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dell-inspiron-5301

Intel Core i7-1165G7 testing with a Dell 0FW9PR (1.5.1 BIOS) and Intel UHD 3GB on Ubuntu 20.10 via the Phoronix Test Suite.

Test Systems:

lz4_1

Intel Core i7-1165G7

Intel Core i7-1165G7 - Intel UHD - Dell 0FW9PR (1.3.3

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.0-051100-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen

Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x6e - Thermald 2.3
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Intel Core i7-1165G7 - Intel UHD 3GB - Dell 0FW9PR

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.8.0-44-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x6e
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Intel UHD - Intel Core i7-1165G7

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (500MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.8.0-44-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

no_thermald default kernel

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.8.0-44-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

no_thermald kernel 5.11

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.0-051100-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

pstate

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2 + 32GB SD/MMC/MS PRO, Graphics: Intel UHD 3GB (500MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.3-051103-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 i915.disable_power_well=0 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x6e
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

repaste_1

repaste_1_1

repaste_1_heatsink_mod_1

repaste_1_heatsink_mod_1_thremald_2.3

intel-rapl60w

intel-rapl_12w

Intel UHD

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2 + 32GB SD/MMC/MS PRO, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.4-051104-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 21.1.0-devel (git-98a5b9b 2021-03-08 groovy-oibaf-ppa), Vulkan: 1.2.168, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x6e - Thermald 2.4.3
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

new

random

randon1

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2 + 32GB SD/MMC/MS PRO, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.7-051107-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.0.0 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

bios_1.4

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.4.0 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2 + 32GB SD/MMC/MS PRO, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.7-051107-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.0.0 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto

--enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

1.4_downgrade

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2 + 32GB SD/MMC/MS PRO, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.7-051107-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.0.0 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

bios_1.51

bios_1.51_1

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.5.1 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.10-051110-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 21.0.1 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x78
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

mitigations_off

new_heatsink_1

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.5.1 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio:

Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.10-051110-generic (x86_64), Desktop: GNOME Shell 3.38.3, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 21.0.1 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x78
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

new_heatsink_2

new_heatsink_3

new_heatsink_3_i8k

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.3.3 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.10-051110-generic (x86_64), Desktop: GNOME Shell 3.38.3, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 21.0.1 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 performance - CPU Microcode: 0x6e
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

new_heatsink_3_i8k_1.51

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0FW9PR (1.5.1 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 8GB, Disk: 1000GB SHGP31-1000GM-2, Graphics: Intel UHD 3GB (1300MHz), Audio: Realtek ALC3204, Monitor: BenQ 241W, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 20.10, Kernel: 5.11.10-051110-generic (x86_64), Desktop: GNOME Shell 3.38.3, Display Server: X Server 1.20.9 + Wayland, OpenGL: 4.6 Mesa 21.0.1 kisak-mesa PPA, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 2692x2280

Kernel Notes: i915.fastboot=1 i915.enable_fbc=1 i915.enable_dc=4 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x78
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected +

tsx_async_abort: Not affected

	lz4_1	Intel Core i7-1165G7	Intel Core i7-1165G7 - Intel UHD - Dell 0FW9PR (1.3.3)	Intel Core i7-1165G7 - Intel UHD 3GB - Dell 0FW9PR	Intel UHD - Intel Core i7-1165G7	no_thermald default kernel	no_thermald kernel 5.11	pstate	repaste_1	repaste_1_1	repaste_1_heatsink_mod_1	repaste_1_heatsink_mod_1_thermald_2.3	intel-rapl60w	intel-rapl_12w	Intel UHD	new	randomm	random1	bios_1.4	1.4_downgrade	bios_1.51	bios_1.51_1	mitigations_off	newhea tsink_1	newhea tsink_2	newhea tsink_3	newhea tsink_3_i8k	newhea tsink_3_i8k_1.51
Himeno Benchmark - P.P.S (MFLOPS)		4774				4814	4746		5206				5185	7175.5250 20			4899	4866	4612			4587	4790		4929		4765	
Normalized		91.7%				92.46%	91.17%		100%				99.59%	13.78%			94.1%	93.47%	88.59%			88.1%	92.01%		94.68%		91.53%	
Standard Deviation		1.8%				1.9%	1.9%		1.1%				1.4%	0.4%			1.3%	2.2%	2.2%			2.5%	1.7%		2.4%		2.5%	

LZ4 Compression - 3 - Compression Speed	**42.94**		49.57		47.03					**52.91**	
Normalized	81.16%		93.69%		88.89%					100%	
Standard Deviation	0.7%		1.4%		0.3%					1.2%	
BYTE Unix Benchmark - Dhrystone 2 (LPS)	**50**	**95**		**55**	54	52					
	83	**75**		**46**	96	40					
				48	99	43					
				84	65	45					
Normalized	91.88%			100%	99.11%	94.48%					
Standard Deviation	0.2%			1.1%	1.3%	0.3%					
LZ4 Compression - 9 - D.S (MB/s)	**97.72**		**10**	**04**	10	02				98	08
			5		5						
Normalized	97.28%		100%		99.8%					97.64%	
Standard Deviation	0.2%		0.6%		0.3%					0.2%	

LZ4 Compression - 3 - D.S (MB/s)	**97.47**			99.97	**100.8**							97.87
Normalized	97.4%			99.89%	100%							97.79%
Standard Deviation	0.1%			0.3%	0.3%							0.5%
LZ4 Compression - 1 - Compression Speed	**93.45**	94.22	93.64	94.82	**95.27**					93.55		93.76
Normalized	98.09%	98.89%	98.29%	99.52%	100%					98.19%		98.41%
Standard Deviation	1.1%	0.4%	0.9%	0.4%	0.3%					1.3%		0.9%
LZ4 Compression - 1 - D.S (MB/s)	10.33	10.33	**10.26**	10.39	**10.41**					10.30		10.28
Normalized	99.19%	99.22%	98.51%	99.77%	100%					98.93%		98.72%
Standard Deviation	0.6%	0.4%	0.5%	0.2%	0%					0.7%		0.8%
Tesseract - 1920 x 1200 (FPS)						13.74						
Standard Deviation						9.25						
						3.7%						

SQLite - 1 (sec)	11.784		
Standard Deviation	0.4%		
GLmark2 - 1920 x 1080 (Score)			1057
WebP Image Encode - Q.1.HC (Encode Time - sec)	7.135		
Standard Deviation	1.9%		
WebP Image Encode - Q.1.L (Encode Time - sec)	17.437		
Standard Deviation	1.1%		

WebP Image Encode - Quality 100 (Encode Time - sec)	2.16 8	
Standard Deviation	2.1 %	
WebP Image Encode - Default (Encode Time - sec)	1.40 3	
Standard Deviation	0.5 %	
Zstd Compression - 19, Long Mode - D.S (MB/s)		26 38
Standard Deviation		2.5 %

Zstd Compression - 19, Long Mode - Compression	8.63
Standard Deviation	1%
Zstd Compression - 8, Long Mode - D.S (MB/s)	32.67
Standard Deviation	0.8%
Zstd Compression - 8, Long Mode - Compression	15.6.1
Standard Deviation	0.6%

Zstd Compression - 3, Long Mode - D.S (MB/s)	32 10
Standard Deviation	0.8 %
Zstd Compression - 3, Long Mode - Compression	51 4. 5
Standard Deviation	0.6 %
Zstd Compression - 19 - D.S (MB/s)	27 39
Standard Deviation	1.6 %

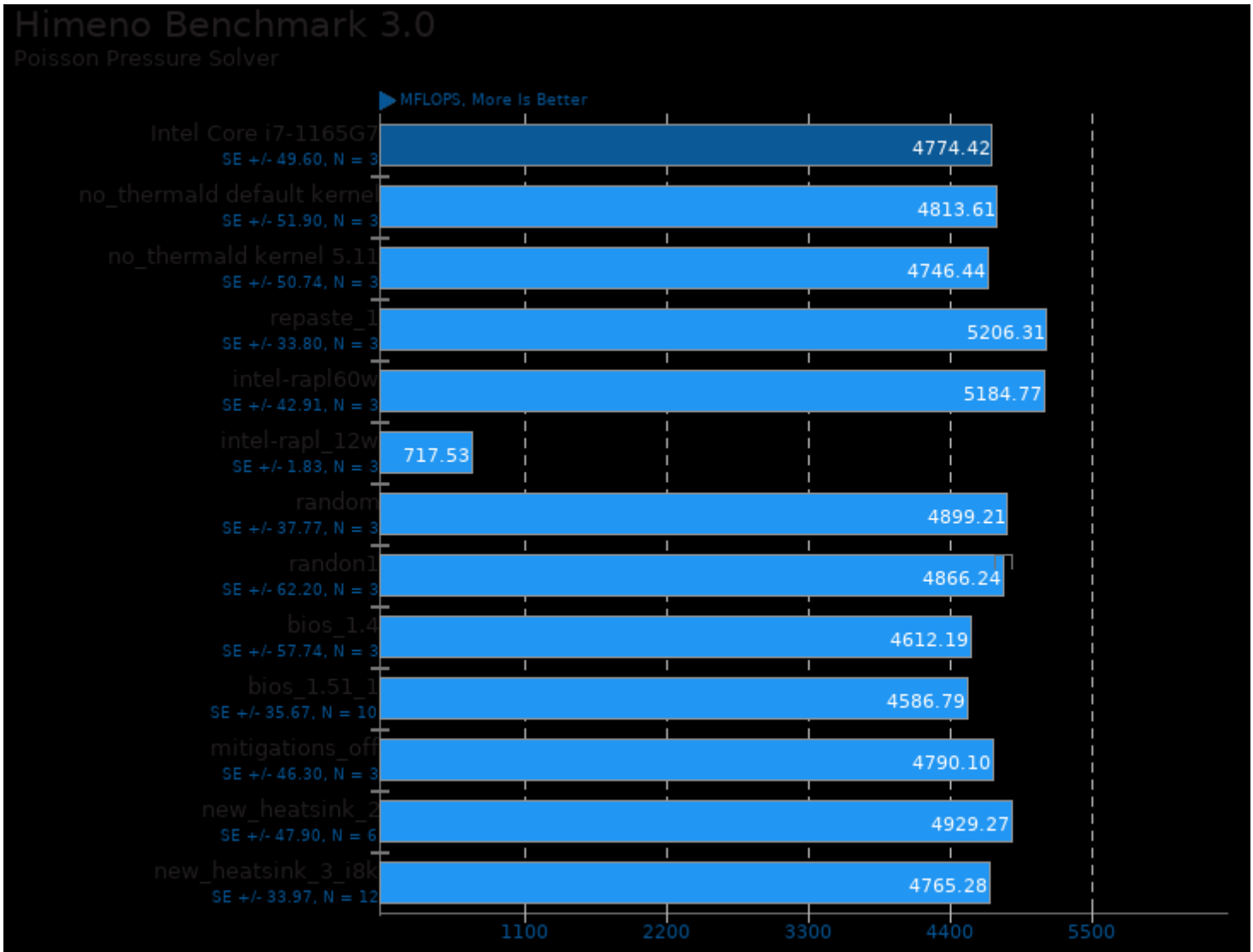
Zstd Compression - 19 - Compression	10.2
Standard Deviation	0.4 %
Zstd Compression - 8 - D.S (MB/s)	3099
Standard Deviation	0.6 %
Zstd Compression - 8 - Compression Speed	149.3
Standard Deviation	0.3 %
Zstd Compression - 3 - D.S (MB/s)	2966
Standard Deviation	1.5 %

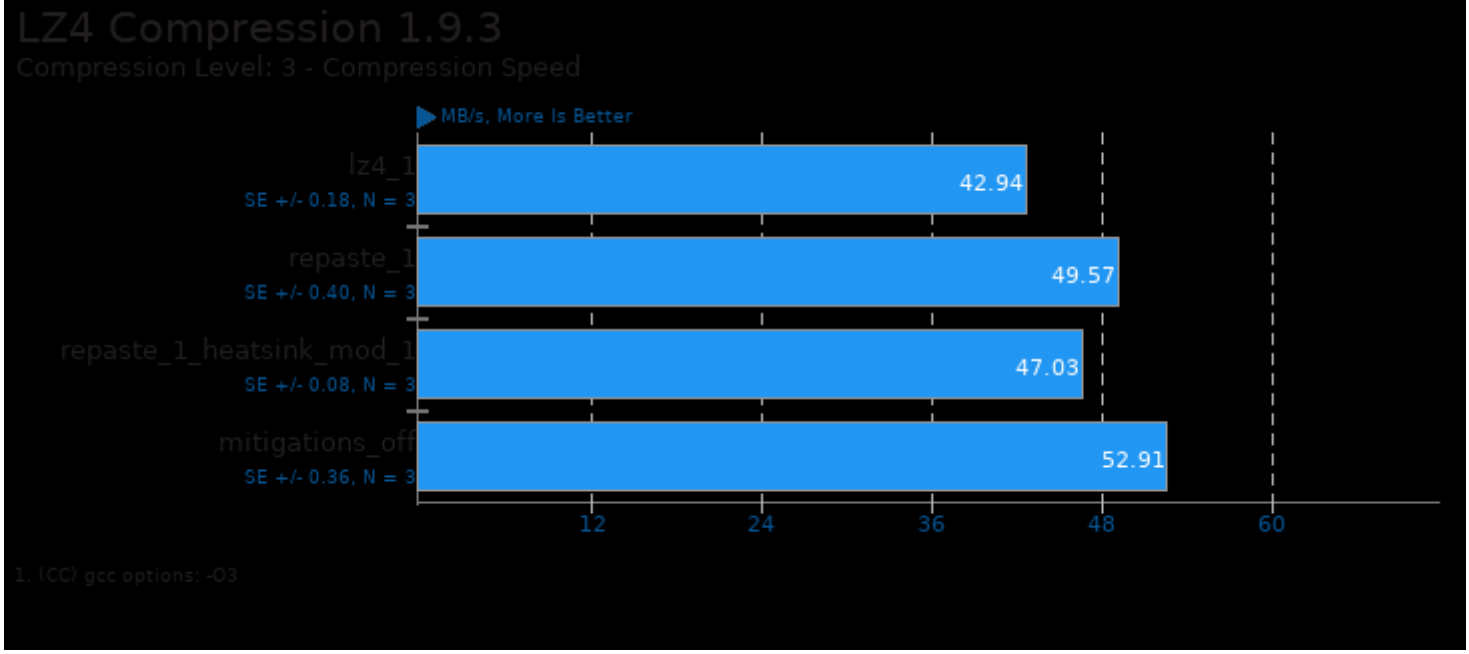
Zstd Compression - 3 - Compression Speed		77 1. 7
Standard Deviation		2.1 %
Etcpak - ETC1 + Dithering (Mpx/s)	33 0. 09 5	
Standard Deviation	0.5 %	
Etcpak - ETC2 (Mpx/s)	19 9. 33 5	
Standard Deviation	1.1 %	
Etcpak - ETC1 (Mpx/s)	34 9. 47 1	
Standard Deviation	1.7 %	
Etcpak - DXT1 (Mpx/s)	15 13	

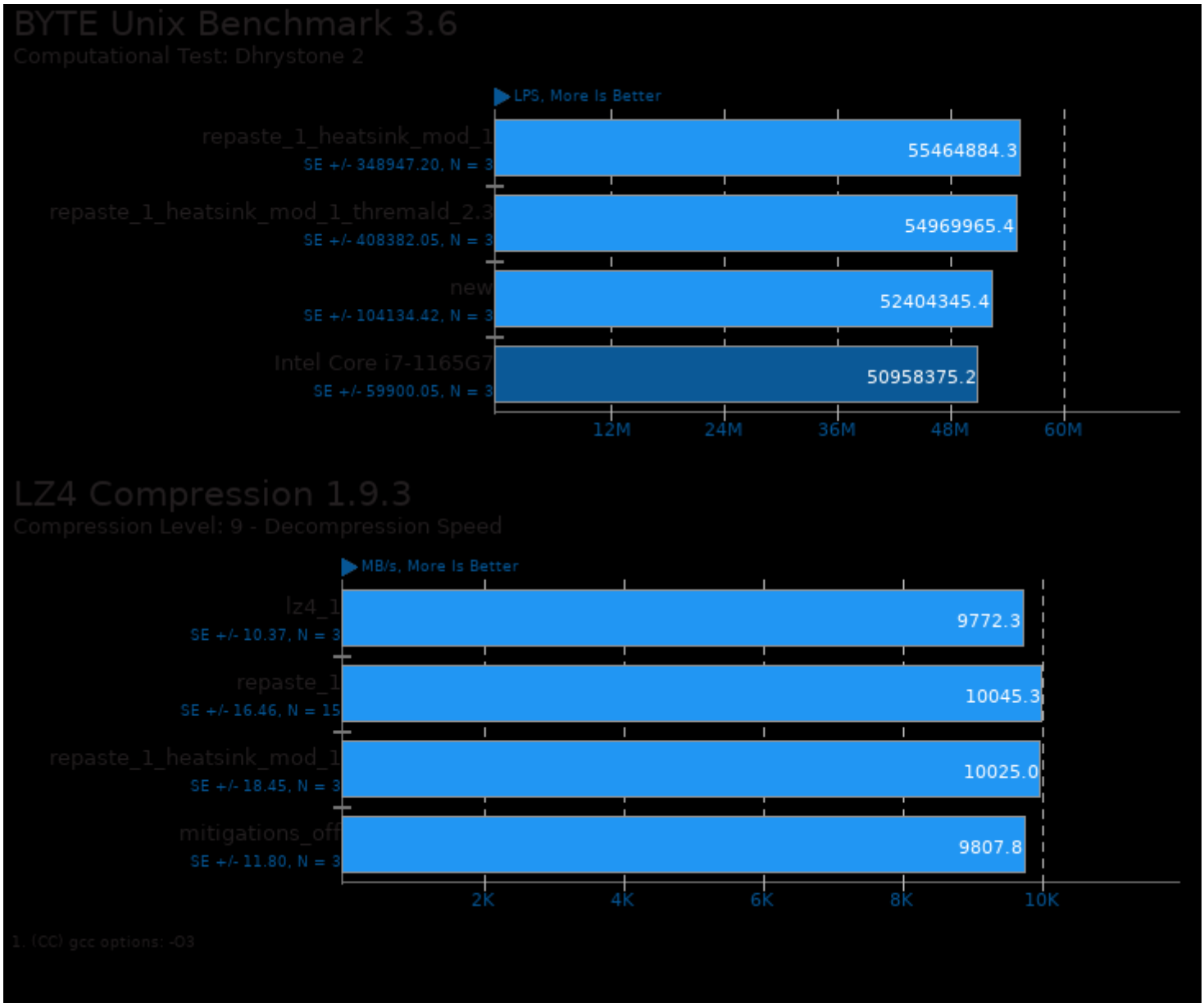
| | | |

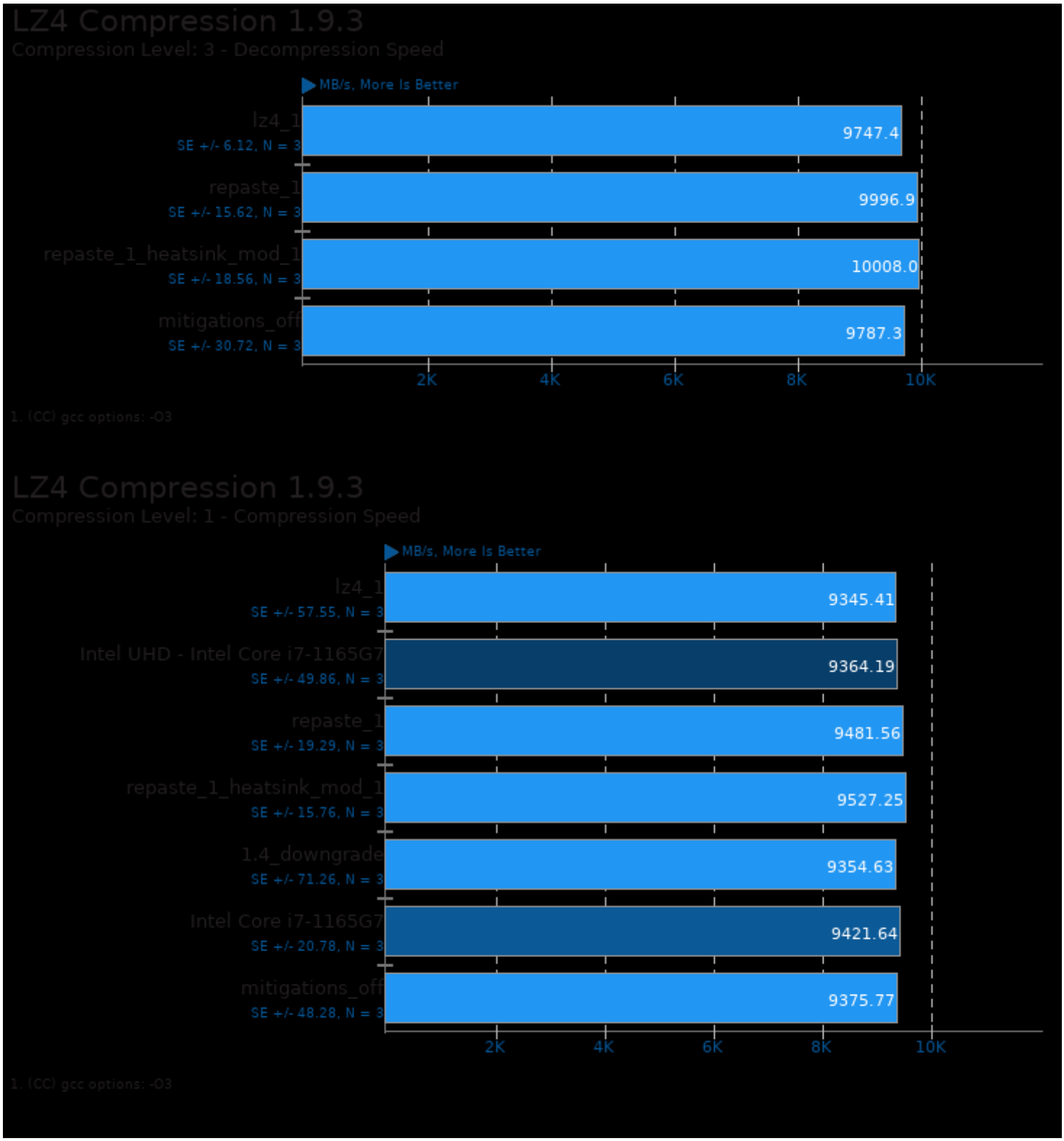
dell-inspiron-5301

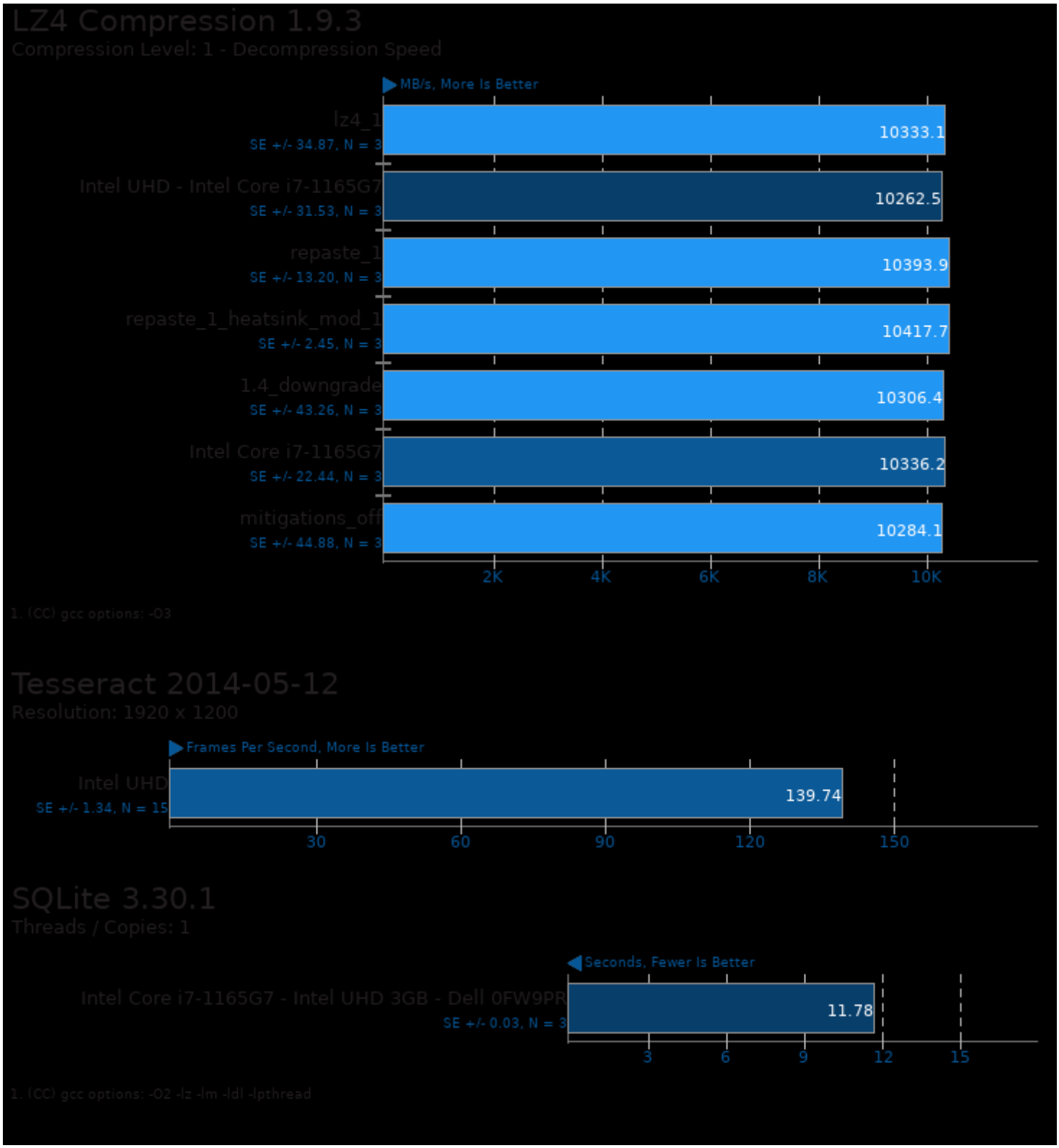
LZ4 Compression - 9 - Compression Speed	**41.66**	**53.46**	46.05	50.77
Normalized	77.93%	10.00%	86.14%	94.97%
Standard Deviation	0.6%	8.1%	0.1%	1.3%


Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
Intel Core i7-1165G7
SE +/- 49.60, N = 3
4774.42
no_thermald default kernel
SE +/- 51.90, N = 3
4813.61
no_thermald kernel 5.11
SE +/- 50.74, N = 3
4746.44
repaste_1
SE +/- 33.80, N = 3
5206.31
intel-rapl60w
SE +/- 42.91, N = 3
5184.77
intel-rapl_12w
SE +/- 1.83, N = 3
717.53
random
SE +/- 37.77, N = 3
4899.21
random1
SE +/- 62.20, N = 3
4866.24
bios_1.4
SE +/- 57.74, N = 3
4612.19
bios_1.51_1
SE +/- 35.67, N = 10
4586.79
mitigations_off
SE +/- 46.30, N = 3
4790.10
new_heatsink_2
SE +/- 47.90, N = 6
4929.27
new_heatsink_3_i8k
SE +/- 33.97, N = 12
4765.28
1100
2200
3300
4400
5500
1. (CC) gcc options: -O3 -mavx2


LZ4 Compression 1.9.3
Compression Level: 3 - Compression Speed
MB/s, More Is Better
lz4_1
SE +/- 0.18, N = 3
42.94
repaste_1
SE +/- 0.40, N = 3
49.57
repaste_1_heatsink_mod_1
SE +/- 0.08, N = 3
47.03
mitigations_off
SE +/- 0.36, N = 3
52.91
12
24
36
48
60
1. (CC) gcc options: -O3

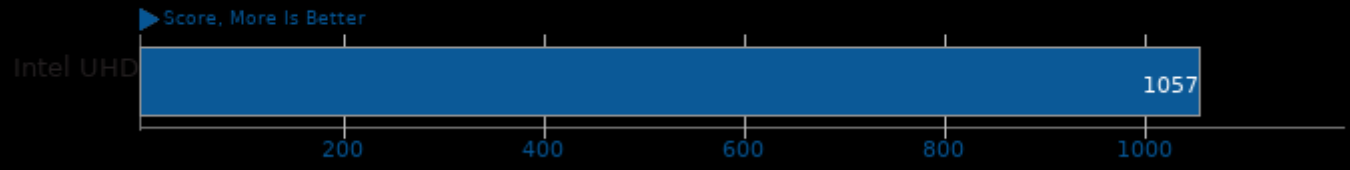

BYTE Unix Benchmark 3.6
Computational Test: Dhrystone 2
LPS, More Is Better
repaste_1_heatsink_mod_1
SE +/- 348947.20, N = 3
55464884.3
repaste_1_heatsink_mod_1_thremald_2.3
SE +/- 408382.05, N = 3
54969965.4
new
SE +/- 104134.42, N = 3
52404345.4
Intel Core i7-1165G7
SE +/- 59900.05, N = 3
50958375.2
12M
24M
36M
48M
60M
LZ4 Compression 1.9.3
Compression Level: 9 - Decompression Speed
MB/s, More Is Better
lz4_1
SE +/- 10.37, N = 3
9772.3
repaste_1
SE +/- 16.46, N = 15
10045.3
repaste_1_heatsink_mod_1
SE +/- 18.45, N = 3
10025.0
mitigations_off
SE +/- 11.80, N = 3
9807.8
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3


LZ4 Compression 1.9.3
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
lz4_1
SE +/- 6.12, N = 3
9747.4
repaste_1
SE +/- 15.62, N = 3
9996.9
repaste_1_heatsink_mod_1
SE +/- 18.56, N = 3
10008.0
mitigations_off
SE +/- 30.72, N = 3
9787.3
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 1 - Compression Speed
MB/s, More Is Better
lz4_1
SE +/- 57.55, N = 3
9345.41
Intel UHD - Intel Core i7-1165G7
SE +/- 49.86, N = 3
9364.19
repaste_1
SE +/- 19.29, N = 3
9481.56
repaste_1_heatsink_mod_1
SE +/- 15.76, N = 3
9527.25
1.4_downgrade
SE +/- 71.26, N = 3
9354.63
Intel Core i7-1165G7
SE +/- 20.78, N = 3
9421.64
mitigations_off
SE +/- 48.28, N = 3
9375.77
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3


LZ4 Compression 1.9.3
Compression Level: 1 - Decompression Speed
MB/s, More Is Better
lz4_1
SE +/- 34.87, N = 3
10333.1
Intel UHD - Intel Core i7-1165G7
SE +/- 31.53, N = 3
10262.5
repaste_1
SE +/- 13.20, N = 3
10393.9
repaste_1_heatsink_mod_1
SE +/- 2.45, N = 3
10417.7
1.4_downgrade
SE +/- 43.26, N = 3
10306.4
Intel Core i7-1165G7
SE +/- 22.44, N = 3
10336.2
mitigations_off
SE +/- 44.88, N = 3
10284.1
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3
Tesseract 2014-05-12
Resolution: 1920 x 1200
Frames Per Second, More Is Better
Intel UHD
SE +/- 1.34, N = 15
139.74
30
60
90
120
150
SQLite 3.30.1
Threads / Copies: 1
Seconds, Fewer Is Better
Intel Core i7-1165G7 - Intel UHD 3GB - Dell 0FW9PR
SE +/- 0.03, N = 3
11.78
3
6
9
12
15
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

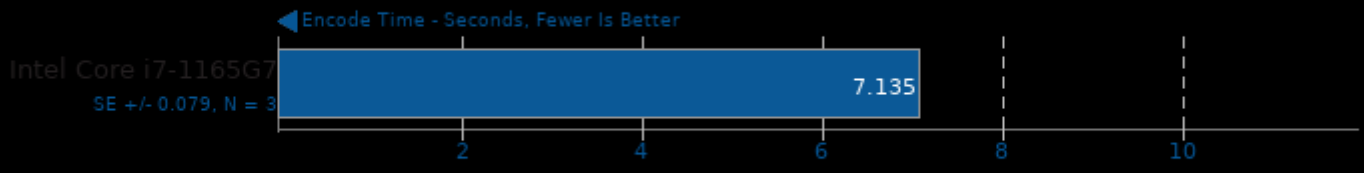
GLmark2 2020.04

Resolution: 1920 x 1080



WebP Image Encode 1.1

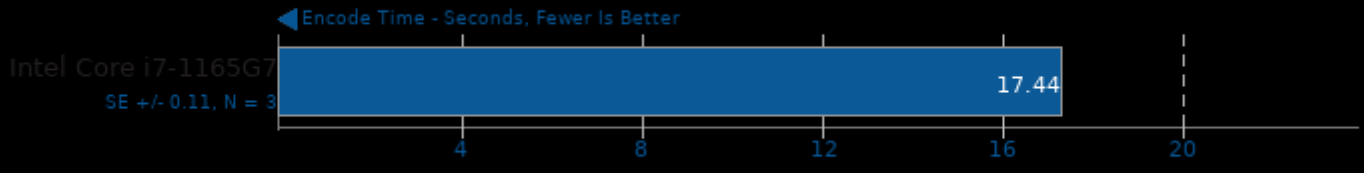
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

WebP Image Encode 1.1

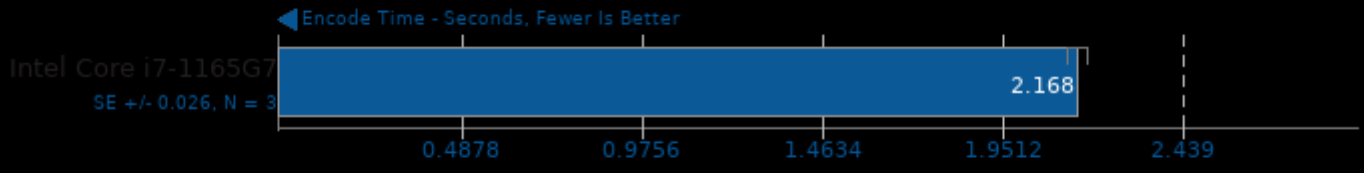
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

WebP Image Encode 1.1

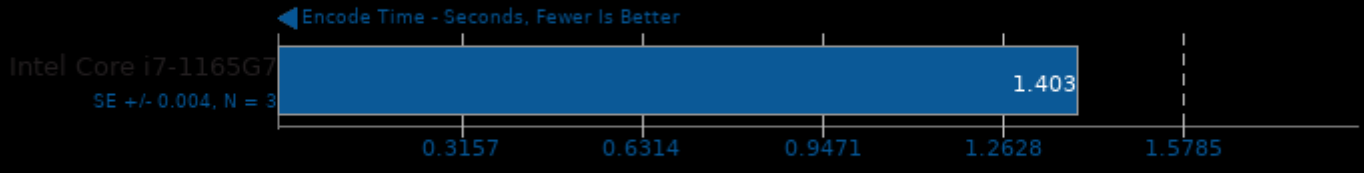
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

WebP Image Encode 1.1

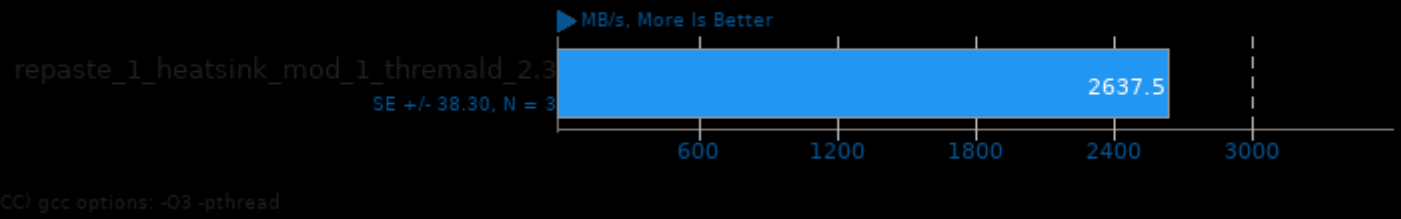
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

Zstd Compression 1.4.9

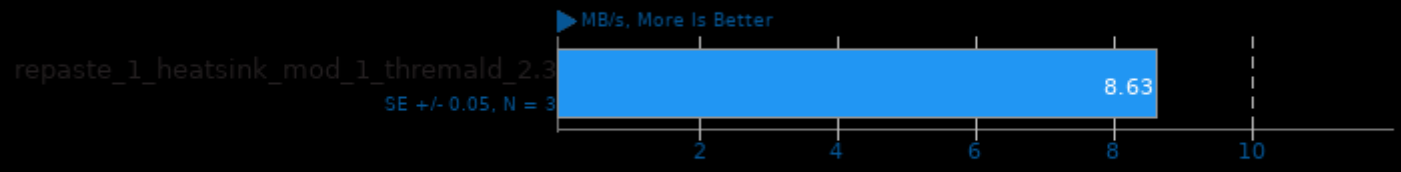
Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

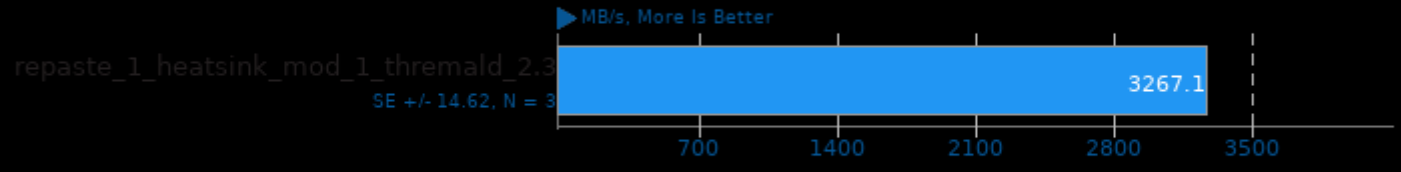
Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

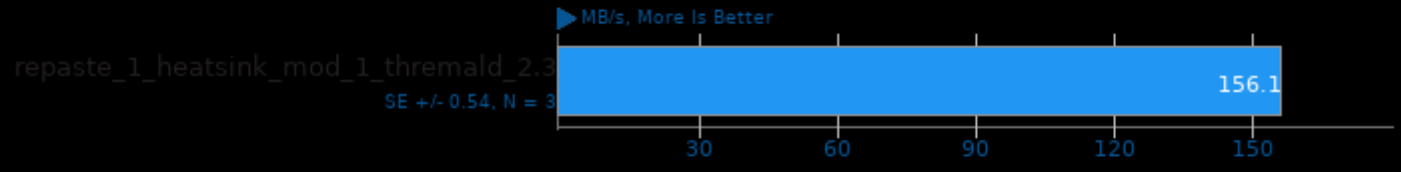
Compression Level: 8, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

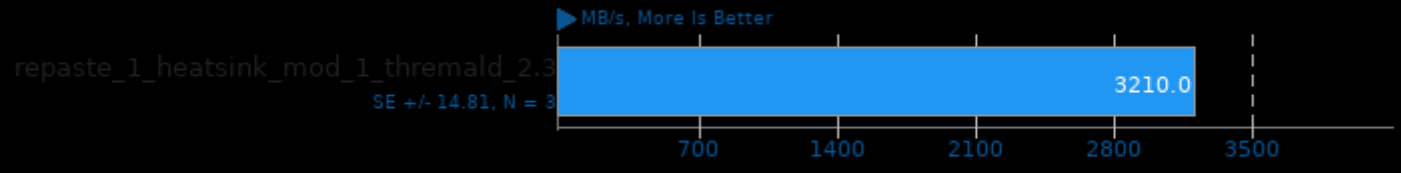
Compression Level: 8, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

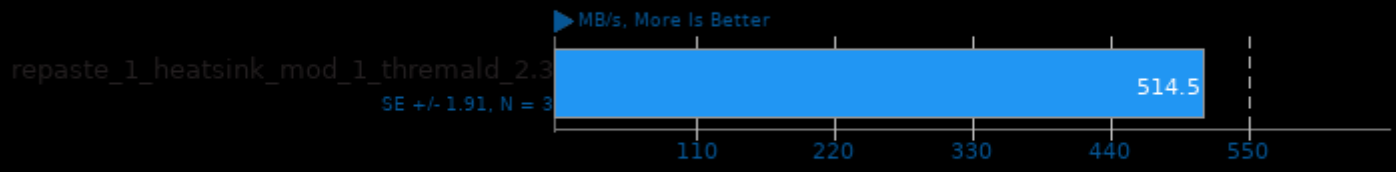
Compression Level: 3, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

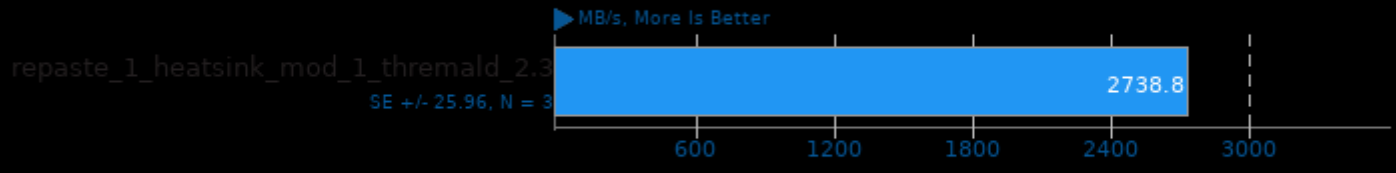
Compression Level: 3, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

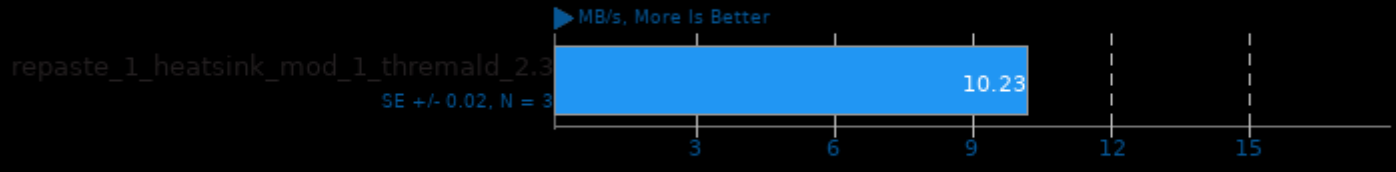
Compression Level: 19 - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

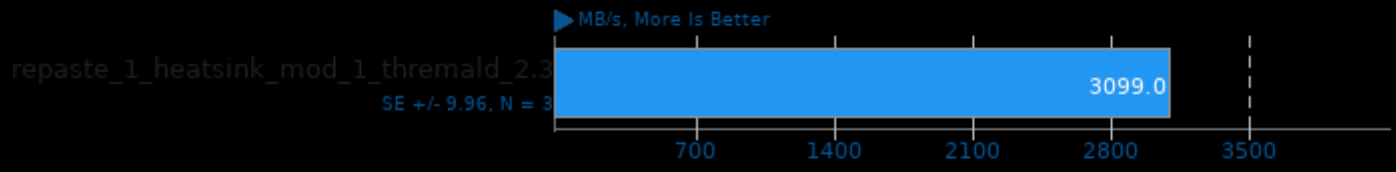
Compression Level: 19 - Compression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

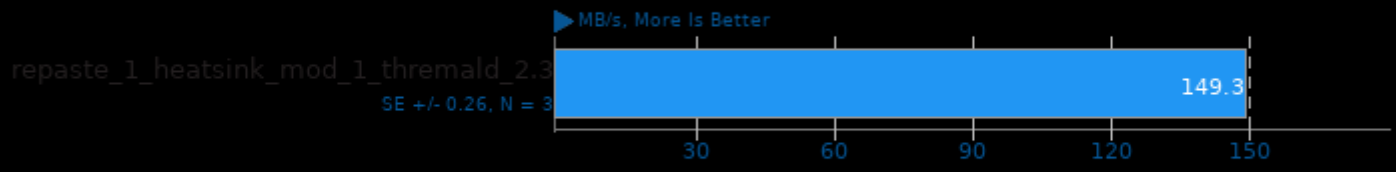
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

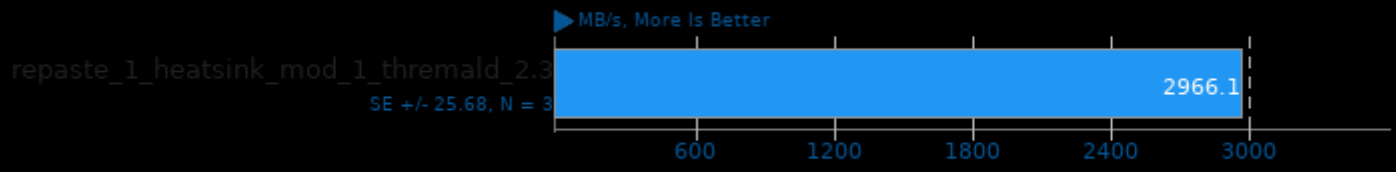
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

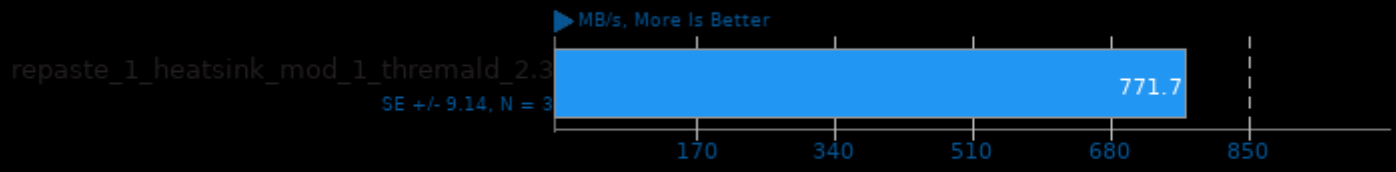
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3 -pthread

Zstd Compression 1.4.9

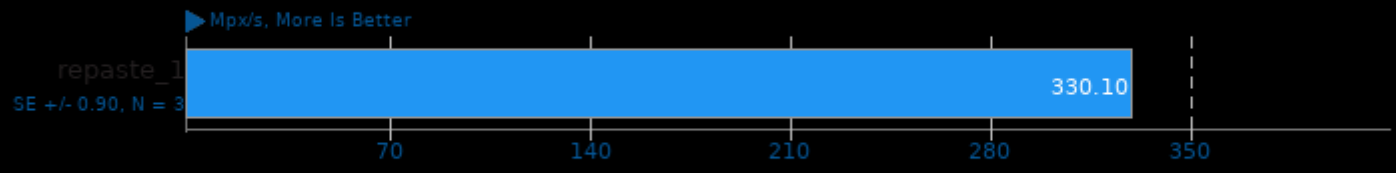
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3 -pthread

Etcpak 0.7

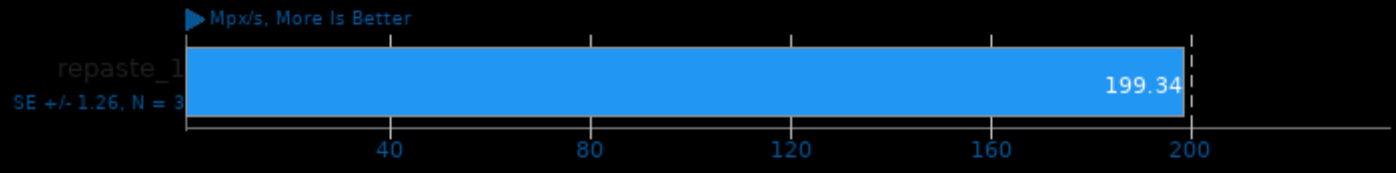
Configuration: ETC1 + Dithering



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

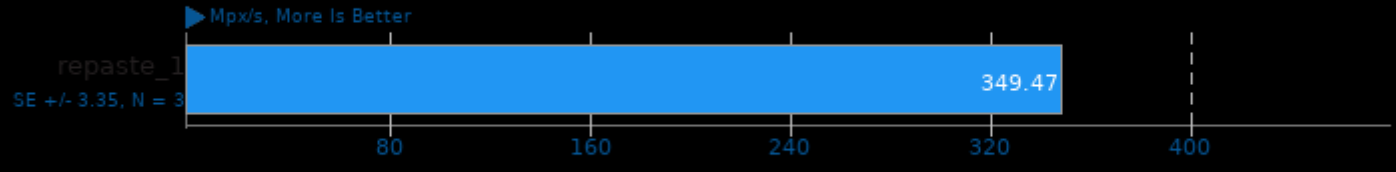
Configuration: ETC2



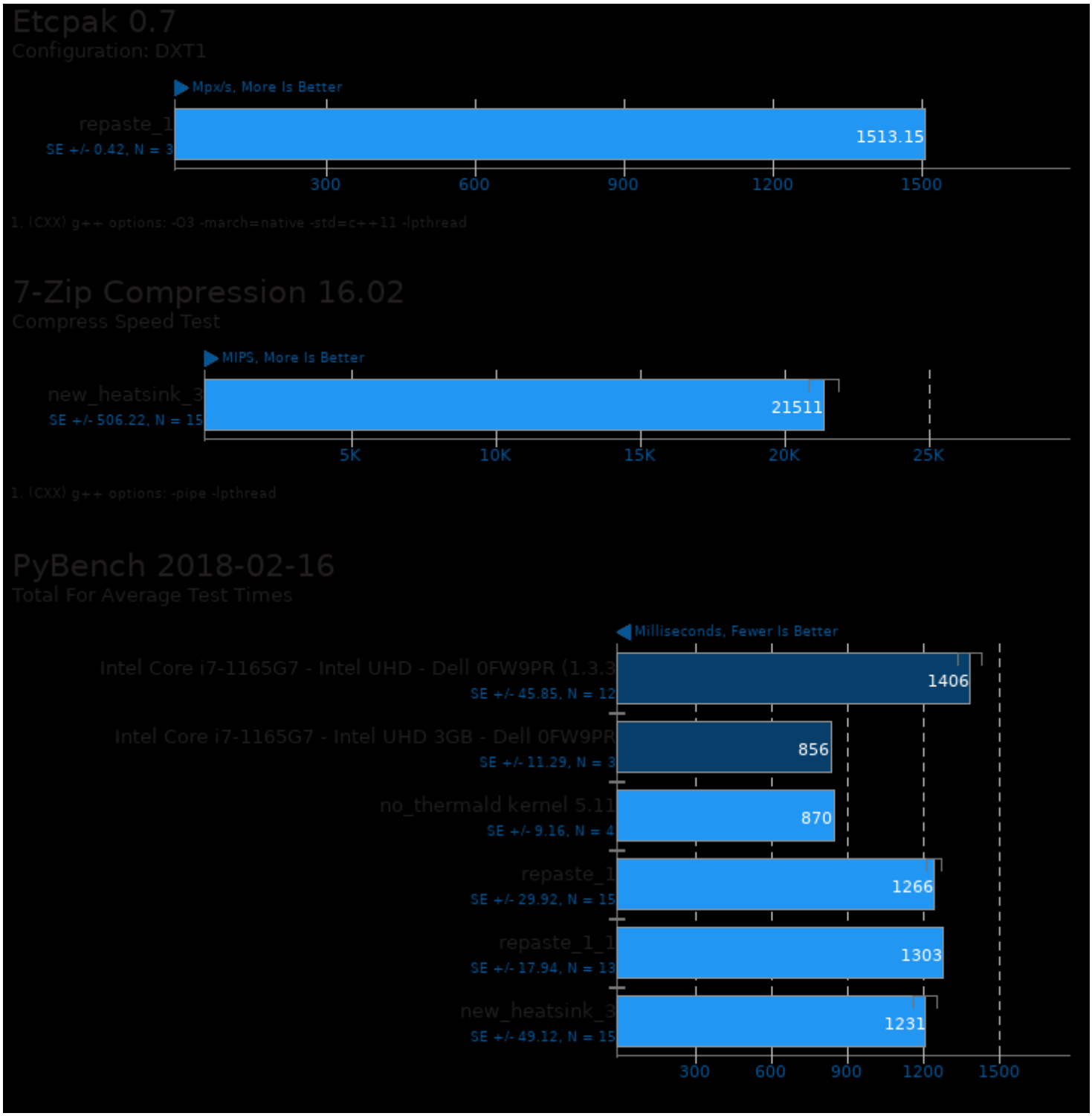
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

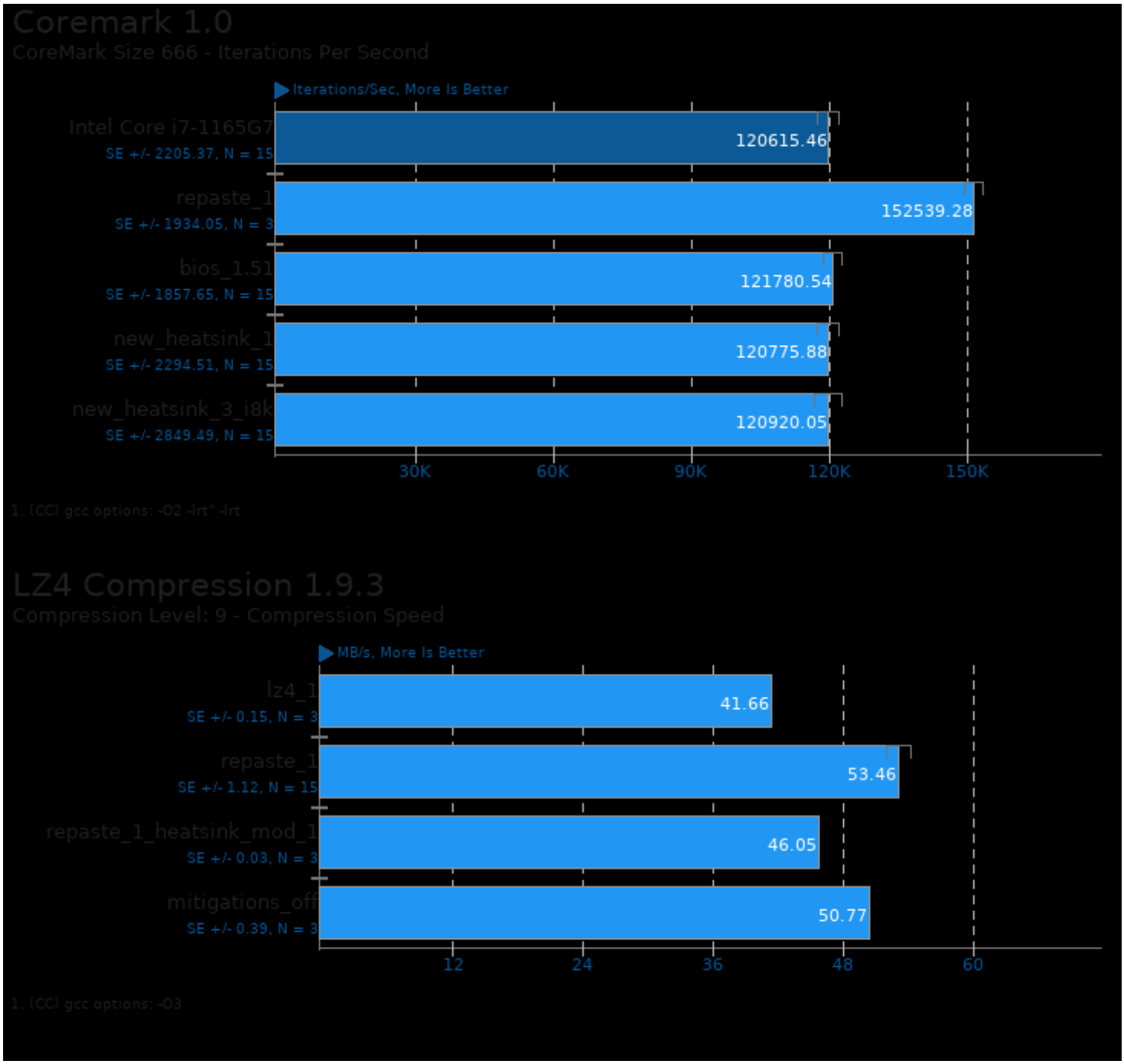
Etcpak 0.7

Configuration: ETC1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread


Etcpak 0.7
Configuration: DXT1
Mpx/s, More Is Better
repaste_1
SE +/- 0.42, N = 3
1513.15
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
new_heatsink_3
SE +/- 506.22, N = 15
21511
5K
10K
15K
20K
25K
1. (CXX) g++ options: -pipe -lpthread
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
Intel Core i7-1165G7 - Intel UHD - Dell 0FW9PR (1.3.3
SE +/- 45.85, N = 12
1406
Intel Core i7-1165G7 - Intel UHD 3GB - Dell 0FW9PR
SE +/- 11.29, N = 3
856
no_thermald kernel 5.11
SE +/- 9.16, N = 4
870
repaste_1
SE +/- 29.92, N = 15
1266
repaste_1_1
SE +/- 17.94, N = 13
1303
new_heatsink_3
SE +/- 49.12, N = 15
1231
300
600
900
1200
1500



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