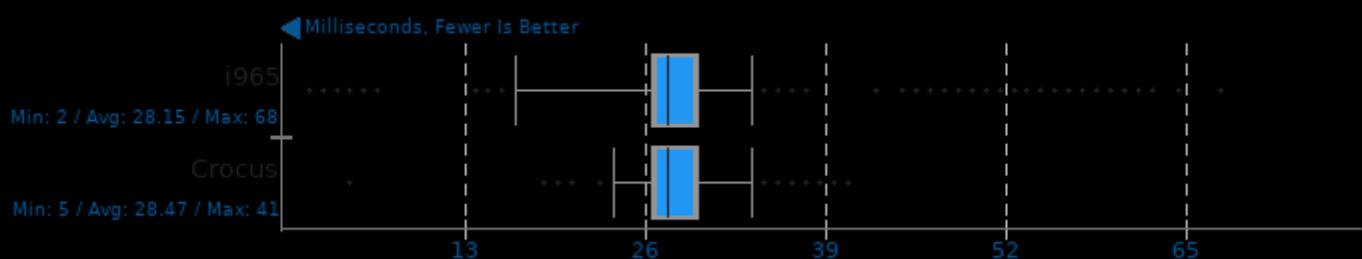
OpenArena 0.8.8

Resolution: 1920 x 1080



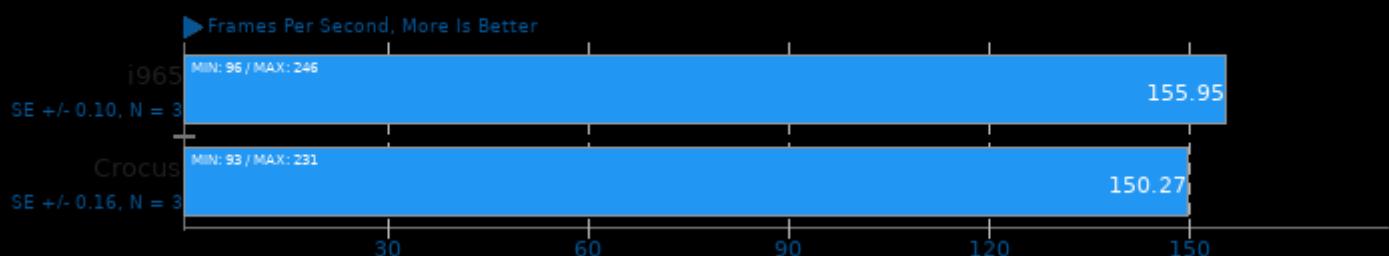
OpenArena 0.8.8

Resolution: 1920 x 1080 - Total Frame Time



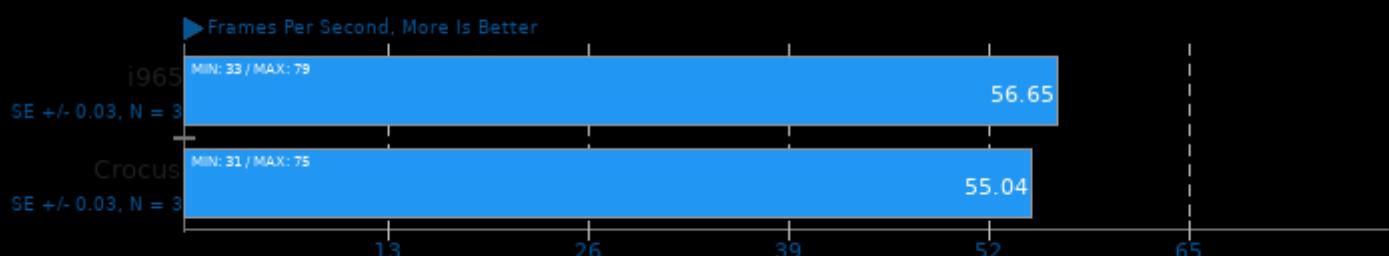
Xonotic 0.8.2

Resolution: 1920 x 1080 - Effects Quality: Low

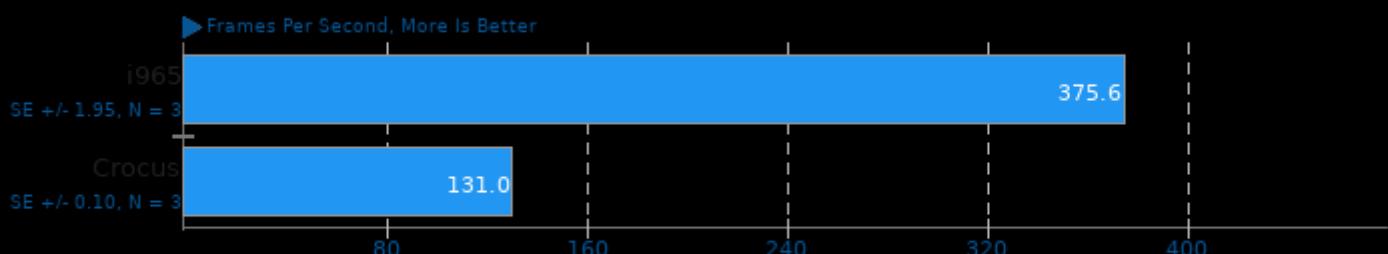
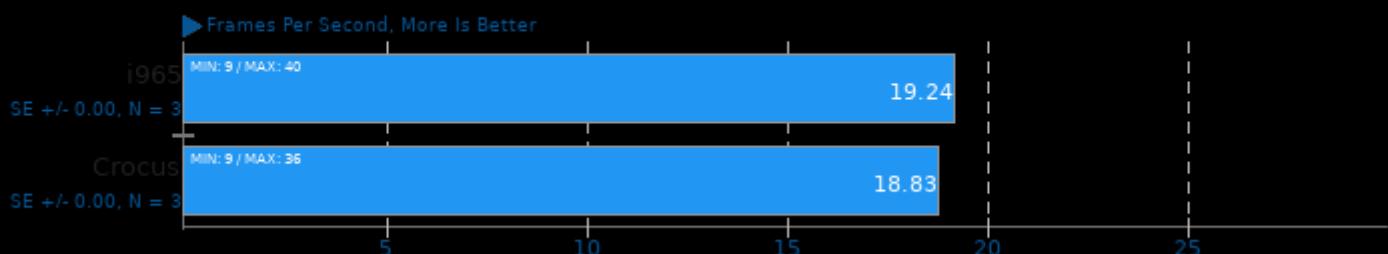
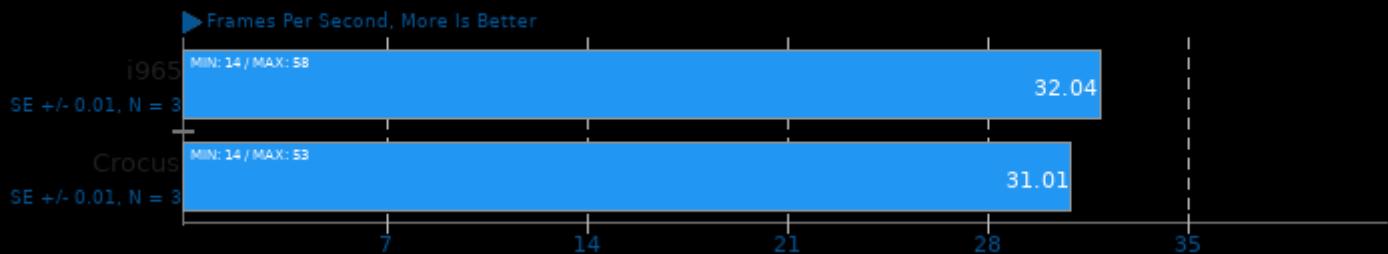


Xonotic 0.8.2

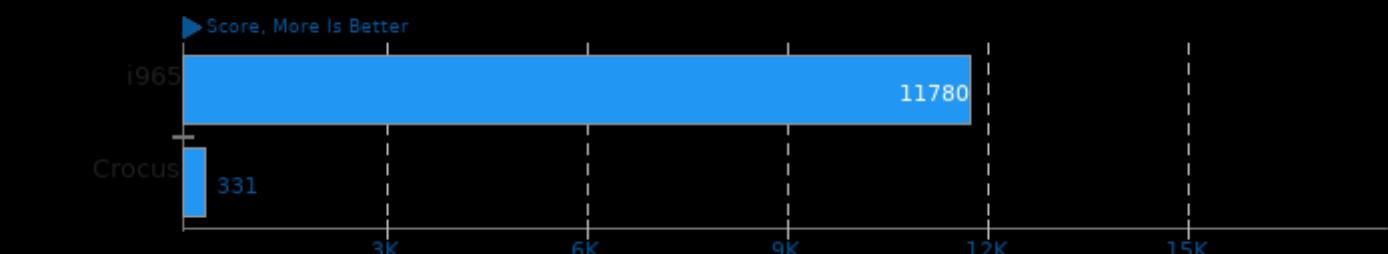
Resolution: 1920 x 1080 - Effects Quality: High



Xonotic 0.8.2

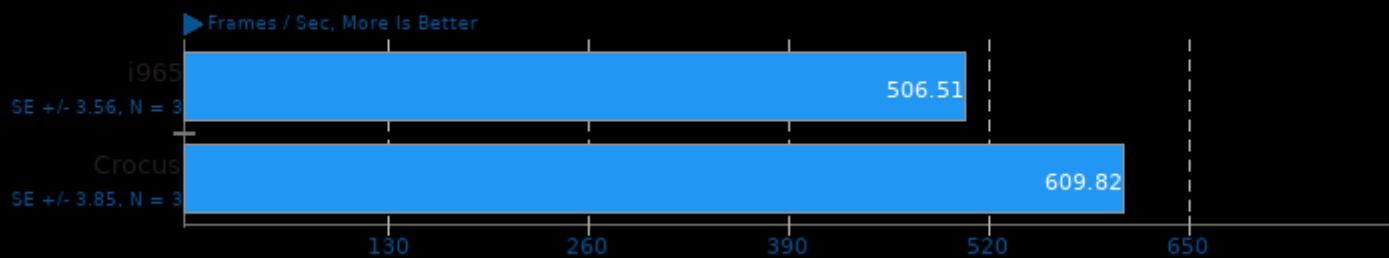


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mno-



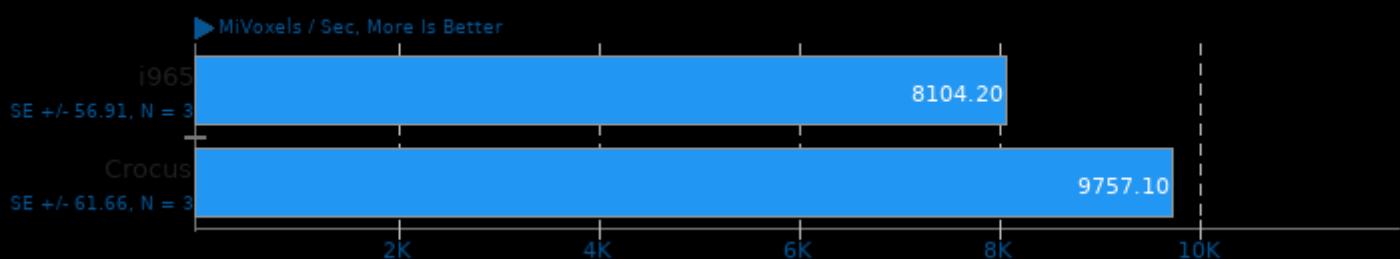
ParaView 5.9

Test: Wavelet Volume - Resolution: 1920 x 1080



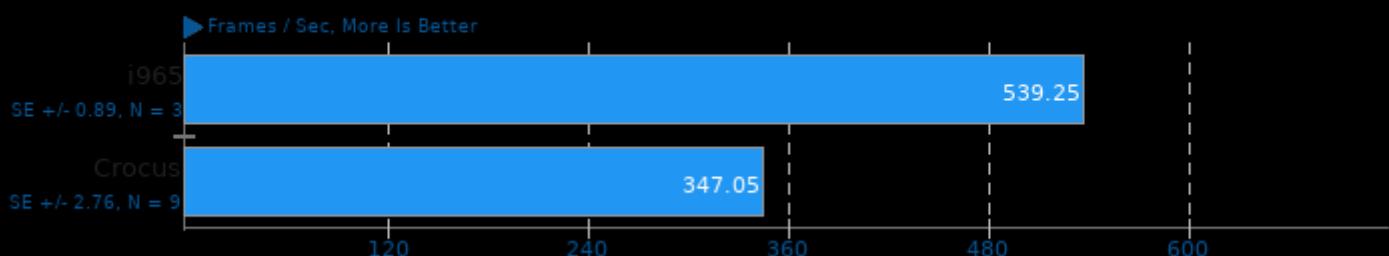
ParaView 5.9

Test: Wavelet Volume - Resolution: 1920 x 1080



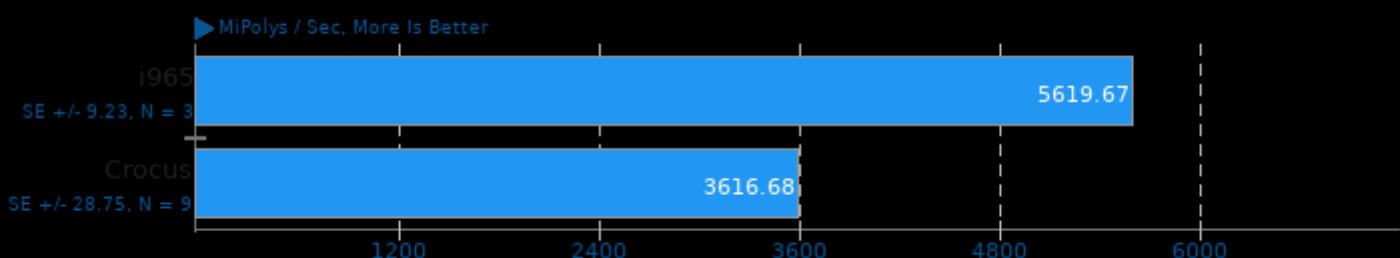
ParaView 5.9

Test: Wavelet Contour - Resolution: 1920 x 1080



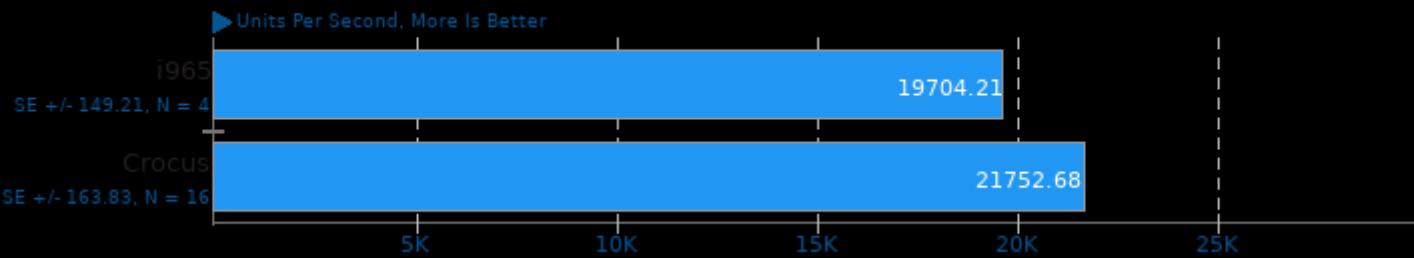
ParaView 5.9

Test: Wavelet Contour - Resolution: 1920 x 1080



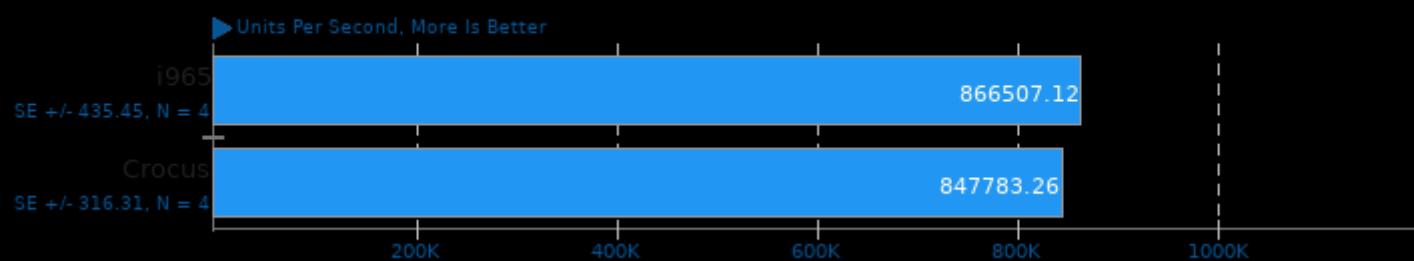
Java 2D Microbenchmark 1.0

Rendering Test: Text Rendering



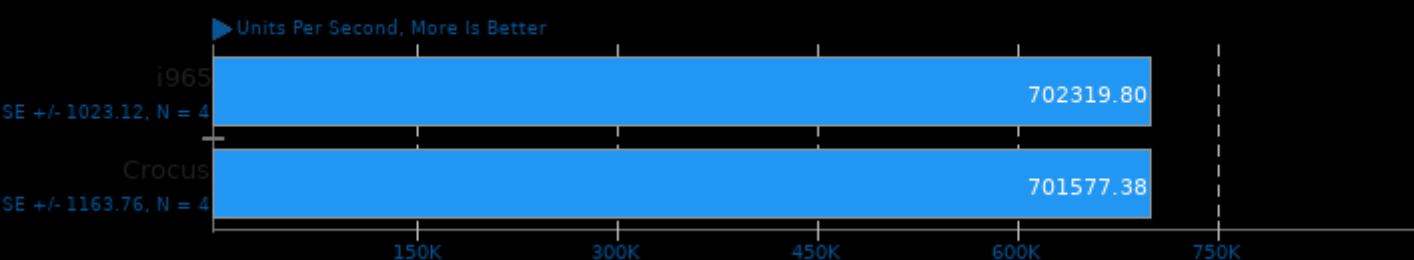
Java 2D Microbenchmark 1.0

Rendering Test: Image Rendering



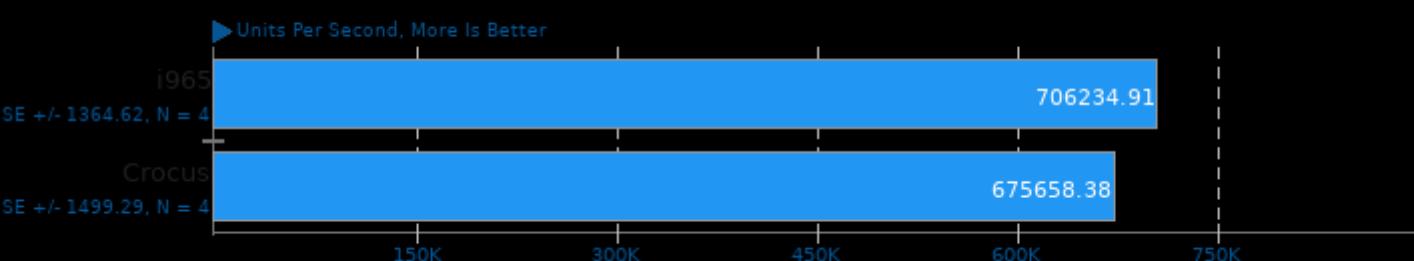
Java 2D Microbenchmark 1.0

Rendering Test: All Rendering Tests

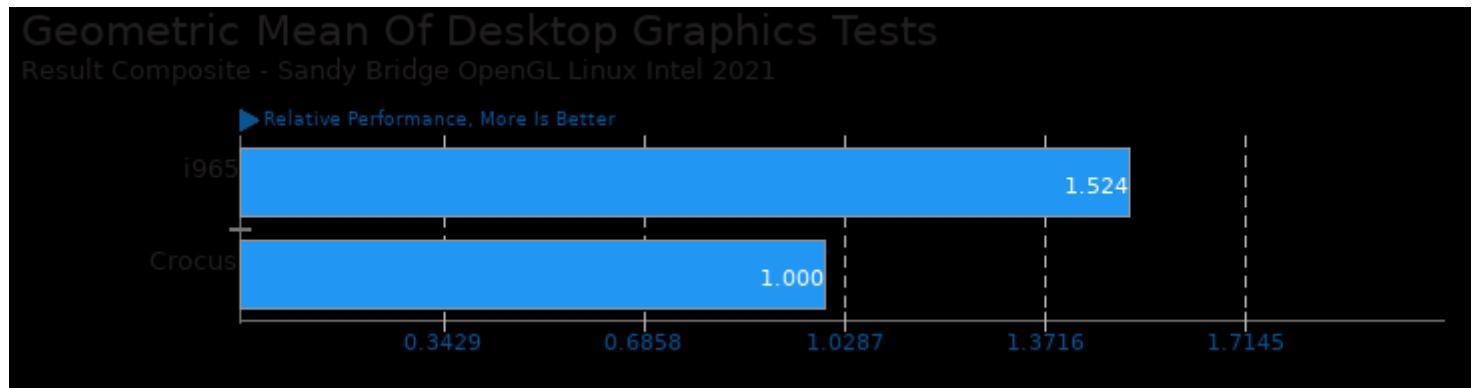


Java 2D Microbenchmark 1.0

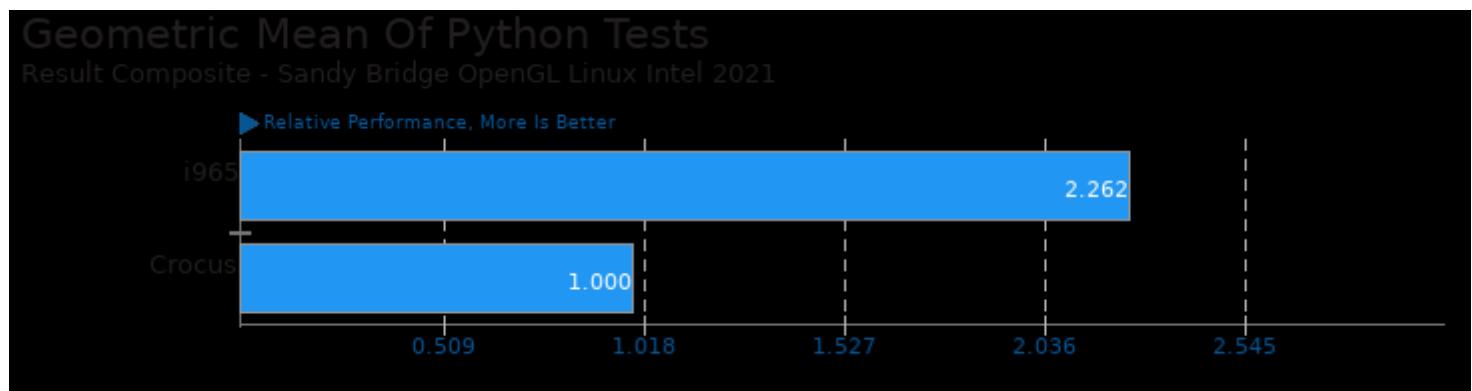
Rendering Test: Vector Graphics Rendering



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



Geometric mean based upon tests: pts/xonotic, pts/openarena, pts/paraview and pts/glmark2



Geometric mean based upon tests: pts/glmark2 and pts/paraview

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 8 March 2024 08:02.