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# 6Y75_cooling

Intel Core m7-6Y75 testing with a TOSHIBA PORTEGE Z20t-C (Version 5.80 BIOS) and Intel HD 515 3GB on Ubuntu 19.10 via the Phoronix Test Suite.

6y75: Intel Core m7-6Y75 testing with a TOSHIBA PORTEGE Z20t-C (Version 5.80 BIOS) and Intel HD 515 on Ubuntu 19.10 via the Phoronix Test Suite.

**Automated Executive Summary**

*6Y75 CPU benchmark with case as passive heatsink had the most wins, coming in first place for 93% of the tests.*

*Based on the geometric mean of all complete results, the fastest (6Y75 CPU benchmark with case as passive heatsink) was 1.116x the speed of the slowest (Intel m7 6Y75).*

## Test Systems:

### Intel m7 6Y75

# 6Y75_cooling

Processor: Intel Core m7-6Y75 @ 3.10GHz (2 Cores / 4 Threads), Motherboard: TOSHIBA PORTEGE Z20t-C (Version 5.80 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8192MB, Disk: 256GB TOSHIBA THNSNK25, Graphics: Intel HD 515 (1000MHz), Audio: Conexant CX20753/4, Network: Intel 8260

OS: Ubuntu 19.10, Kernel: 5.3.0-29-generic (x86_64), Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, Compiler: GCC 9.2.1 20191008, File-System: ext4, Screen Resolution: 1920x1080

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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-offload-targets=nvptx-none,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: 0xd6
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

## 6Y75 CPU benchmark with case as passive heatsink

Processor: Intel Core m7-6Y75 @ 3.10GHz (2 Cores / 4 Threads), Motherboard: TOSHIBA PORTEGE Z20t-C (Version 5.80 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8192MB, Disk: 256GB TOSHIBA THNSNK25, Graphics: Intel HD 515 3GB (1000MHz), Audio: Conexant CX20753/4, Network: Intel 8260

OS: Ubuntu 19.10, Kernel: 5.3.0-29-generic (x86_64), Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 4.5 Mesa 19.2.1, Compiler: GCC 9.2.1 20191008, File-System: ext4, Screen Resolution: 1920x1080

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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-offload-targets=nvptx-none,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: 0xd6
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

| | Intel m7 6Y75 | 6Y75 CPU benchmark with case as passive |
|---|---|---|
| **OpenSSL - R.4.b.P (Signs/sec)** | **274.9** | **340.5** |
| **Normalized** | 80.73% | 100% |
| **Standard Deviation** | 2.6% | 1.5% |
| **Sysbench - CPU (Events/sec)** | **2205** | **2712** |
| **Normalized** | 81.29% | 100% |
| **Standard Deviation** | 5.4% | 0.7% |
| **POV-Ray - Trace Time (sec)** | **487.625** | **418.348** |
| **Normalized** | 85.79% | 100% |
| **Standard Deviation** | 0.3% | 0.5% |
| **Radiance Benchmark - SMP Parallel (sec)** | **904.877** | **777.524** |
| **Normalized** | 85.93% | 100% |
| **Radiance Benchmark - Serial (sec)** | **1304** | **1159** |
| **Normalized** | 88.85% | 100% |

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| | | |
|---|---|---|
| **x264 - H.2.V.E (FPS)** | **10.18** | **11.36** |
| **Normalized** | 89.61% | 100% |
| **Standard Deviation** | 0.8% | 1.7% |
| **x265 - H.2.1.V.E (FPS)** | **5.68** | **6.28** |
| **Normalized** | 90.45% | 100% |
| **Standard Deviation** | 0.9% | 0.8% |
| **NAMD - ATPase Simulation - 327,506 Atoms (days/ns)** | **17.01850** | **15.44023** |
| **Normalized** | 90.73% | 100% |
| **Standard Deviation** | 1.4% | 0.1% |
| **Stockfish - Total Time (Nodes/s)** | **2541208** | **2797880** |
| **Normalized** | 90.83% | 100% |
| **Standard Deviation** | 0.2% | 1.1% |
| **7-Zip Compression - C.S.T (MIPS)** | **6468** | **7082** |
| **Normalized** | 91.33% | 100% |
| **Standard Deviation** | 2.2% | 1% |
| **Rodinia - OpenMP LavaMD (sec)** | **286.769** | **261.915** |
| **Normalized** | 91.33% | 100% |
| **Standard Deviation** | 2.8% | 0.8% |
| **asmFish - 1.H.M.2.D (Nodes/s)** | **2857661** | **3119428** |
| **Normalized** | 91.61% | 100% |
| **Standard Deviation** | 1.2% | 1% |
| **Rodinia - OpenMP CFD Solver (sec)** | **159.200** | **146.399** |
| **Normalized** | 91.96% | 100% |
| **Standard Deviation** | 2.4% | 0.3% |
| **Timed GCC Compilation - Time To Compile (sec)** | **5172** | **4950** |
| **Normalized** | 95.69% | 100% |
| **ctx_clock - C.S.T (Clocks)** | **696** | **697** |
| **Normalized** | 100% | 99.86% |
| **Standard Deviation** | 0.2% | |

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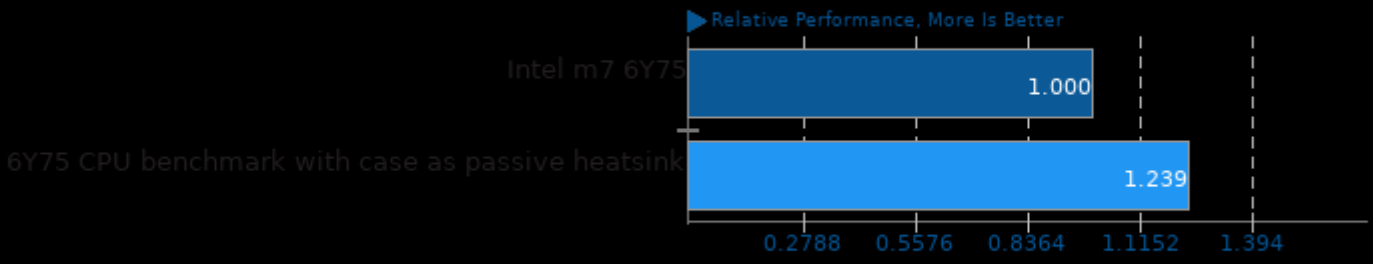
## OpenSSL 1.1.1

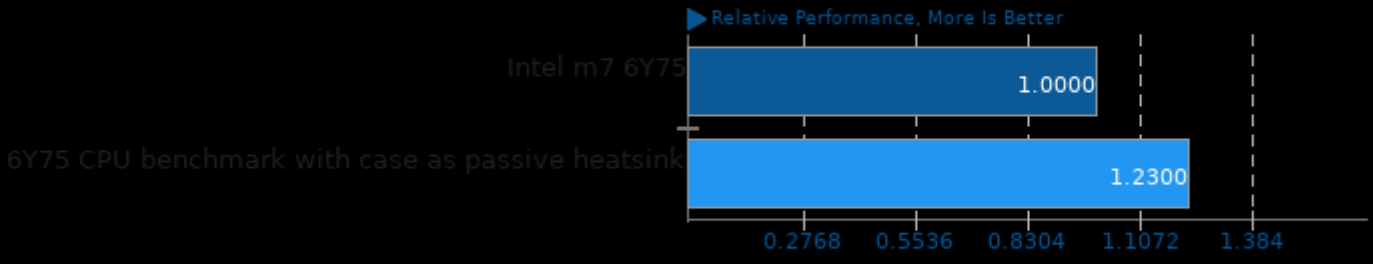
RSA 4096-bit Performance




1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

## Sysbench 2018-07-28

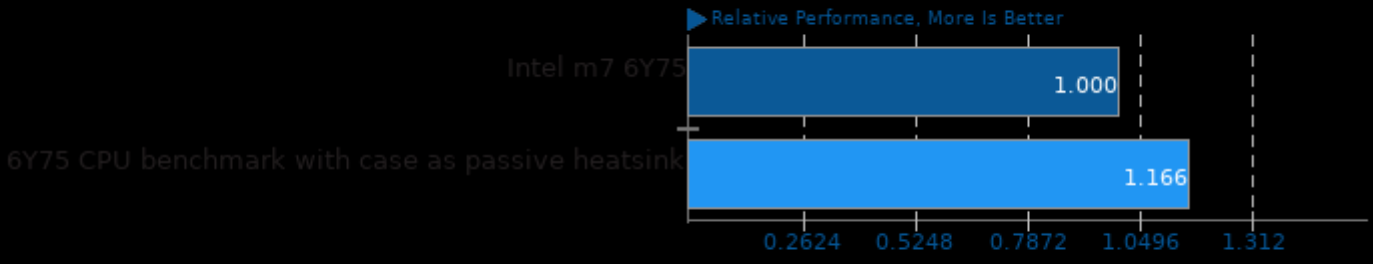
Test: CPU




1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=core2 -rdynamic -ldl -laio -lm

## POV-Ray 3.7.0.7

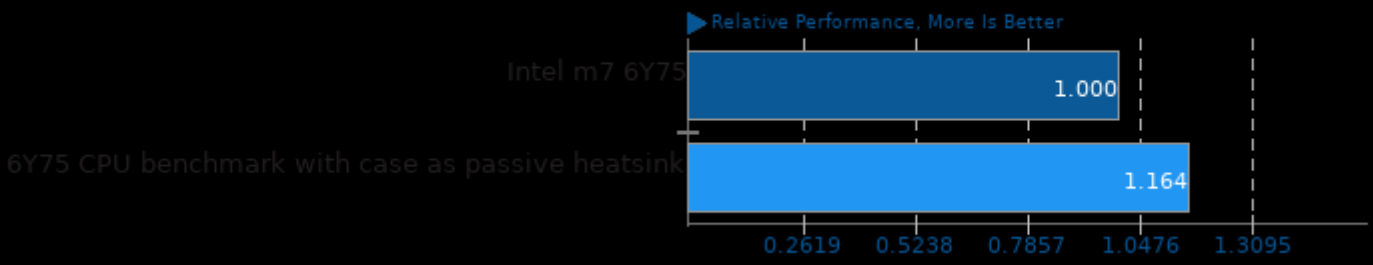
Trace Time




1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lSM -lICE -lX11 -ltiff -ljpeg -lpng -lz -lrt -lm -lboost_thread -lboost_system

## Radiance Benchmark 5.0

Test: SMP Parallel



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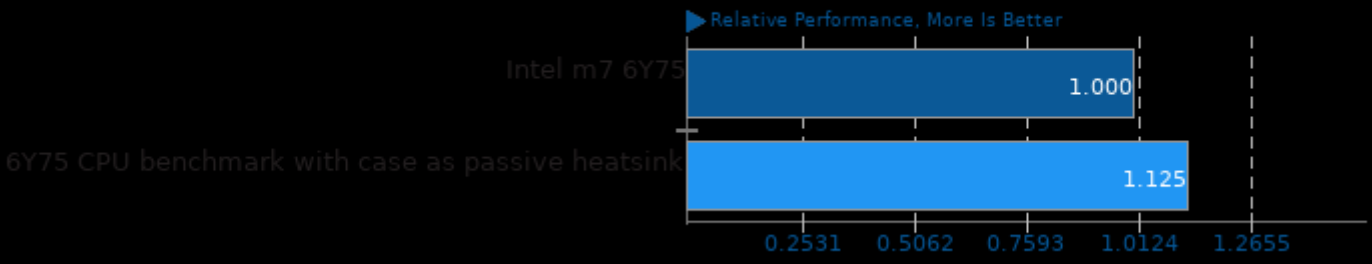
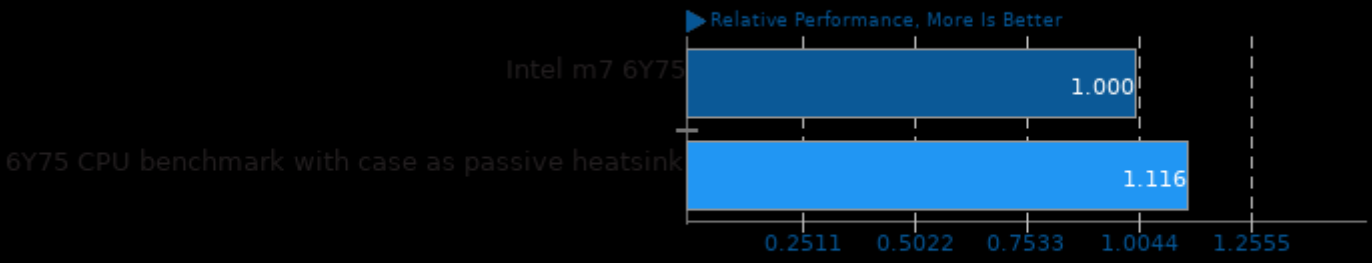
## Radiance Benchmark 5.0

Test: Serial




## x264 2018-09-25

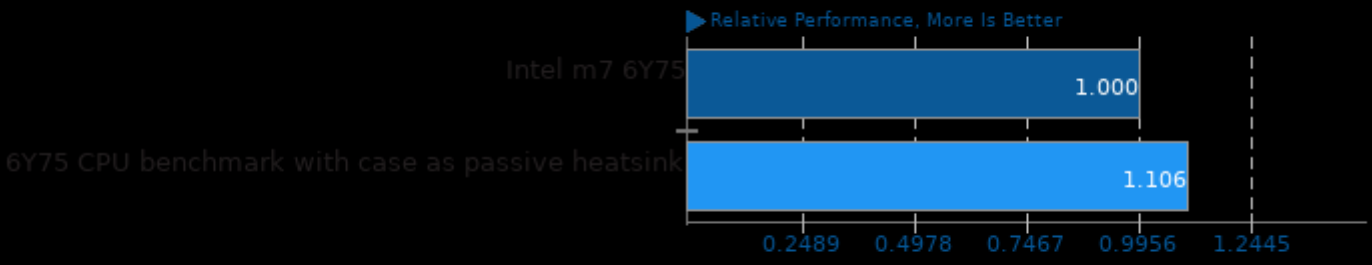
H.264 Video Encoding




1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectori

## x265 3.0

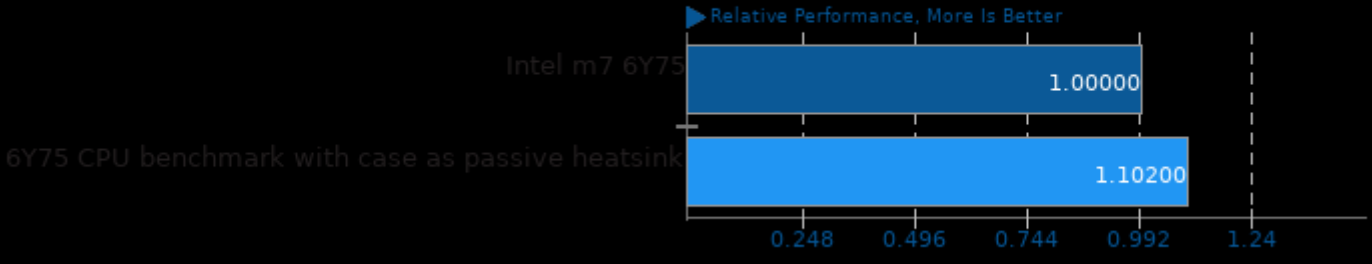
H.265 1080p Video Encoding




1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

## NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



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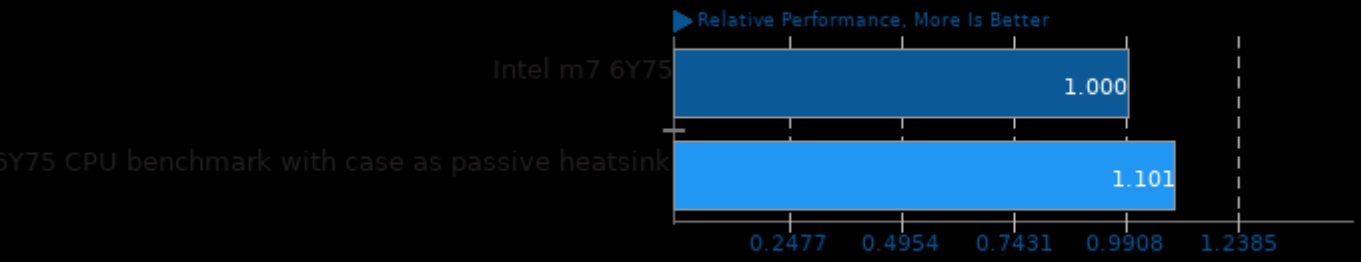
## Stockfish 9

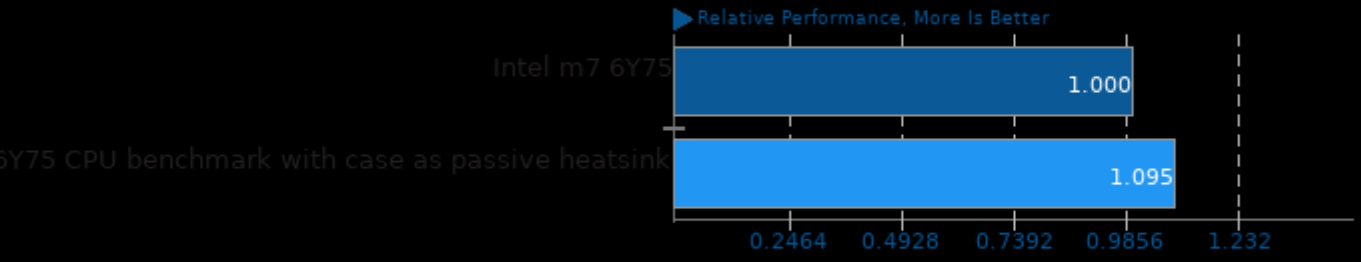
Total Time




1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -flto

## 7-Zip Compression 16.02

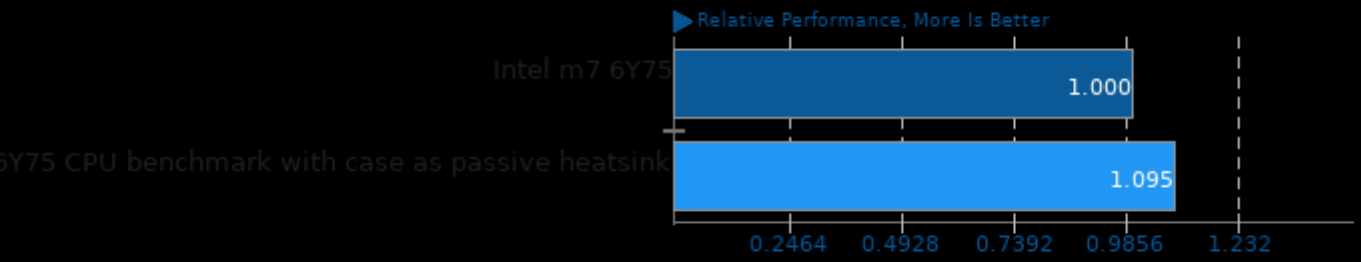
Compress Speed Test




1. (CXX) g++ options: -pipe -lpthread

## Rodinia 2.4

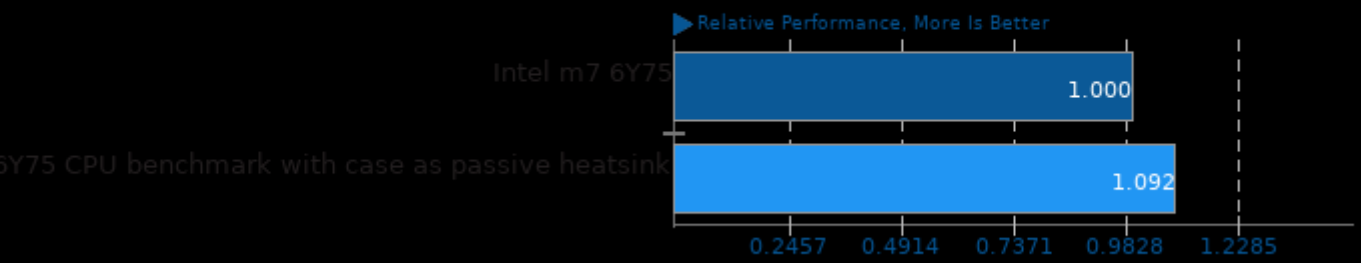
Test: OpenMP LavaMD




1. (CXX) g++ options: -O2 -lOpenCL

## asmFish 2018-07-23

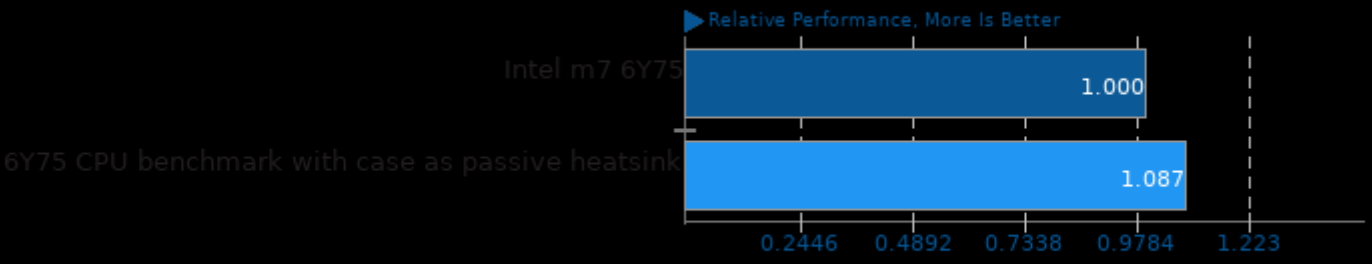
1024 Hash Memory, 26 Depth



# 6Y75_cooling

## Rodinia 2.4

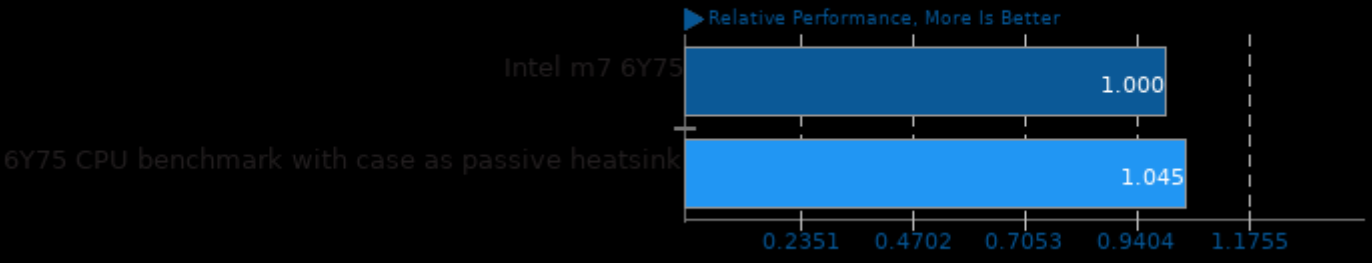
Test: OpenMP CFD Solver




1. (CXX) g++ options: -O2 -lOpenCL

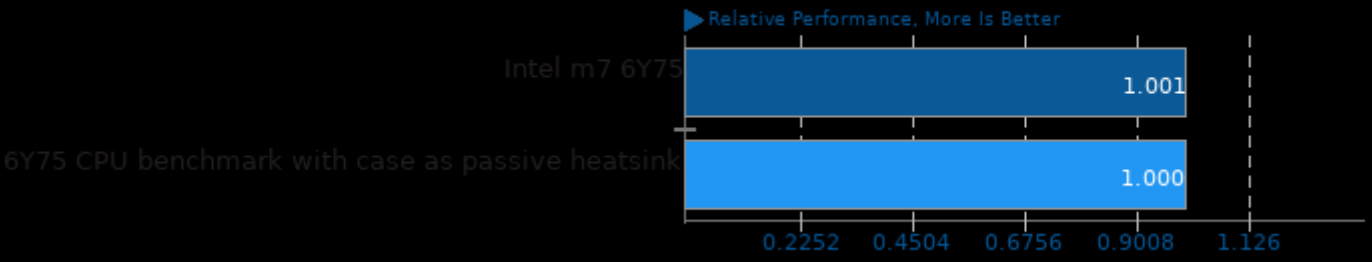
## Timed GCC Compilation 8.2

Time To Compile



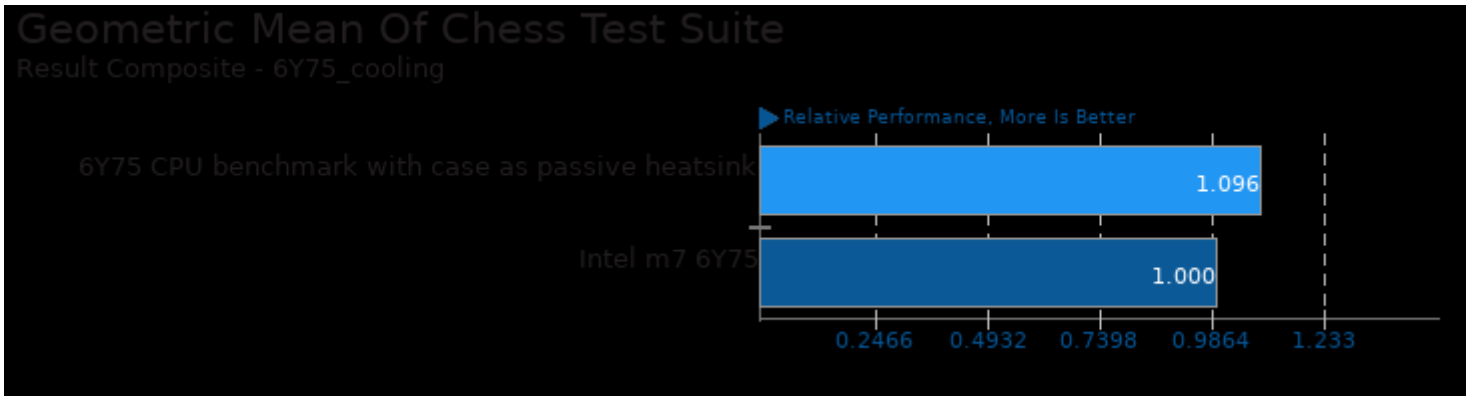

## ctx_clock

Context Switch Time

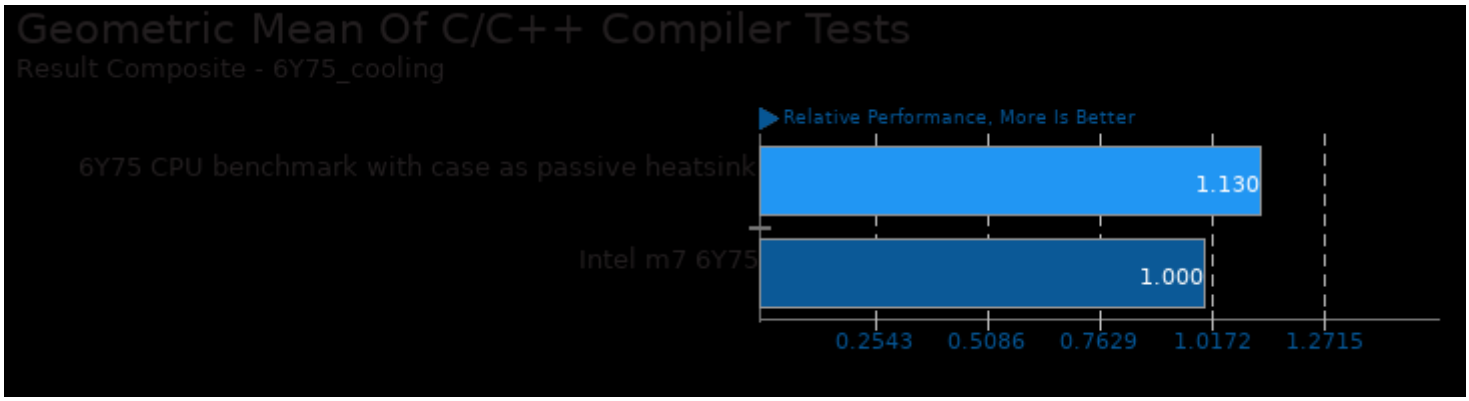


# 6Y75_cooling

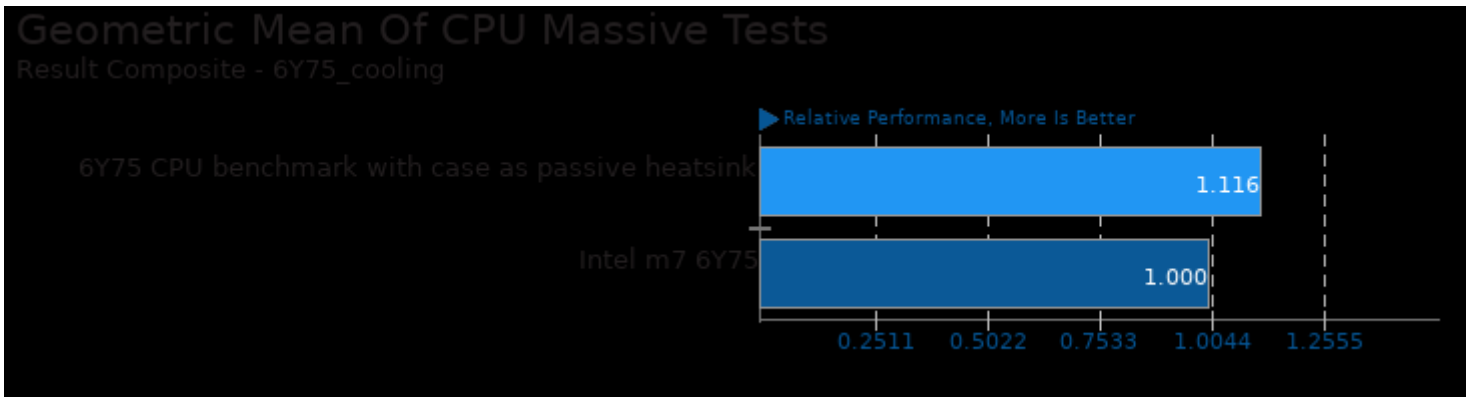
These geometric means are based upon test groupings / test suites for this result file.




Geometric mean based upon tests: pts/stockfish and pts/asmfish

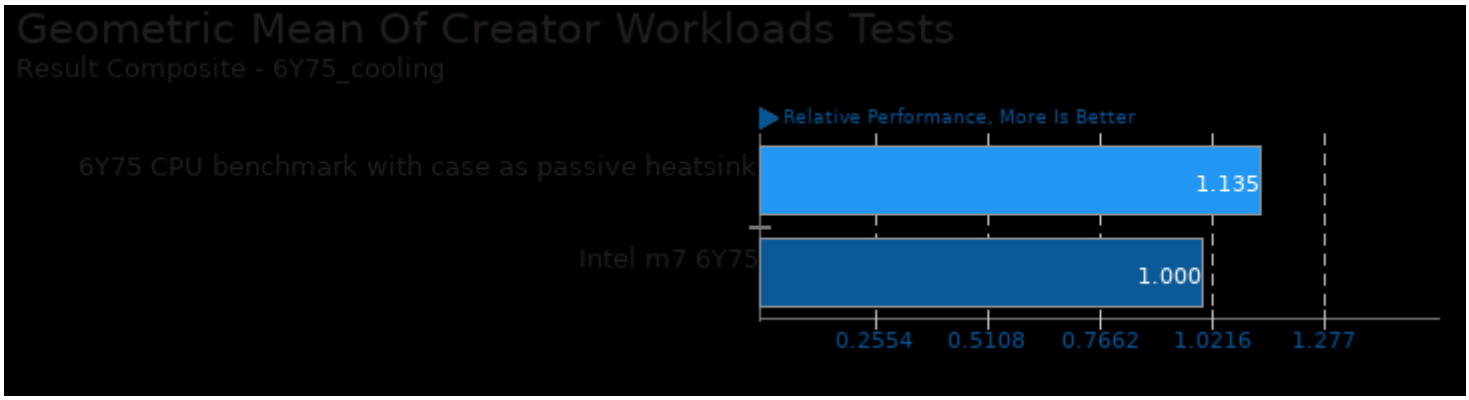



Geometric mean based upon tests: pts/stockfish, pts/compress-7zip, pts/x264, pts/x265 and pts/openssl

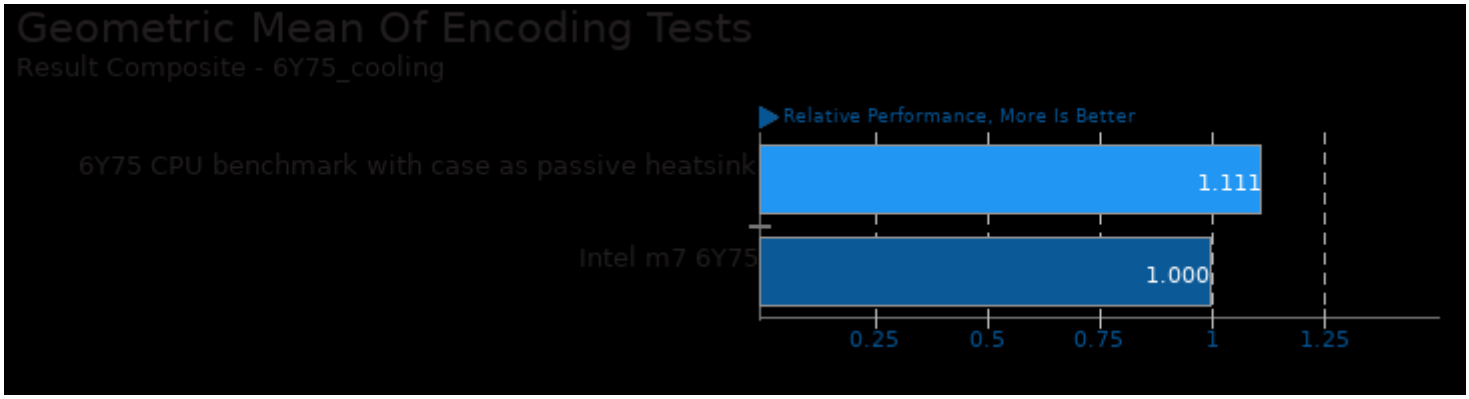



Geometric mean based upon tests: pts/asmfish, pts/build-gcc, pts/compress-7zip, pts/ctx-clock, pts/x264, pts/x265, pts/openssl, pts/namd, pts/povray, pts/radiance, pts/rodinia, pts/stockfish and pts/sysbench

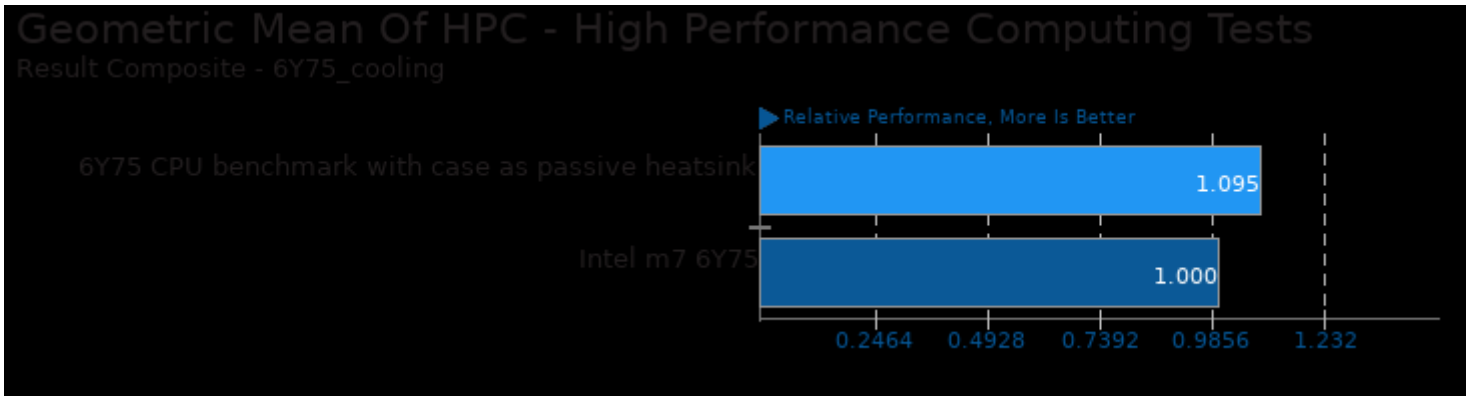
# 6Y75_cooling



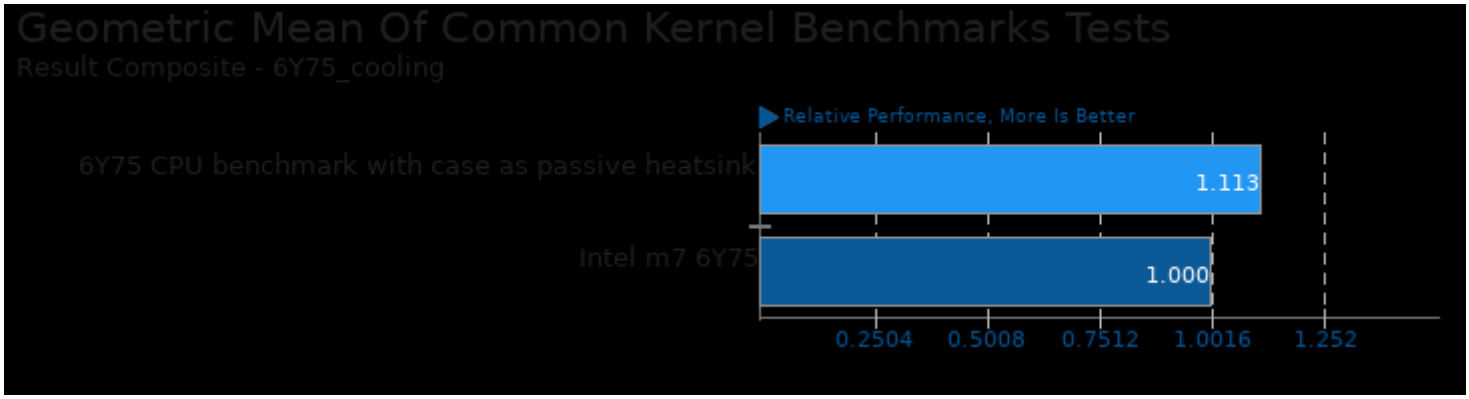

Geometric mean based upon tests: pts/povray, pts/radiance, pts/x264 and pts/x265




Geometric mean based upon tests: pts/x264 and pts/x265

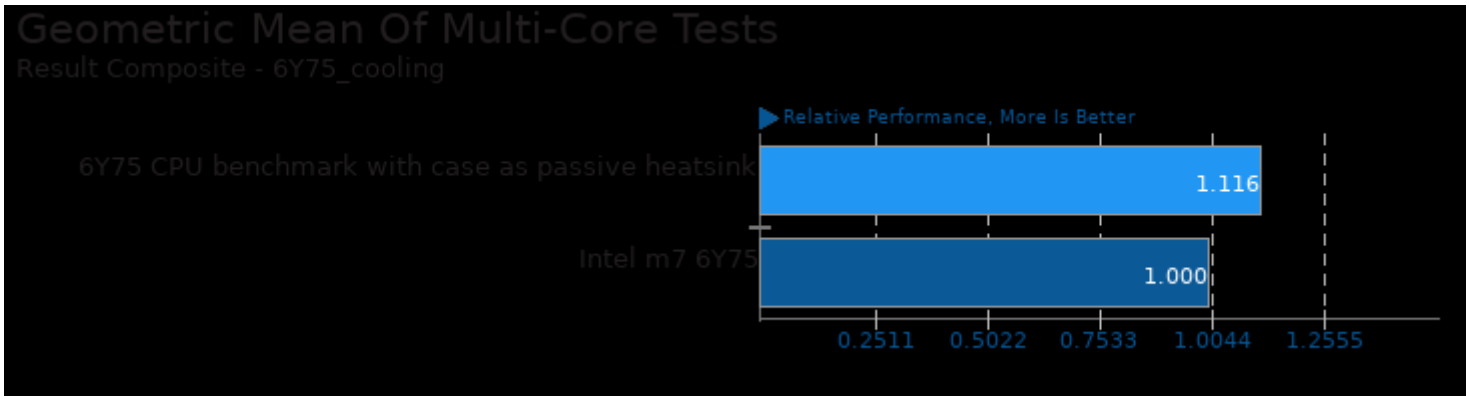



Geometric mean based upon tests: pts/rodinia and pts/namd

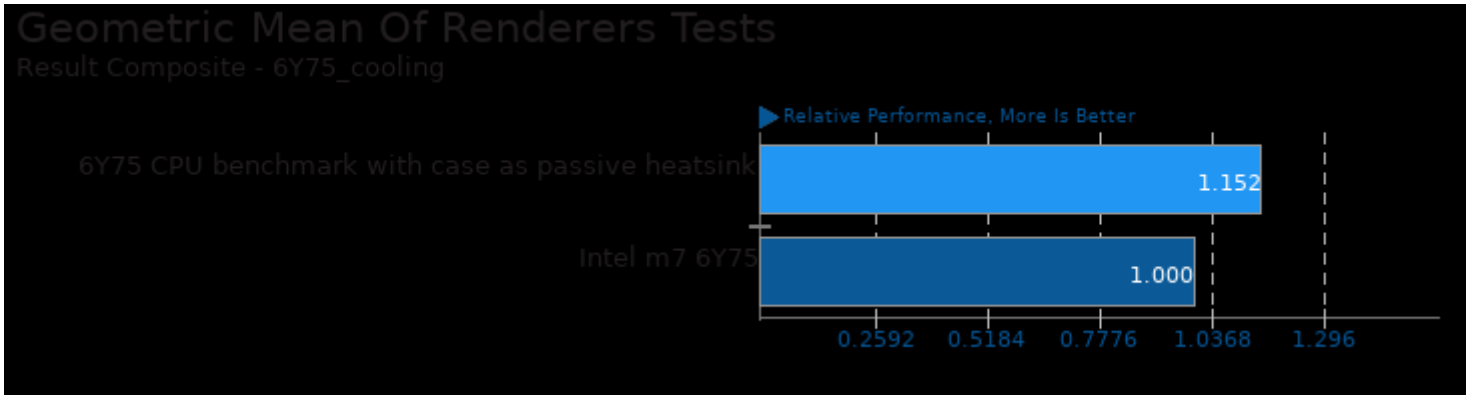



Geometric mean based upon tests: pts/openssl and pts/ctx-clock

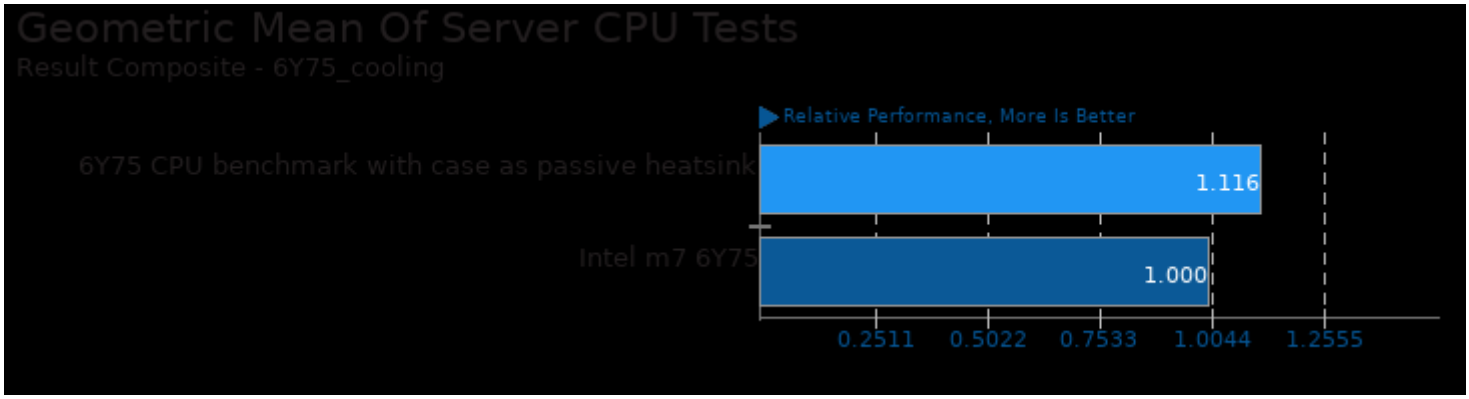
# 6Y75_cooling




Geometric mean based upon tests: pts/sysbench, pts/povray, pts/stockfish, pts/x264, pts/x265, pts/rodinia, pts/namd, pts/asmfish, pts/compress-7zip, pts/build-gcc and pts/radiance

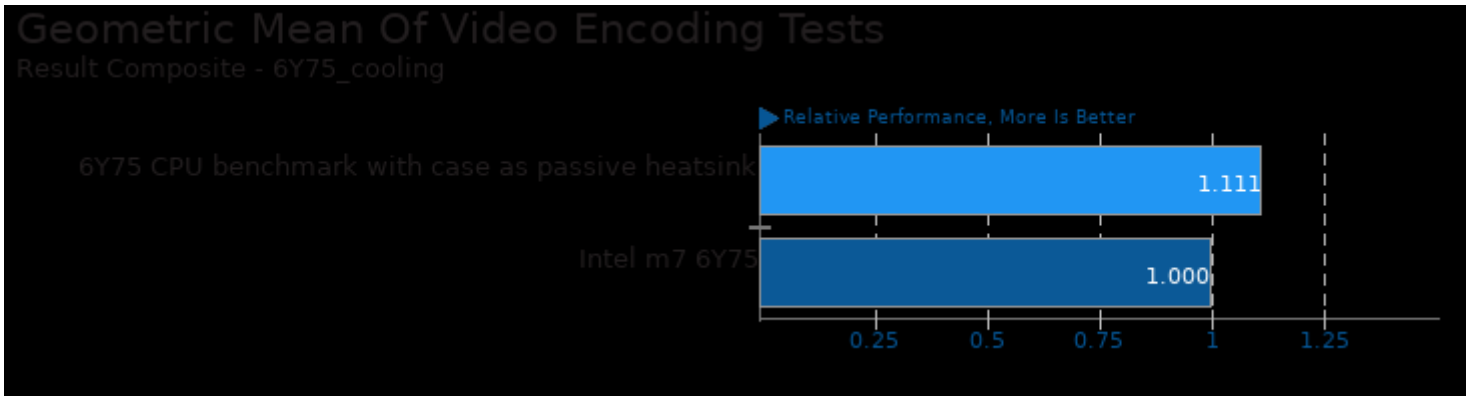



Geometric mean based upon tests: pts/povray and pts/radiance

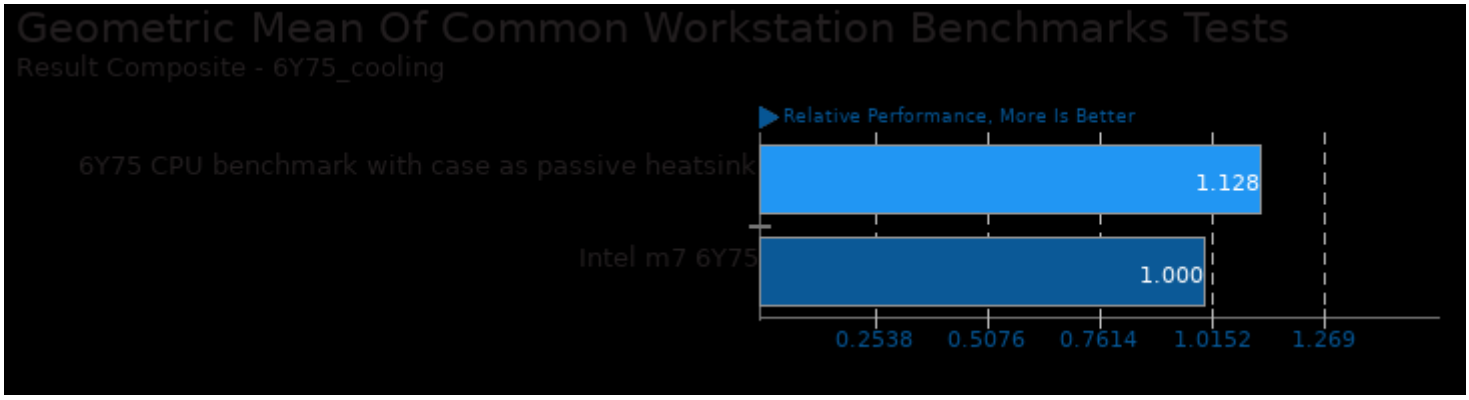



Geometric mean based upon tests: pts/rodinia, pts/namd, pts/x264, pts/x265, pts/compress-7zip, pts/stockfish, pts/asmfish, pts/build-gcc, pts/povray, pts/radiance, pts/openssl, pts/ctx-clock and pts/sysbench

# 6Y75_cooling




Geometric mean based upon tests: pts/x264 and pts/x265




Geometric mean based upon tests: pts/rodinia, pts/x265 and pts/sysbench

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 19:40.*