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# heavy

AMD Ryzen 5 3400G testing with a ASUS PRIME B450M-A (2006 BIOS) and ASUS AMD Picasso 2GB on Ubuntu 19.10 via the Phoronix Test Suite.

## Test Systems:

### 1

### 2

### 3

Processor: AMD Ryzen 5 3400G @ 3.70GHz (4 Cores / 8 Threads), Motherboard: ASUS PRIME B450M-A (2006 BIOS), Chipset: AMD Raven/Raven2, Memory: 2 x 8192 MB DDR4-3000MT/s CRUCIAL, Disk: 29GB INTEL MEMPEK1W032GA + 4 x 6001GB Seagate ST6000VN0033-2EE, Graphics: ASUS AMD Picasso 2GB (1400/1500MHz), Audio: AMD Raven/Raven2/Fenghuang, Monitor: SyncMaster, Network: Realtek RTL8111/8168/8411

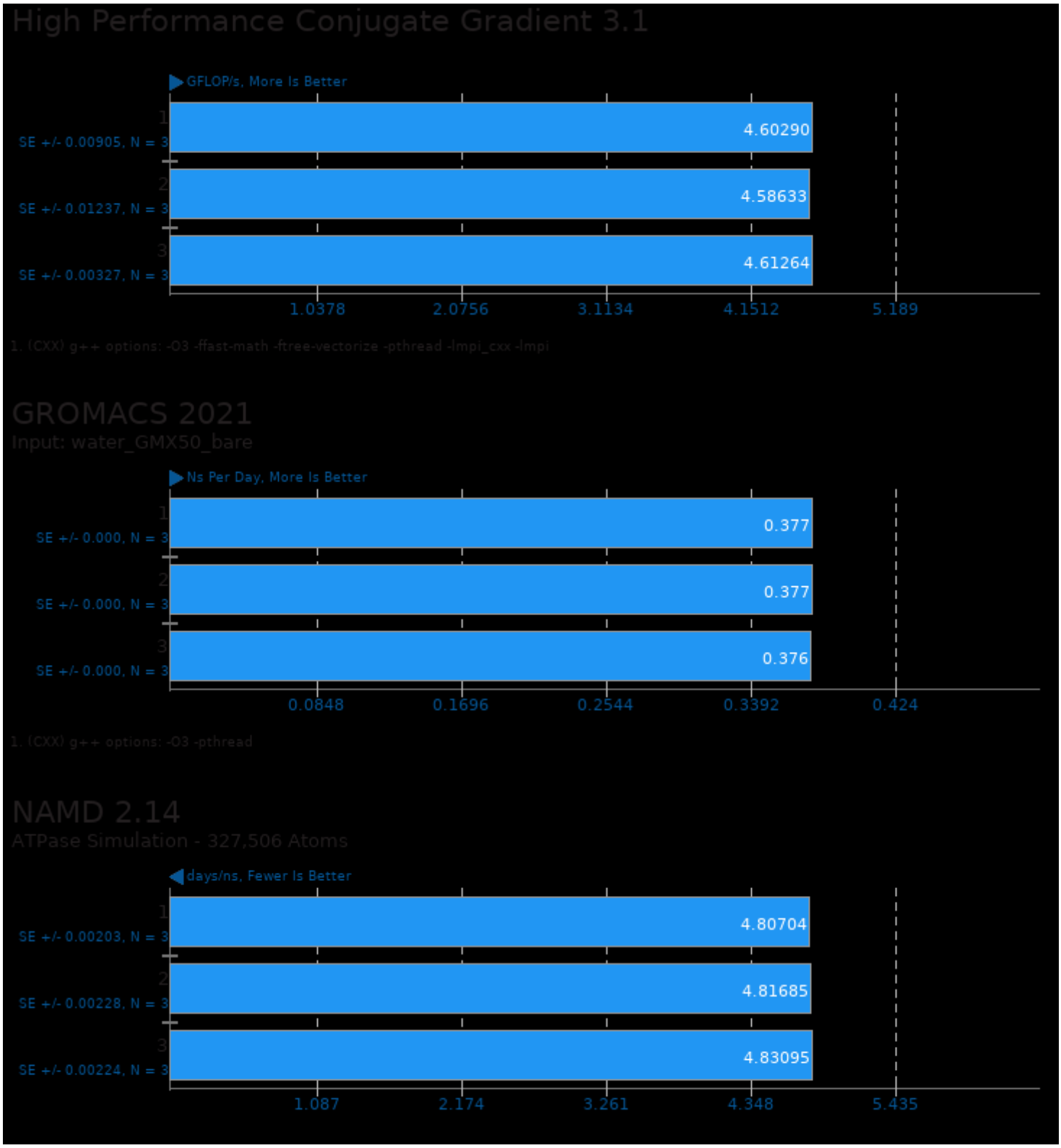
OS: Ubuntu 19.10, Kernel: 5.3.0-46-generic (x86_64), Desktop: GNOME Shell 3.34.1, Display Server: X Server, Display

# heavy

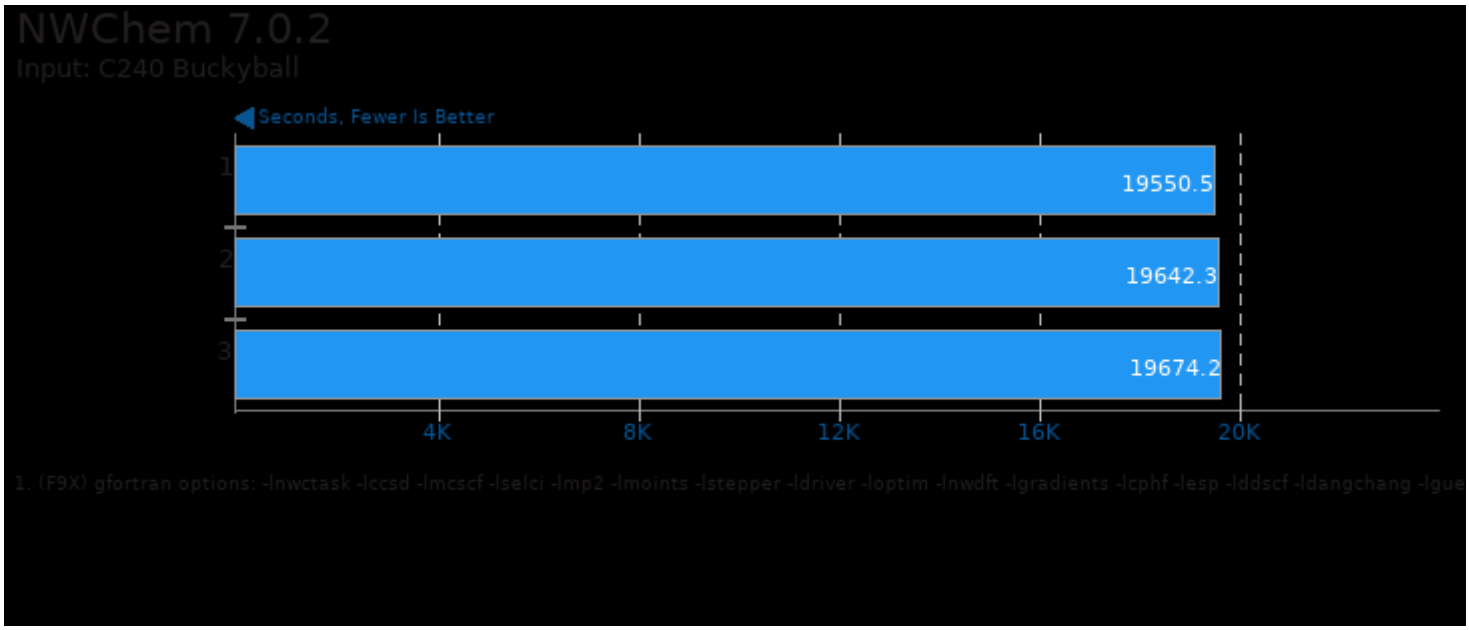
Driver: asus, Vulkan: 1.1.107, Compiler: GCC 9.2.1 20191008, File-System: ext4, Screen Resolution: 1280x800

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,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: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8108109
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 Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + tsx_async_abort: Not affected

| | 1 | 2 | 3 |
|---|---|---|---|
| **High Performance Conjugate Gradient (GFLOP/s)** | 4.60290 | **4.58633** | **4.61264** |
| **Normalized** | 99.79% | 99.43% | 100% |
| **Standard Deviation** | 0.3% | 0.5% | 0.1% |
| **GROMACS - water_GMX50_bare (Ns/Day)** | **0.377** | **0.377** | **0.376** |
| **Normalized** | 100% | 100% | 99.73% |
| **Standard Deviation** | 0% | 0.2% | 0.2% |
| **NAMD - ATPase Simulation - 327,506 Atoms (days/ns)** | **4.80704** | 4.81685 | **4.83095** |
| **Normalized** | 100% | 99.8% | 99.51% |
| **Standard Deviation** | 0.1% | 0.1% | 0.1% |
| **NWChem - C240 Buckyball (sec)** | **19551** | 19642 | **19674** |
| **Normalized** | 100% | 99.53% | 99.37% |


High Performance Conjugate Gradient 3.1
GFLOP/s, More Is Better
1
SE +/- 0.00905, N = 3
4.60290
2
SE +/- 0.01237, N = 3
4.58633
3
SE +/- 0.00327, N = 3
4.61264
1.0378
2.0756
3.1134
4.1512
5.189
1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -pthread -lmpi_cxx -lmpi
GROMACS 2021
Input: water_GMX50_bare
Ns Per Day, More Is Better
1
SE +/- 0.000, N = 3
0.377
2
SE +/- 0.000, N = 3
0.377
3
SE +/- 0.000, N = 3
0.376
0.0848
0.1696
0.2544
0.3392
0.424
1. (CXX) g++ options: -O3 -pthread
NAMD 2.14
ATPase Simulation - 327,506 Atoms
days/ns, Fewer Is Better
1
SE +/- 0.00203, N = 3
4.80704
2
SE +/- 0.00228, N = 3
4.81685
3
SE +/- 0.00224, N = 3
4.83095
1.087
2.174
3.261
4.348
5.435

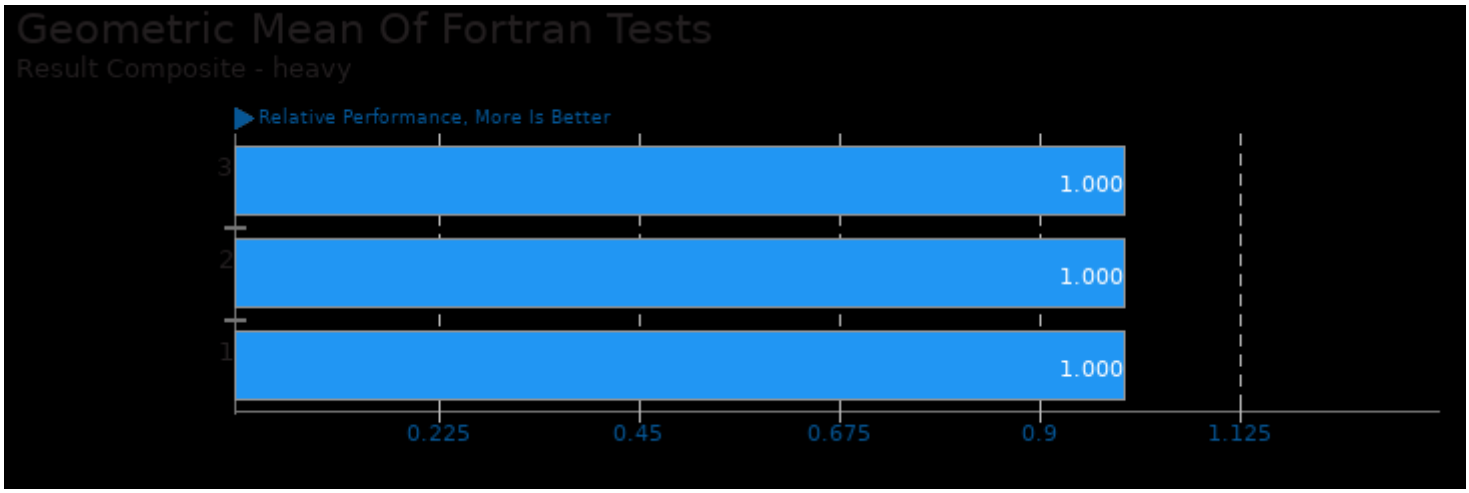
# heavy


NWChem 7.0.2
Input: C240 Buckyball
Seconds, Fewer Is Better
1
2
3
19550.5
19642.3
19674.2
4K
8K
12K
16K
20K
1. (F9X) gfortran options: -lnwctask -lccsd -lmcscf -lselci -lmp2 -lmoints -lstepper -ldriver -loptim -lnwdft -lgradients -lcphf -lesp -lddscf -ldangchang -lgue

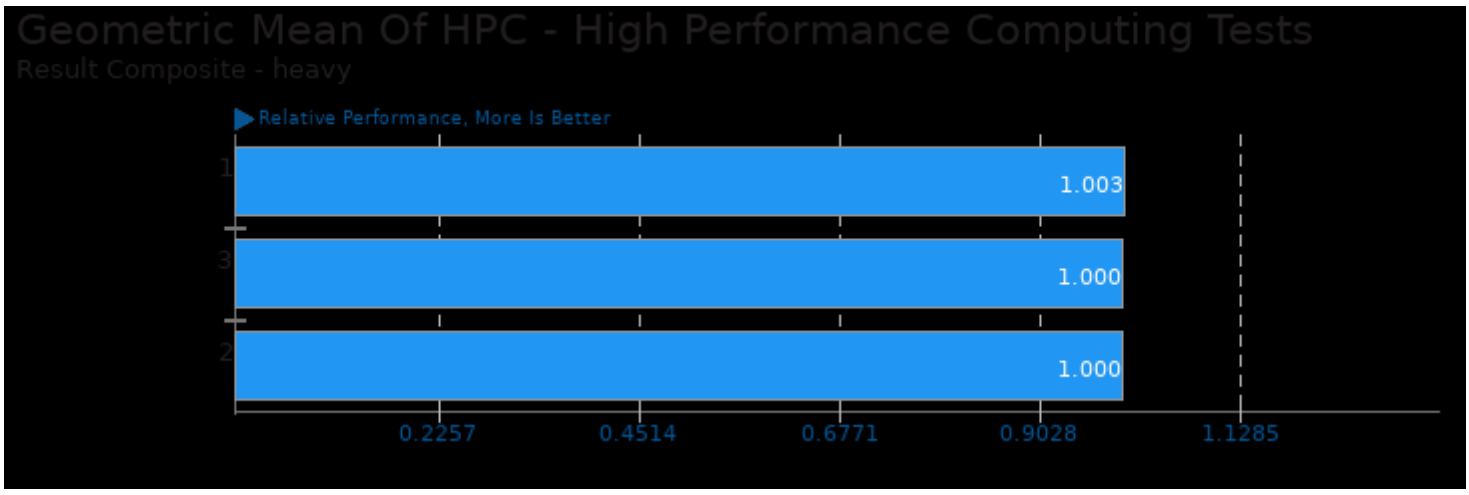
These geometric means are based upon test groupings / test suites for this result file.



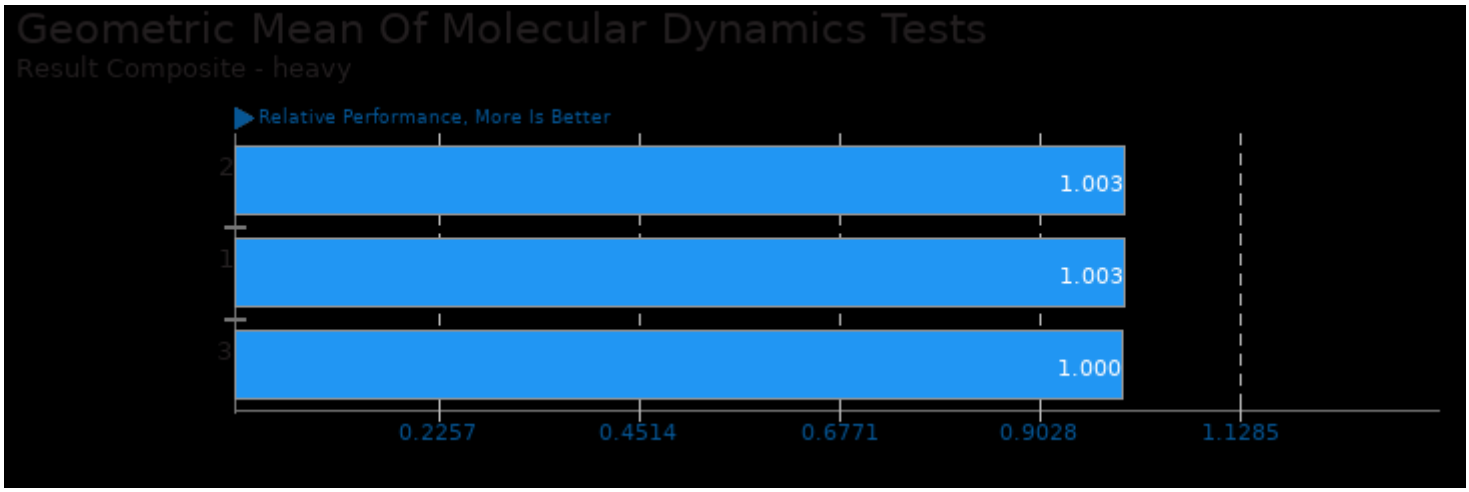

Geometric mean based upon tests: pts/hpcg and pts/namd




Geometric mean based upon tests: pts/hpcg and pts/nwchem




Geometric mean based upon tests: pts/hpcg, pts/namd, pts/gromacs and pts/nwchem




Geometric mean based upon tests: pts/namd, pts/gromacs and pts/nwchem

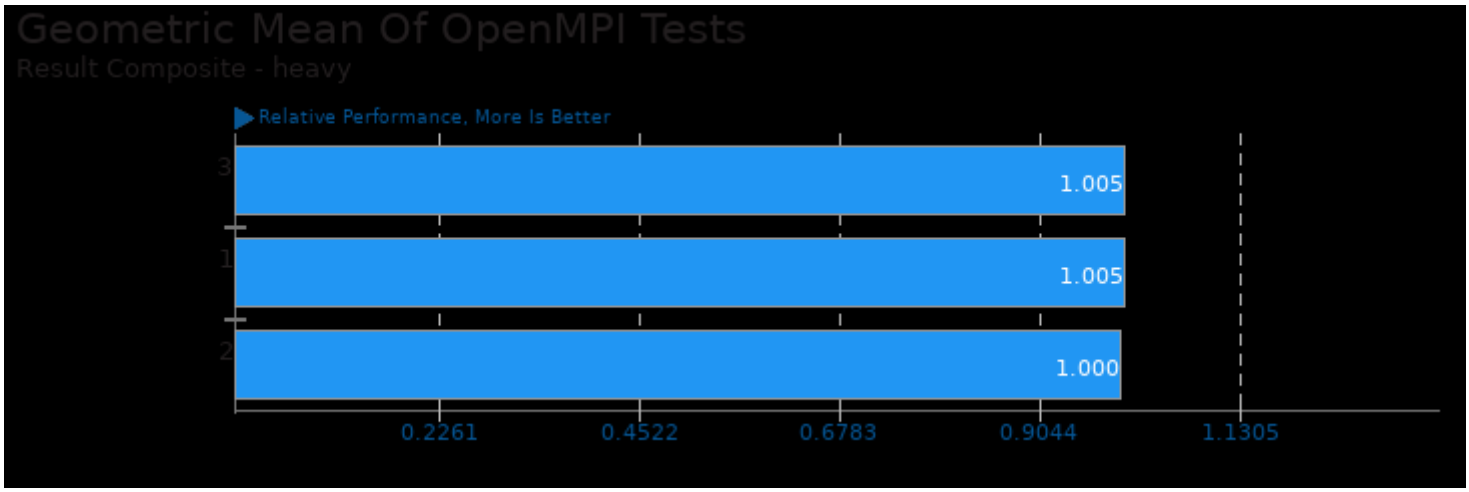



Geometric mean based upon tests: pts/gromacs and pts/hpcg

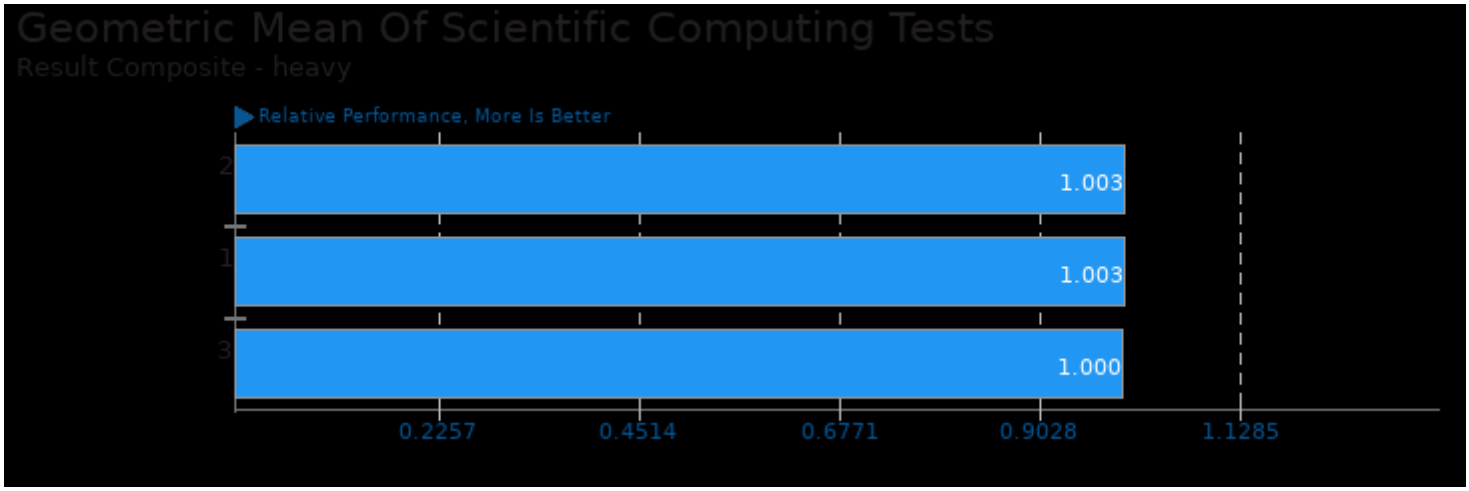



Geometric mean based upon tests: pts/namd, pts/gromacs and pts/hpcg

# heavy




Geometric mean based upon tests: pts/hpcg, pts/gromacs and pts/nwchem




Geometric mean based upon tests: pts/namd, pts/gromacs and pts/nwchem

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 03:40.*