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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	randomrandom1	bios_1.4_downgrade	bios_1.51	bios_1.51_1	mitigations_off	new_heatsink_1	new_heatsink_2	new_heatsink_3	new_heatsink_3_i8k	new_heatsink_3_i8k_1.51
7-Zip Compression - C.S.T (MIPS)																								21511		
Standard Deviation																								9.1%		
BYTE Unix Benchmark - Dhrystone 2 (LPS)		50958375									55465848	54969965				52404345										
Normalized		91.88%									100%	99.11%				94.48%										

Standard Deviation	0.2 %		1.1 %	1.3 %	0.3 %				
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	1206 1525	1525 39				12 17 81	12 07 76	12 09 20	
Normalized	79.07 %	100%				79.84 %	79.18 %	79.27 %	
Standard Deviation	7.1 %	2.2 %				5.9 %	7.4 %	9.1 %	
Etcpak - DXT1 (Mpx/s)		1513							
Standard Deviation		0%							
Etcpak - ETC1 (Mpx/s)		349.471							
Standard Deviation		1.7 %							
Etcpak - ETC2 (Mpx/s)		199.335							
Standard Deviation		1.1 %							

| | | |

LZ4 Compression - 1 - D.S (MB/s)	10333	10336		**10263**		10394		**10418**		10306		10284
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%
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%
LZ4 Compression - 3 - D.S (MB/s)	**9747**					9997		**10008**				9787
Normalized	97.44%					99.89%		100%				97.79%
Standard Deviation	0.1%					0.3%		0.3%				0.5%

LZ4 Compression - 9 - Compression Speed	**41.66**			**53.46**		46.05			50.77			
Normalized	77.93%			100%		86.14%			94.97%			
Standard Deviation	0.6%			8.1%		0.1%			1.3%			
LZ4 Compression - 9 - D.S (MB/s)	**9772**			**10045**		10025			9808			
Normalized	97.28%			100%		99.78%			97.64%			
Standard Deviation	0.2%			0.6%		0.3%			0.2%			
PyBench - T.F.A.T.T (Milliseconds)		**1406**	**856**	870	1266	1303				1231		
Normalized		60.88%	100%	98.39%	67.61%	65.69%				69.54%		
Standard Deviation		11.3%	2.3%	2.1%	9.2%	5%				15.5%		
SQLite - 1 (sec)			11.784									
Standard Deviation			0.4%									

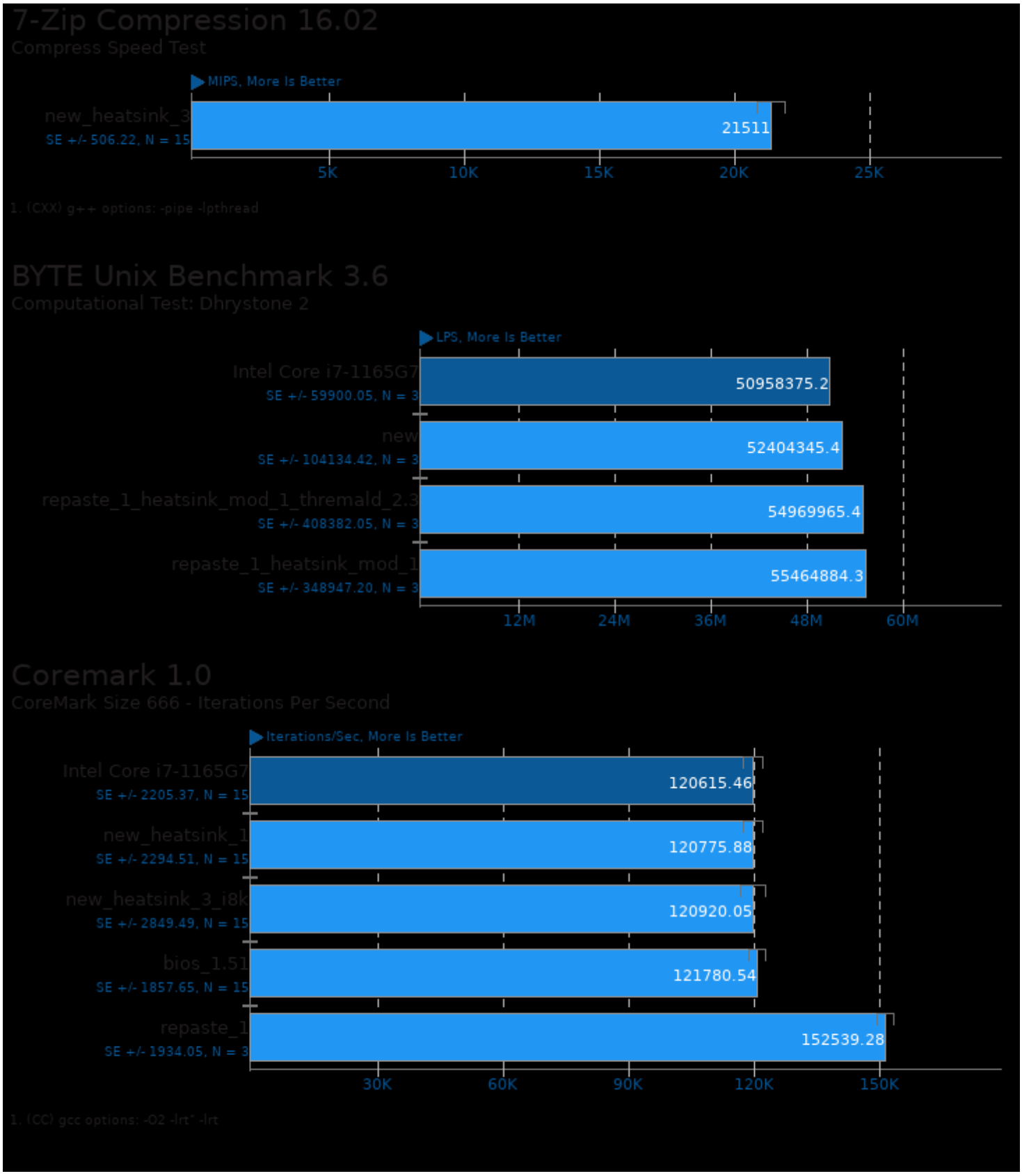
Tesseract - 1920 x 1200 (FPS)		13 9. 74 25
Standard Deviation		3.7 %
WebP Image Encode - Default (Encode Time - sec)	1. 40 3	
Standard Deviation	0.5 %	
WebP Image Encode - Quality 100 (Encode Time - sec)	2. 16 8	
Standard Deviation	2.1 %	

WebP Image Encode - Q.1.L (Encode Time - sec)	17.437	
Standard Deviation	1.1%	
WebP Image Encode - Q.1.HC (Encode Time - sec)	7.135	
Standard Deviation	1.9%	
Zstd Compression - 3 - Compression Speed		771.7
Standard Deviation		2.1%
Zstd Compression - 3 - D.S (MB/s)		2966
Standard Deviation		1.5%

Zstd Compression - 8 - Compression Speed	14 9. 3
Standard Deviation	0.3 %
Zstd Compression - 8 - D.S (MB/s)	30 99
Standard Deviation	0.6 %
Zstd Compression - 19 - Compression	10 .2 3
Standard Deviation	0.4 %
Zstd Compression - 19 - D.S (MB/s)	27 39
Standard Deviation	1.6 %

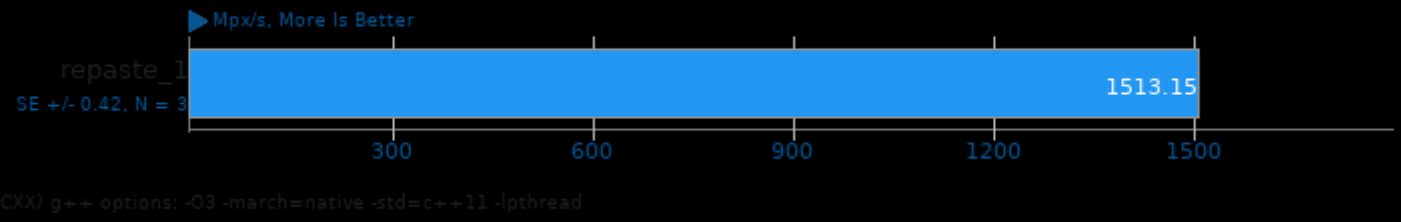
Zstd Compression - 3, Long Mode - Compression	51 4.5
Standard Deviation	0.6 %
Zstd Compression - 3, Long Mode - D.S (MB/s)	32 10
Standard Deviation	0.8 %
Zstd Compression - 8, Long Mode - Compression	15 6.1
Standard Deviation	0.6 %

Zstd Compression - 8, Long Mode - D.S (MB/s)	32 67
Standard Deviation	0.8 %
Zstd Compression - 19, Long Mode - Compression	8. 63
Standard Deviation	1%
Zstd Compression - 19, Long Mode - D.S (MB/s)	26 38
Standard Deviation	2.5 %


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
BYTE Unix Benchmark 3.6
Computational Test: Dhrystone 2
LPS, More Is Better
Intel Core i7-1165G7
SE +/- 59900.05, N = 3
50958375.2
new
SE +/- 104134.42, N = 3
52404345.4
repaste_1_heatsink_mod_1_thremald_2.3
SE +/- 408382.05, N = 3
54969965.4
repaste_1_heatsink_mod_1
SE +/- 348947.20, N = 3
55464884.3
12M
24M
36M
48M
60M
Coremark 1.0
CoreMark Size 666 - Iterations Per Second
Iterations/Sec, More Is Better
Intel Core i7-1165G7
SE +/- 2205.37, N = 15
120615.46
new_heatsink_1
SE +/- 2294.51, N = 15
120775.88
new_heatsink_3_i8k
SE +/- 2849.49, N = 15
120920.05
bios_1.51
SE +/- 1857.65, N = 15
121780.54
repaste_1
SE +/- 1934.05, N = 3
152539.28
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -lrt" -lrt

Etcpak 0.7

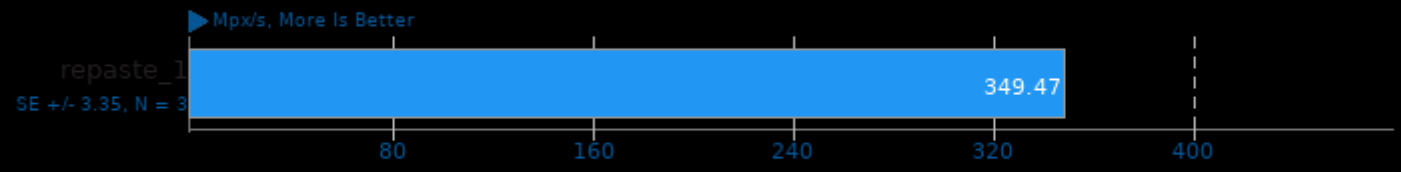
Configuration: DXT1



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

Etcpak 0.7

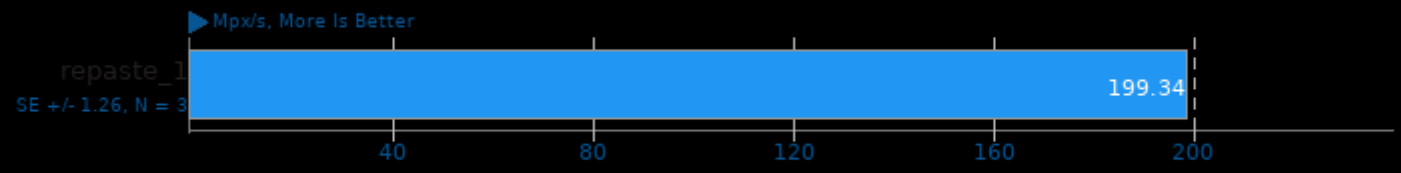
Configuration: ETC1



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

Etcpak 0.7

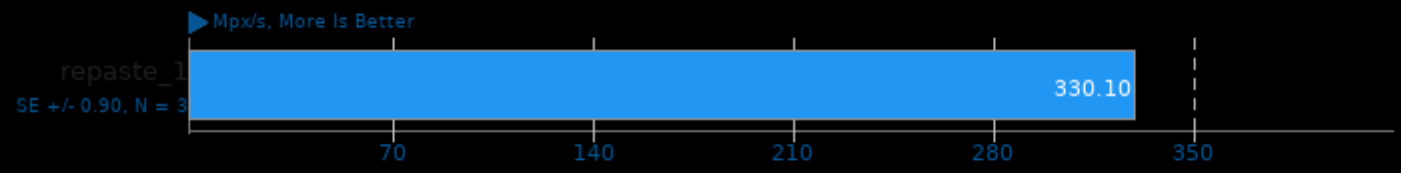
Configuration: ETC2



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

Etcpak 0.7

Configuration: ETC1 + Dithering

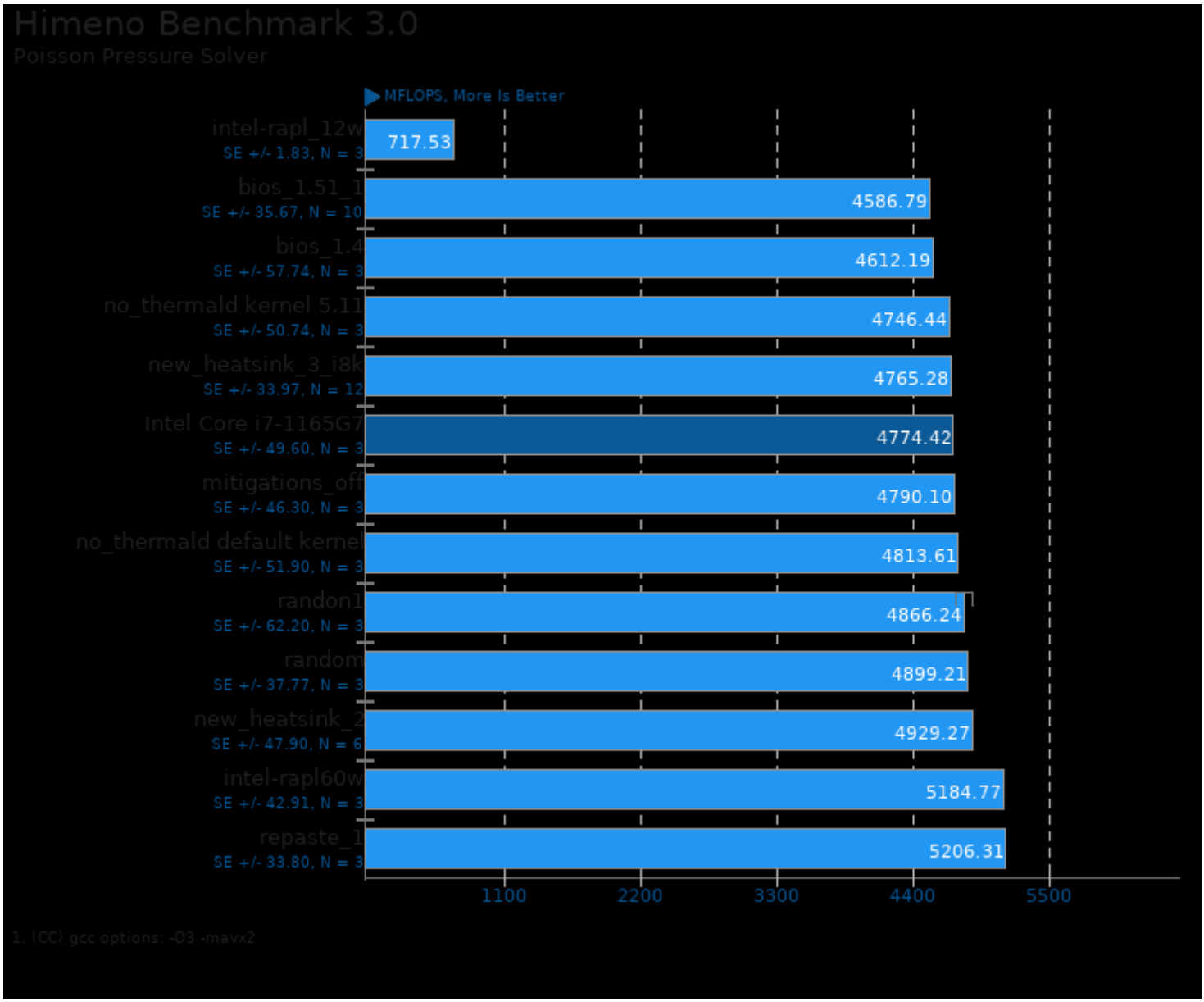


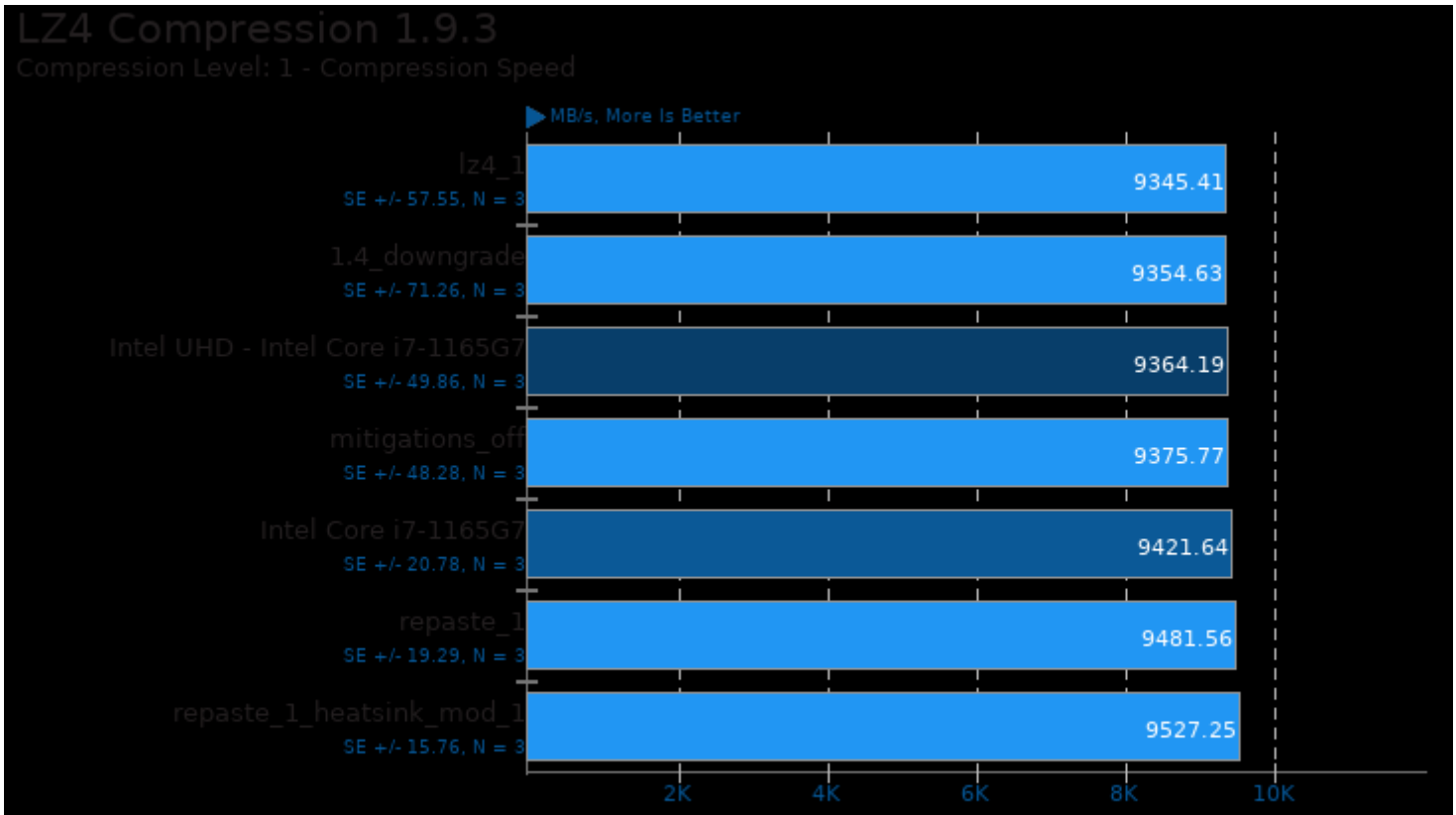
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

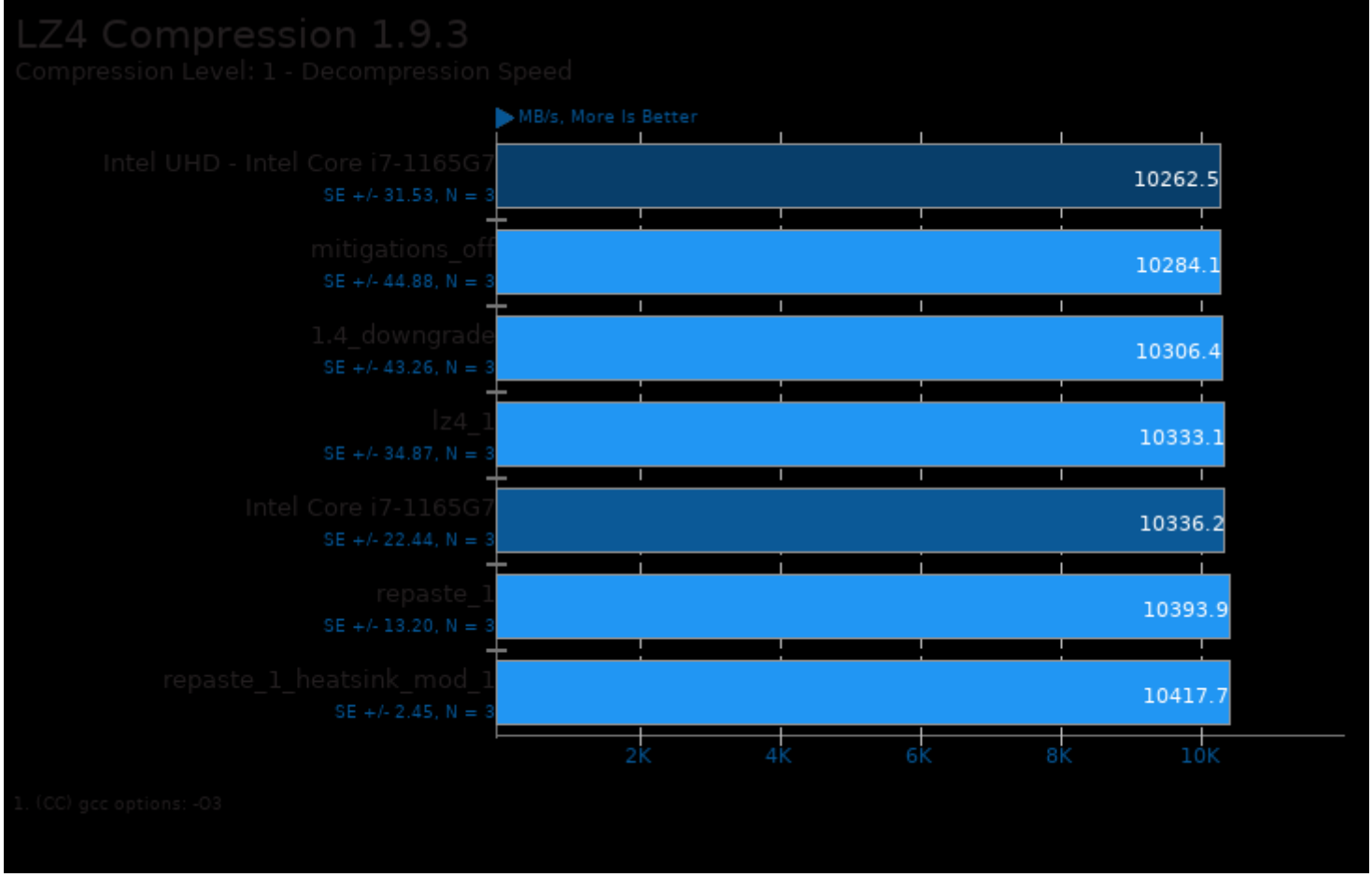
GLmark2 2020.04

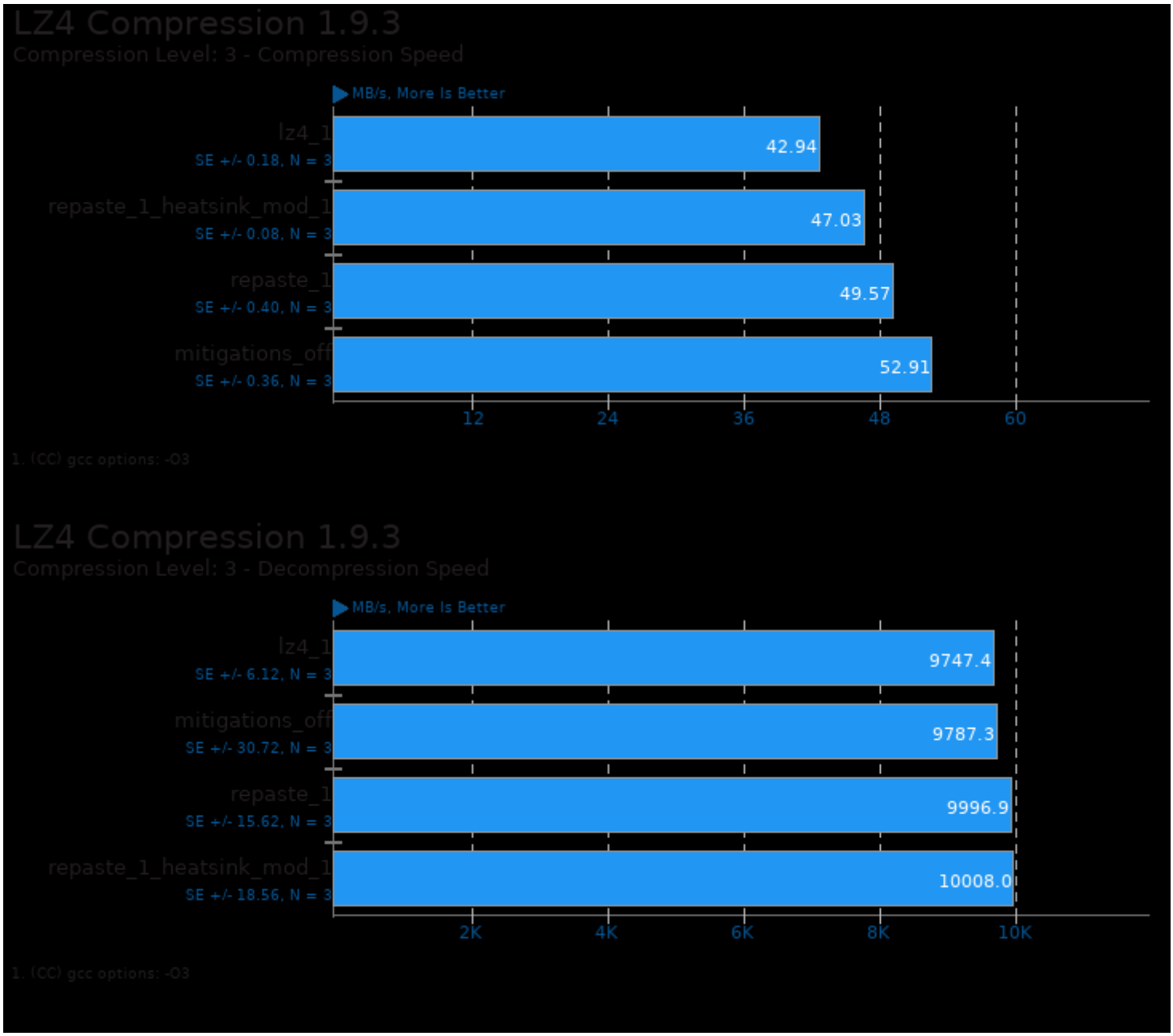
Resolution: 1920 x 1080

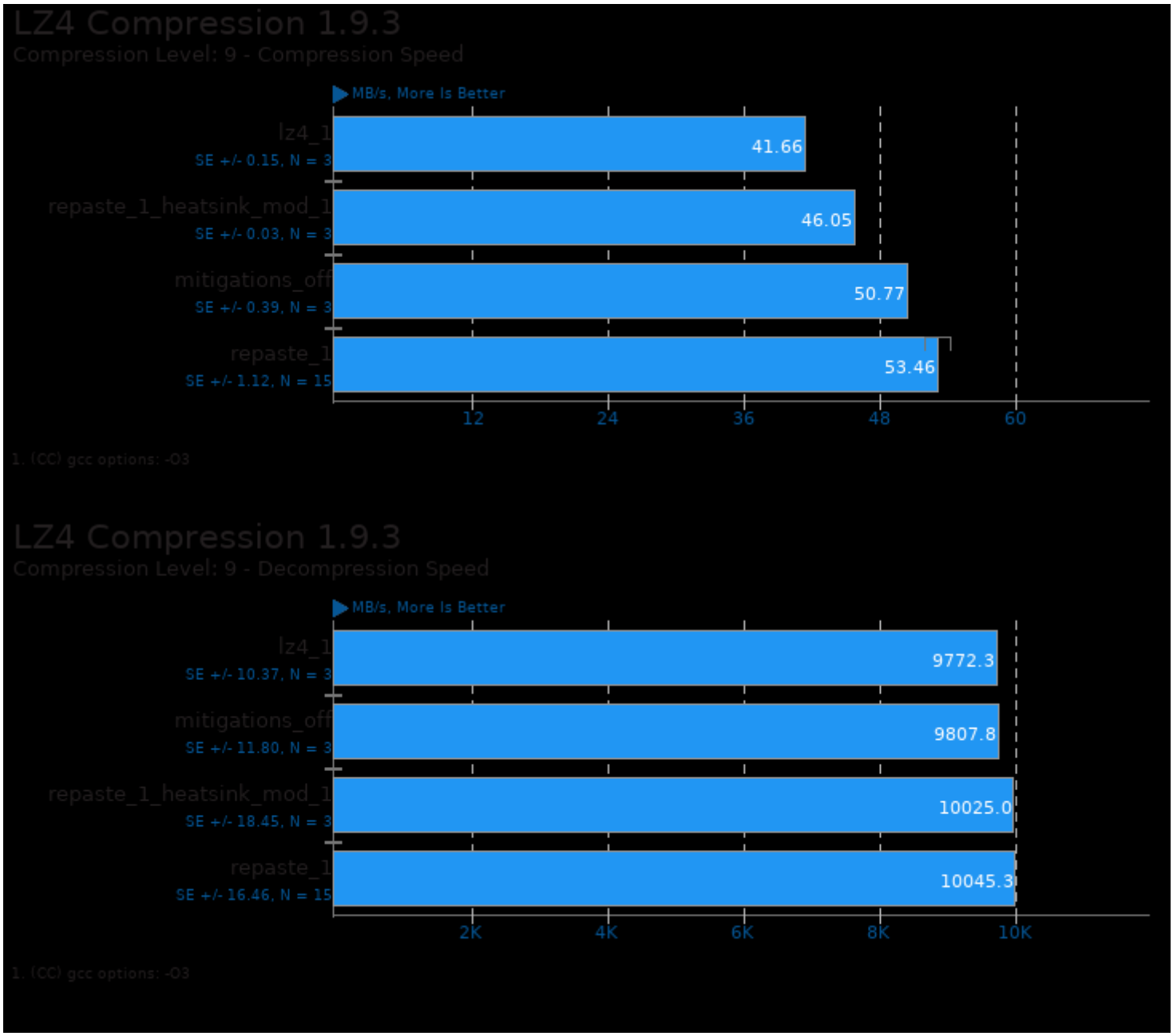



Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
intel-rapl_12w
SE +/- 1.83, N = 3
717.53
bios_1.51_1
SE +/- 35.67, N = 10
4586.79
bios_1.4
SE +/- 57.74, N = 3
4612.19
no_thermald kernel 5.11
SE +/- 50.74, N = 3
4746.44
new_heatsink_3_i8k
SE +/- 33.97, N = 12
4765.28
Intel Core i7-1165G7
SE +/- 49.60, N = 3
4774.42
mitigations_off
SE +/- 46.30, N = 3
4790.10
no_thermald default kernel
SE +/- 51.90, N = 3
4813.61
randon1
SE +/- 62.20, N = 3
4866.24
random
SE +/- 37.77, N = 3
4899.21
new_heatsink_2
SE +/- 47.90, N = 6
4929.27
intel-rapl60w
SE +/- 42.91, N = 3
5184.77
repaste_1
SE +/- 33.80, N = 3
5206.31
1100
2200
3300
4400
5500
1. (CC) gcc options: -O3 -mavx2


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

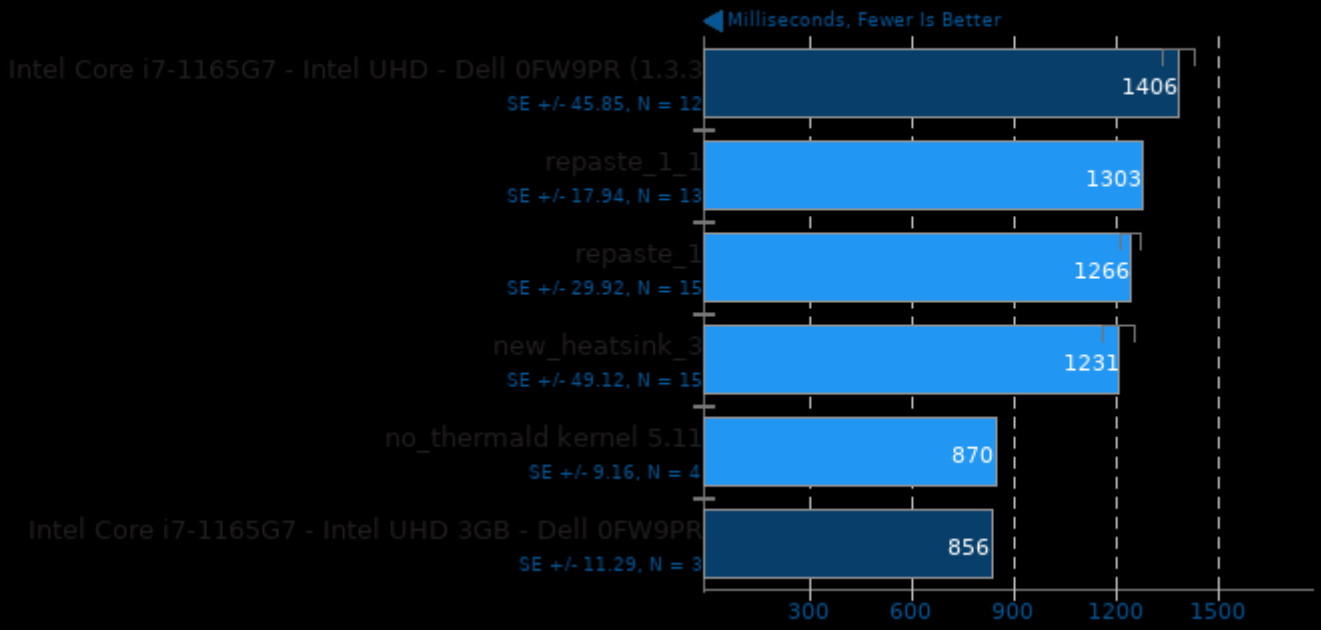

LZ4 Compression 1.9.3
Compression Level: 1 - Decompression Speed
MB/s, More Is Better
Intel UHD - Intel Core i7-1165G7
SE +/- 31.53, N = 3
10262.5
mitigations_off
SE +/- 44.88, N = 3
10284.1
1.4_downgrade
SE +/- 43.26, N = 3
10306.4
lz4_1
SE +/- 34.87, N = 3
10333.1
Intel Core i7-1165G7
SE +/- 22.44, N = 3
10336.2
repaste_1
SE +/- 13.20, N = 3
10393.9
repaste_1_heatsink_mod_1
SE +/- 2.45, N = 3
10417.7
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3


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_heatsink_mod_1
SE +/- 0.08, N = 3
47.03
repaste_1
SE +/- 0.40, N = 3
49.57
mitigations_off
SE +/- 0.36, N = 3
52.91
12
24
36
48
60
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
mitigations_off
SE +/- 30.72, N = 3
9787.3
repaste_1
SE +/- 15.62, N = 3
9996.9
repaste_1_heatsink_mod_1
SE +/- 18.56, N = 3
10008.0
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3


LZ4 Compression 1.9.3
Compression Level: 9 - Compression Speed
MB/s, More Is Better
lz4_1
SE +/- 0.15, N = 3
41.66
repaste_1_heatsink_mod_1
SE +/- 0.03, N = 3
46.05
mitigations_off
SE +/- 0.39, N = 3
50.77
repaste_1
SE +/- 1.12, N = 15
53.46
12
24
36
48
60
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 9 - Decompression Speed
MB/s, More Is Better
lz4_1
SE +/- 10.37, N = 3
9772.3
mitigations_off
SE +/- 11.80, N = 3
9807.8
repaste_1_heatsink_mod_1
SE +/- 18.45, N = 3
10025.0
repaste_1
SE +/- 16.46, N = 15
10045.3
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3

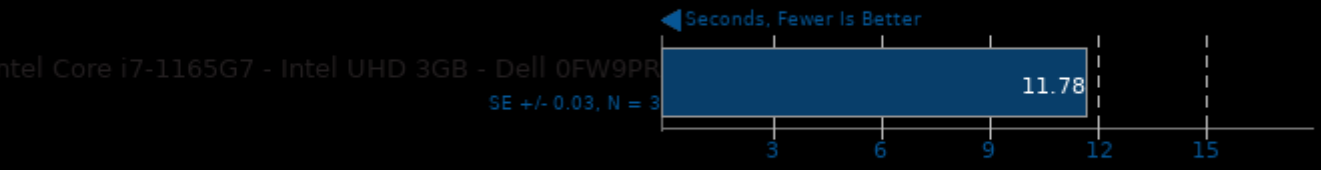
PyBench 2018-02-16

Total For Average Test Times



SQLite 3.30.1

Threads / Copies: 1



1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

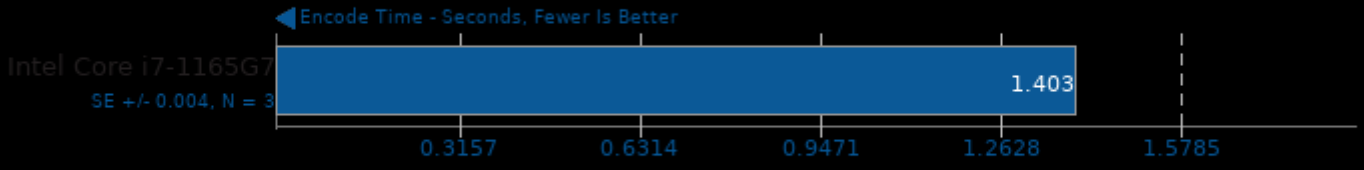
Tesseract 2014-05-12

Resolution: 1920 x 1200



WebP Image Encode 1.1

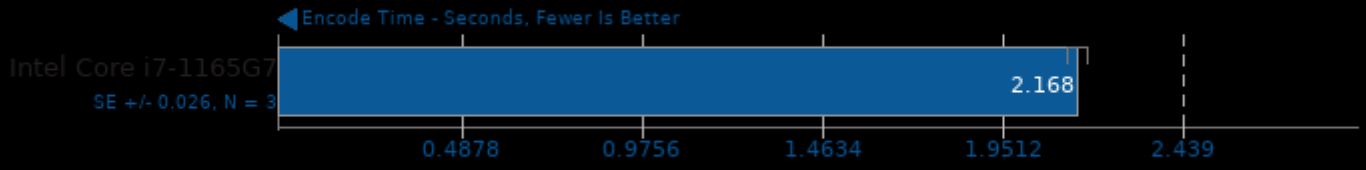
Encode Settings: Default



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

WebP Image Encode 1.1

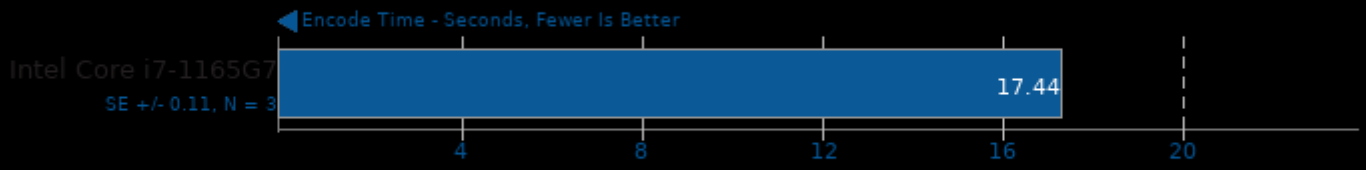
Encode Settings: Quality 100



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

WebP Image Encode 1.1

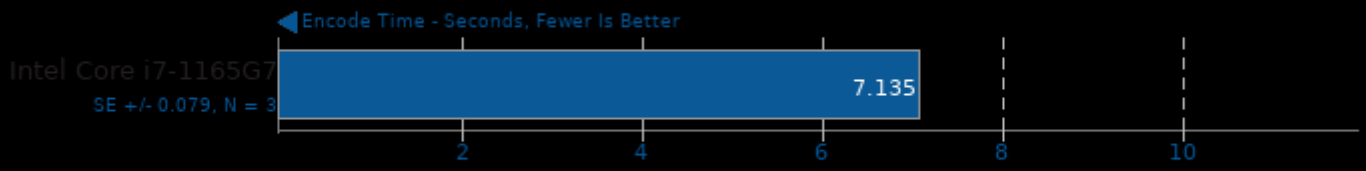
Encode Settings: Quality 100, Lossless



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

WebP Image Encode 1.1

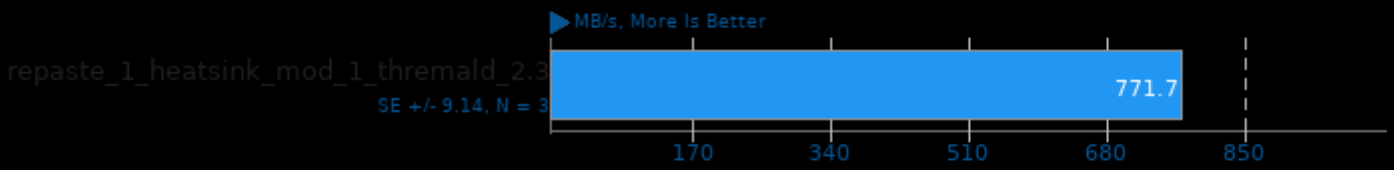
Encode Settings: Quality 100, Highest Compression



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

Zstd Compression 1.4.9

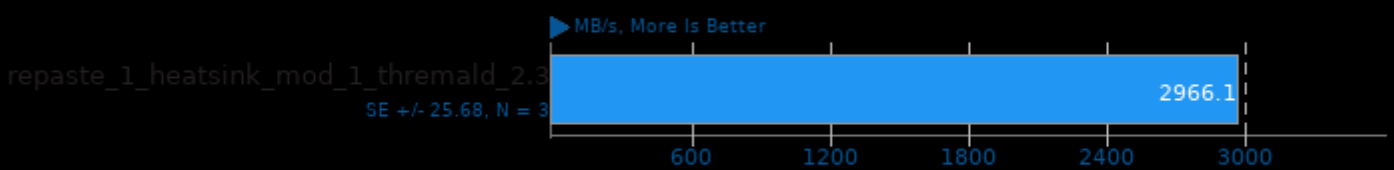
Compression Level: 3 - Compression Speed



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

Zstd Compression 1.4.9

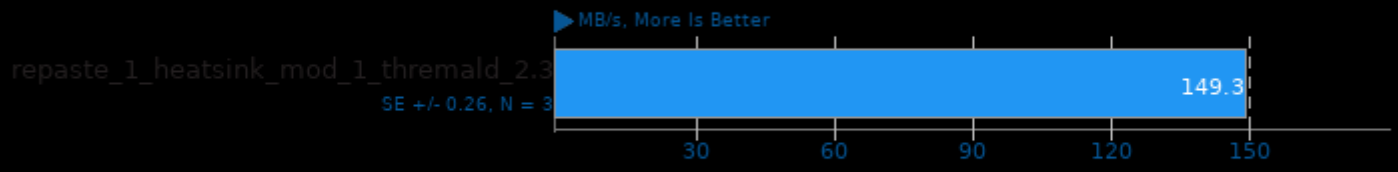
Compression Level: 3 - Decompression Speed



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

Zstd Compression 1.4.9

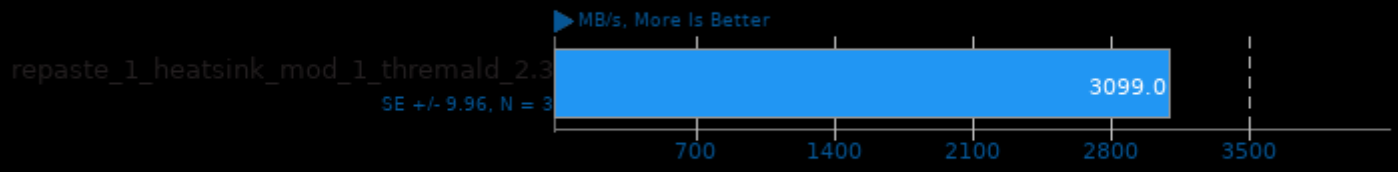
Compression Level: 8 - Compression Speed



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

Zstd Compression 1.4.9

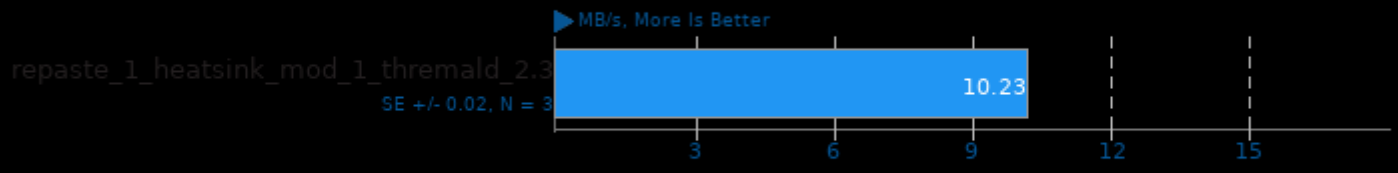
Compression Level: 8 - Decompression Speed



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

Zstd Compression 1.4.9

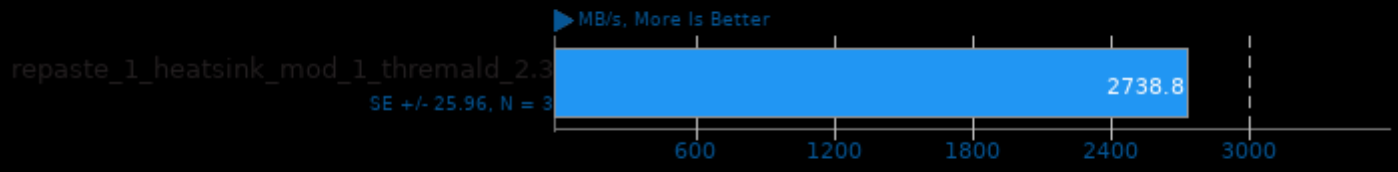
Compression Level: 19 - Compression Speed



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

Zstd Compression 1.4.9

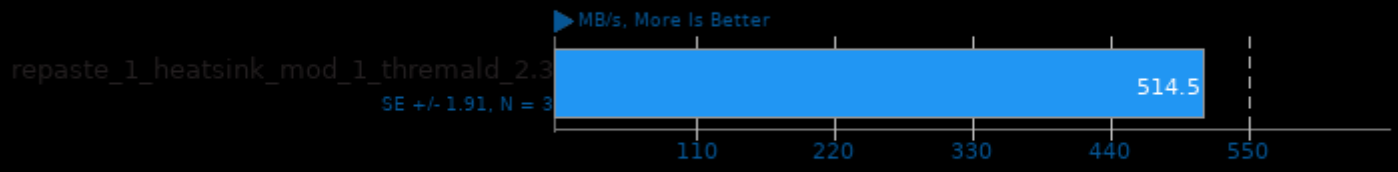
Compression Level: 19 - Decompression Speed



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

Zstd Compression 1.4.9

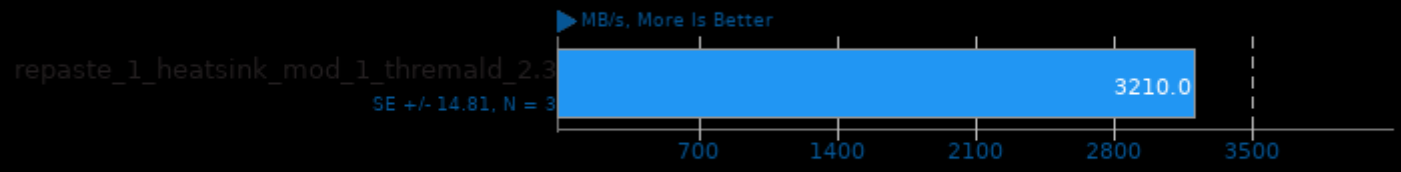
Compression Level: 3, Long Mode - Compression Speed



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

Zstd Compression 1.4.9

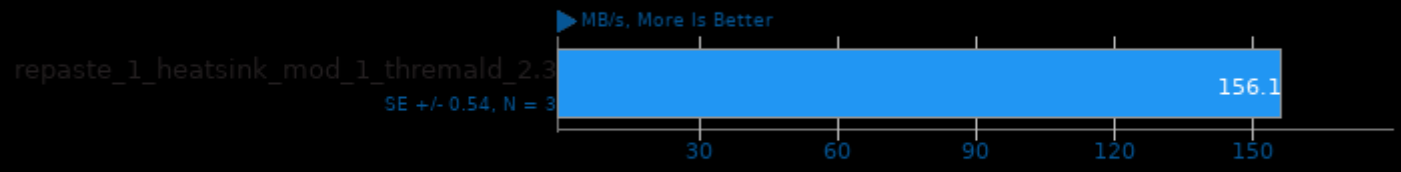
Compression Level: 3, Long Mode - Decompression Speed



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

Zstd Compression 1.4.9

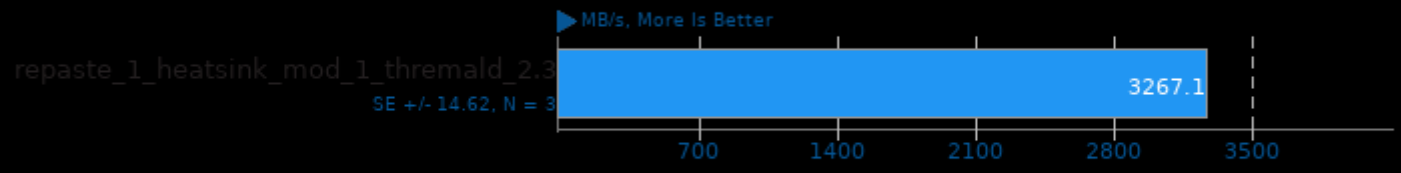
Compression Level: 8, Long Mode - Compression Speed



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

Zstd Compression 1.4.9

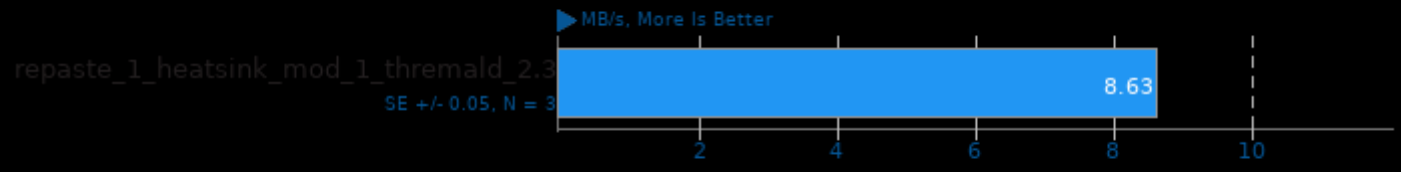
Compression Level: 8, Long Mode - Decompression Speed



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

Zstd Compression 1.4.9

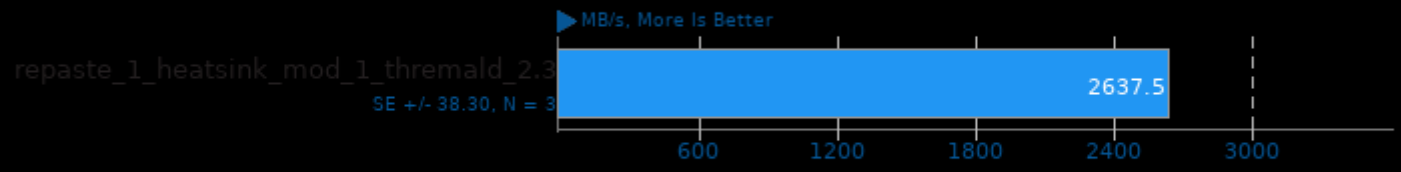
Compression Level: 19, Long Mode - Compression Speed



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

Zstd Compression 1.4.9

Compression Level: 19, Long Mode - Decompression Speed



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

dell-inspiron-5301

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