



Laptop Graphics

Intel Core i7-1165G7 testing with a Dell 0GG9PT (1.2.5 BIOS) and Intel Xe TGL GT2 3GB on Ubuntu 21.04 via the Phoronix Test Suite.

Test Systems:

Core i7 1165G7

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0GG9PT (1.2.5 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 16GB, Disk: Kioxia KBG40ZNS256G NVMe 256GB, Graphics: Intel Xe TGL GT2 3GB (1300MHz), Audio: Realtek ALC289, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 21.04, Kernel: 5.13.0-051300-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.2.0-devel (git-25ad699 2021-07-02 hirsute-oibaf-ppa), Vulkan: 1.2.182, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1200

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,obj-c++,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,amdgc-n-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_pstate powersave - CPU Microcode: 0x88 - Thermald 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: Not affected + 11tf: Not affected + mds: Not affected + meltdown: Not affected + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Core i7 1165G7

Basemark GPU - OpenGL - 1920 x 1200 - High (FPS) 33.52

Standard Deviation 0.5%

Basemark GPU - Vulkan - 1920 x 1200 - High (FPS) 32.78

Standard Deviation 0.2%

Basemark GPU - OpenGL - 1920 x 1200 - Medium (FPS) 75.90

Standard Deviation 1.4%

Basemark GPU - Vulkan - 1920 x 1200 - Medium (FPS) 194.11

Standard Deviation 0.9%

ParaView - Many Spheres - 1920 x 1200 (Frames / Sec) 8.18

Standard Deviation 0.8%

ParaView - Wavelet Volume - 1920 x 1200 (Frames / Sec) 70.66

Standard Deviation 1.3%

ParaView - Wavelet Contour - 1920 x 1200 (Frames / Sec) 60.02

Standard Deviation 0.1%

DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Default - 274.62

RaiNyMore2 (FPS)

Standard Deviation 0.8%

DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Default - 341.05

Multeasymap (FPS)

Standard Deviation 1.2%

ET: Legacy - 1920 x 1200 (FPS) 245.1

Standard Deviation 0.6%

Tesseract - 1920 x 1200 (FPS) 161.3847

Standard Deviation 0.8%

Unvanquished - 1920 x 1200 - High (FPS) 188.6

Standard Deviation 0.6%

Unvanquished - 1920 x 1200 - Ultra (FPS) 164.1

Standard Deviation 1%

Unvanquished - 1920 x 1200 - Medium (FPS) 201.2

Standard Deviation 1.1%

Warsow - 1920 x 1200 (FPS) 246.7

Standard Deviation 0.5%

Xonotic - 1920 x 1200 - Low (FPS) 364.8214525

Standard Deviation 1.5%

Xonotic - 1920 x 1200 - High (FPS) 227.6012483

Standard Deviation 0.8%

Xonotic - 1920 x 1200 - Ultra (FPS) 187.7293240

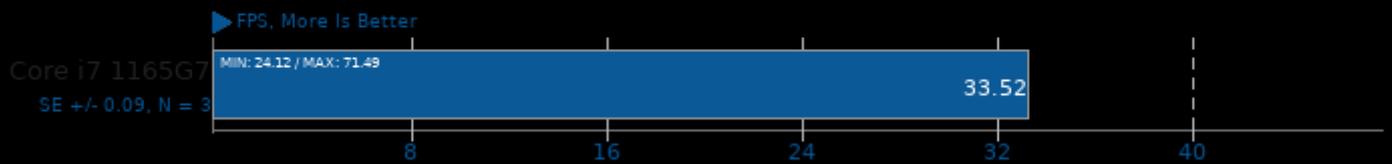
Standard Deviation 0.6%

Xonotic - 1920 x 1200 - Ultimate (FPS) 142.9296857

	Standard Deviation	0.7%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)		728.1
	Standard Deviation	0.1%
ParaView - Many Spheres - 1920 x 1200 (MiPolys / Sec)		820.452
	Standard Deviation	0.8%
ParaView - Wavelet Contour - 1920 x 1200 (MiPolys / Sec)		625.519
	Standard Deviation	0.1%
ParaView - Wavelet Volume - 1920 x 1200 (MiVoxels / Sec)		1131
	Standard Deviation	1.3%
GpuTest - GiMark - 1920 x 1200 - Fullscreen (Points)		2082
GpuTest - Plot3D - 1920 x 1200 - Fullscreen (Points)		12453
	Standard Deviation	0.1%
GpuTest - Furmark - 1920 x 1200 - Fullscreen (Points)		2008
	Standard Deviation	9.6%
GpuTest - TessMark - 1920 x 1200 - Fullscreen (Points)		5606
	Standard Deviation	0%
GpuTest - Triangle - 1920 x 1200 - Fullscreen (Points)		221442
	Standard Deviation	0.3%
GpuTest - Pixmark Piano - 1920 x 1200 - Fullscreen (Points)		620
	Standard Deviation	0.8%
GpuTest - Pixmark Volplosion - 1920 x 1200 - Fullscreen (Points)		1726
	Standard Deviation	0.8%
GLmark2 - 1920 x 1200 (Score)		821
Java 2D Microbenchmark - Text Rendering (Units/sec)		26593
	Standard Deviation	4.3%
Java 2D Microbenchmark - Image Rendering (Units/sec)		7149364
	Standard Deviation	0.2%
Java 2D Microbenchmark - V.G.R (Units/sec)		3096130
	Standard Deviation	0.4%
VkResample - 2x - Single (ms)		117.058
	Standard Deviation	0%
RealSR-NCNN - 4x - No (sec)		65.195
	Standard Deviation	0.2%
RealSR-NCNN - 4x - Yes (sec)		507.349
	Standard Deviation	0.1%
Waifu2x-NCNN Vulkan - 2x - 3 - No (sec)		4.204
	Standard Deviation	1.4%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)		27.363
	Standard Deviation	0.2%

Basemark GPU 1.2

Renderer: OpenGL - Resolution: 1920 x 1200 - Graphics Preset: High



Basemark GPU 1.2

Renderer: Vulkan - Resolution: 1920 x 1200 - Graphics Preset: High



Basemark GPU 1.2

Renderer: OpenGL - Resolution: 1920 x 1200 - Graphics Preset: Medium



Basemark GPU 1.2

Renderer: Vulkan - Resolution: 1920 x 1200 - Graphics Preset: Medium



ParaView 5.9

Test: Many Spheres - Resolution: 1920 x 1200



ParaView 5.9

Test: Wavelet Volume - Resolution: 1920 x 1200



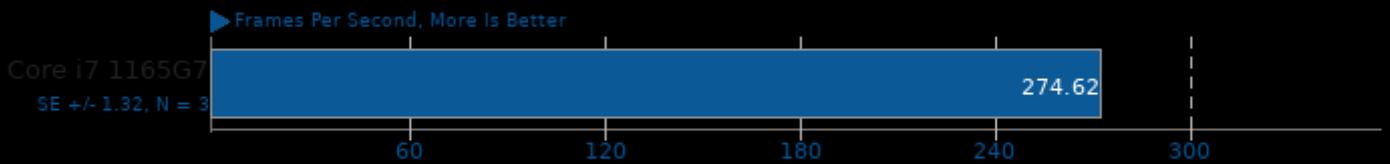
ParaView 5.9

Test: Wavelet Contour - Resolution: 1920 x 1200



DDraceNetwork 15.3.1

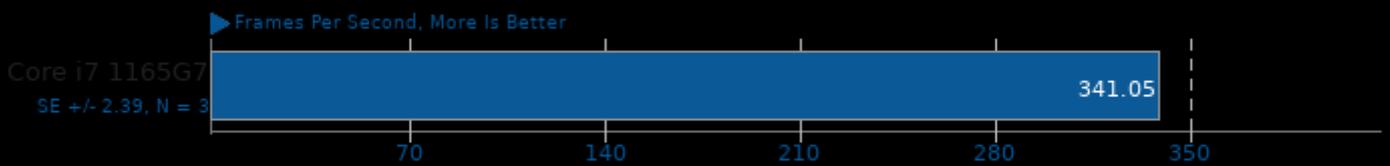
Resolution: 1920 x 1200 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0

DDraceNetwork 15.3.1

Resolution: 1920 x 1200 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0

ET: Legacy 2.77

Resolution: 1920 x 1200



Tesseract 2014-05-12

Resolution: 1920 x 1200



Unvanquished 0.52.1

Resolution: 1920 x 1200 - Effects Quality: High



Unvanquished 0.52.1

Resolution: 1920 x 1200 - Effects Quality: Ultra



Unvanquished 0.52.1

Resolution: 1920 x 1200 - Effects Quality: Medium



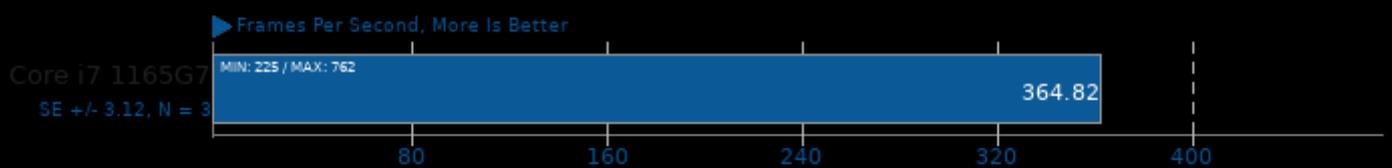
Warsow 2.5 Beta

Resolution: 1920 x 1200



Xonotic 0.8.2

Resolution: 1920 x 1200 - Effects Quality: Low



Xonotic 0.8.2

Resolution: 1920 x 1200 - Effects Quality: High



Xonotic 0.8.2

Resolution: 1920 x 1200 - Effects Quality: Ultra



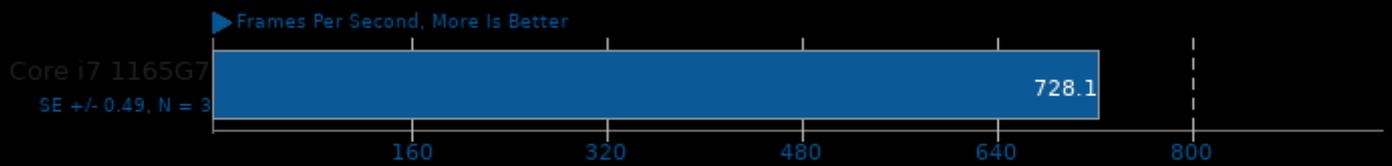
Xonotic 0.8.2

Resolution: 1920 x 1200 - Effects Quality: Ultimate



yquake2 7.45

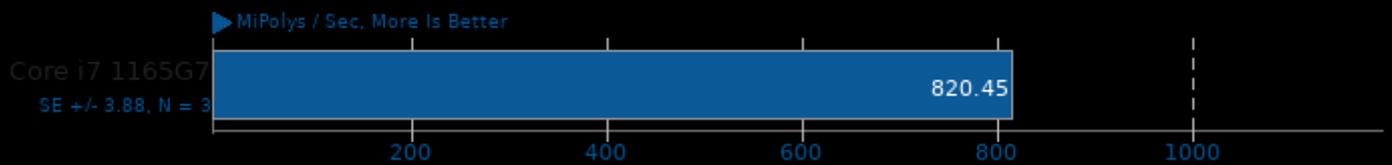
Renderer: OpenGL 3.x - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -fSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mt

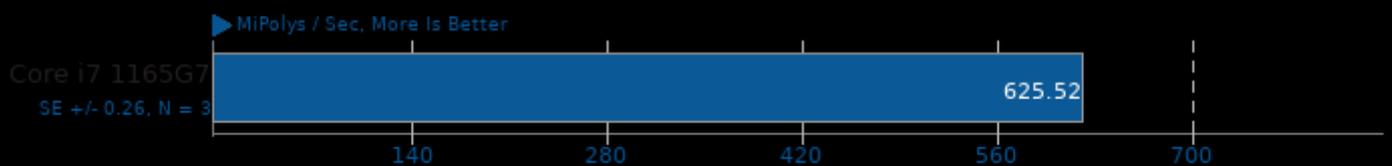
ParaView 5.9

Test: Many Spheres - Resolution: 1920 x 1200



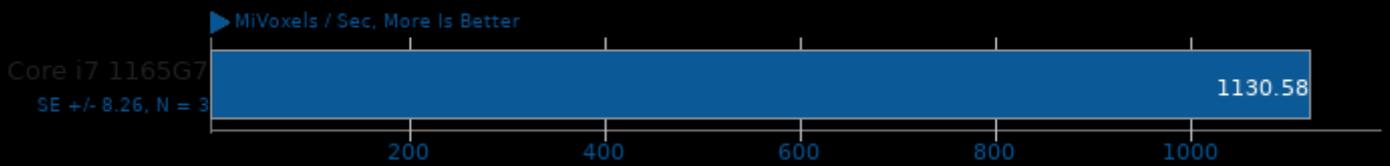
ParaView 5.9

Test: Wavelet Contour - Resolution: 1920 x 1200



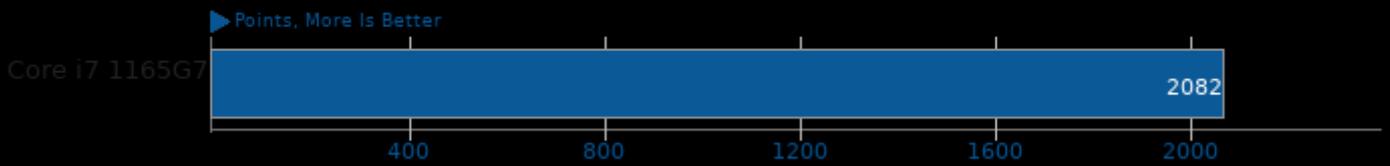
ParaView 5.9

Test: Wavelet Volume - Resolution: 1920 x 1200



GpuTest 0.7.0

Test: GiMark - Resolution: 1920 x 1200 - Mode: Fullscreen



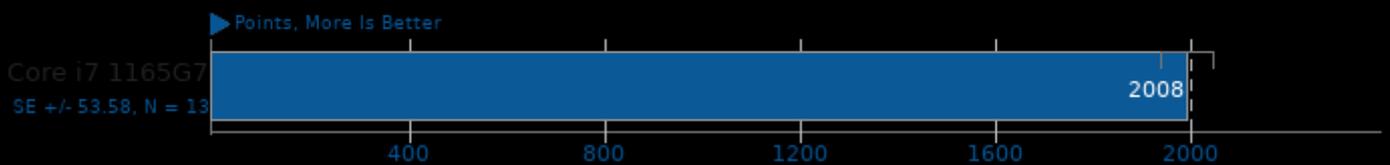
GpuTest 0.7.0

Test: Plot3D - Resolution: 1920 x 1200 - Mode: Fullscreen



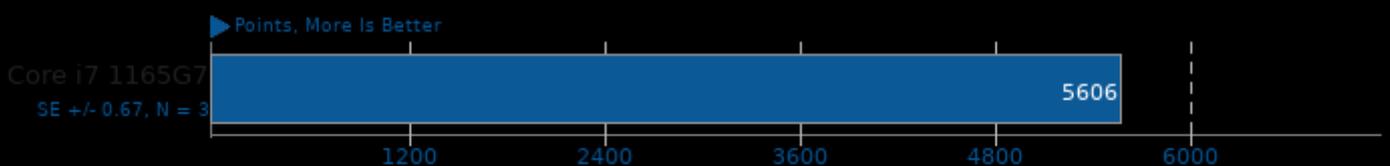
GpuTest 0.7.0

Test: Furmark - Resolution: 1920 x 1200 - Mode: Fullscreen



GpuTest 0.7.0

Test: TessMark - Resolution: 1920 x 1200 - Mode: Fullscreen



GpuTest 0.7.0

Test: Triangle - Resolution: 1920 x 1200 - Mode: Fullscreen



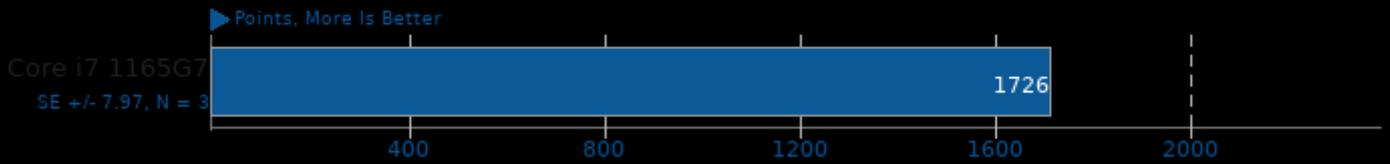
GpuTest 0.7.0

Test: Pixmark Piano - Resolution: 1920 x 1200 - Mode: Fullscreen



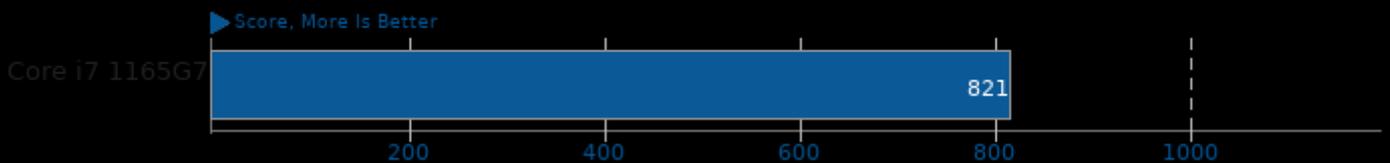
GpuTest 0.7.0

Test: Pixmark Volplosion - Resolution: 1920 x 1200 - Mode: Fullscreen



GLmark2 2020.04

Resolution: 1920 x 1200



Java 2D Microbenchmark 1.0

Rendering Test: Text Rendering



Java 2D Microbenchmark 1.0

Rendering Test: Image Rendering



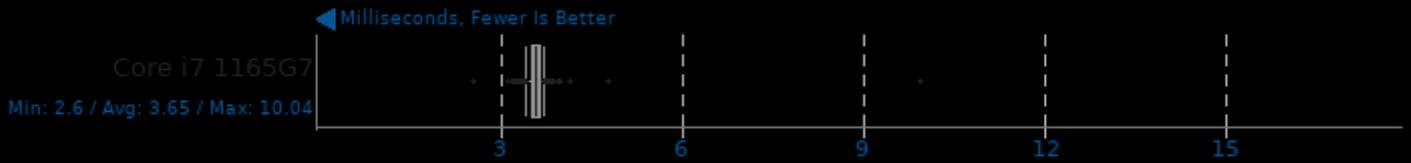
Java 2D Microbenchmark 1.0

Rendering Test: Vector Graphics Rendering



DDraceNetwork 15.3.1

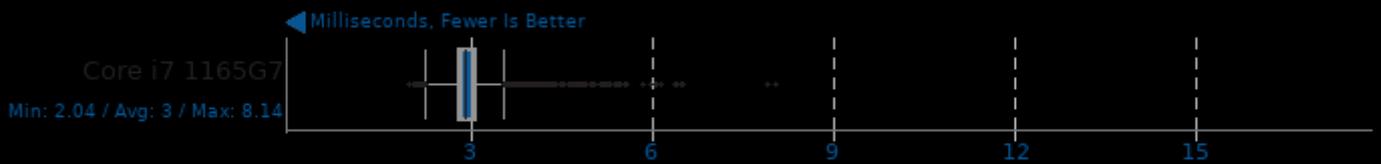
Resolution: 1920 x 1200 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0

DDraceNetwork 15.3.1

Resolution: 1920 x 1200 - 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 -lgio-2.0 -lgobject-2.0 -lglib-2.0

VkResample 1.0

Upscale: 2x - Precision: Single



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

RealSR-NCNN 20200818

Scale: 4x - TAA: No



RealSR-NCNN 20200818

Scale: 4x - TAA: Yes



Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: No



Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: Yes



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