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Lenovo ThinkStation P620 Chess Benchmark

AMD Ryzen Threadripper PRO 3975WX 32-Cores testing with a LENOVO 1046 (S07KT0CA BIOS) and NVIDIA Quadro P620 2GB on Ubuntu 20.04 via the Phoronix Test Suite.

Test Systems:

Threadripper Pro 3975WX

Processor: AMD Ryzen Threadripper PRO 3975WX 32-Cores @ 3.50GHz (32 Cores / 64 Threads), Motherboard: LENOVO 1046 (S07KT0CA BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1024GB SAMSUNG MZVLB1T0HBLR-000L7 + 2 x 1000GB Samsung SSD 860, Graphics: NVIDIA Quadro P620 2GB (1265/2504MHz), Audio: NVIDIA GP107GL HD Audio, Monitor: LG HDR 4K, Network: Aquantia AQC107 NBase-T/IEEE + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.6.0-1034-oem (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Display Driver: NVIDIA 455.38, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.1.110, Vulkan: 1.2.142, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 5120x2880

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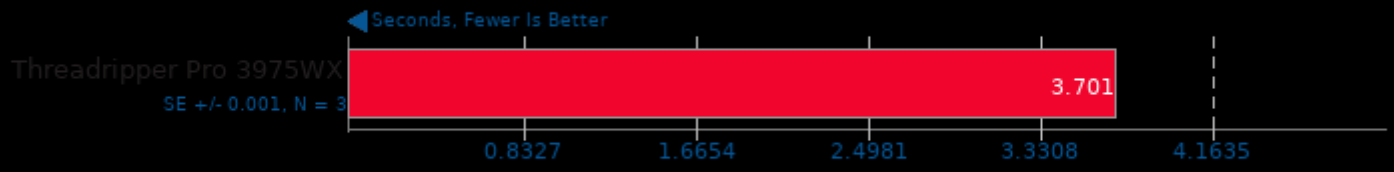
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/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: acpi-cpufreq ondemand - CPU Microcode: 0x8301039
OpenCL Notes: GPU Compute Cores: 512
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: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Threadripper Pro 3975WX
N-Queens - Elapsed Time (sec)	3.701
Standard Deviation	0%
m-queens - Time To Solve (sec)	18.426
Standard Deviation	0.5%
asmFish - 1.H.M.2.D (Nodes/s)	91350791
Standard Deviation	0.3%
Stockfish - Total Time (Nodes/s)	71947028
Standard Deviation	0.6%
TSCP - A.C.P (Nodes/s)	1279101
Standard Deviation	0.3%
Crafty - Elapsed Time (Nodes/s)	8639615
Standard Deviation	0.3%
LeelaChessZero - BLAS (Nodes/s)	491
Standard Deviation	2.9%

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N-Queens 1.0

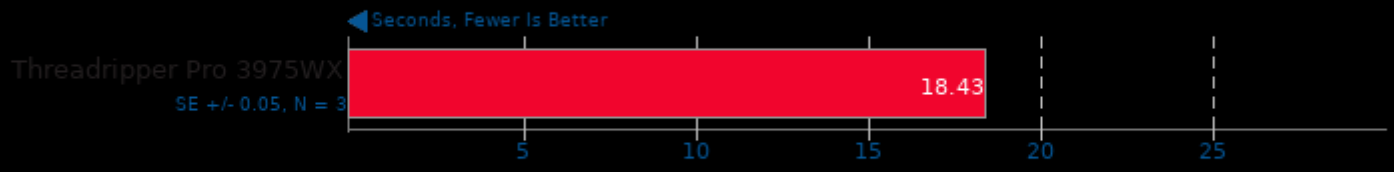
Elapsed Time



1. (CC) gcc options: -static -fopenmp -O3 -march=native

m-queens 1.2

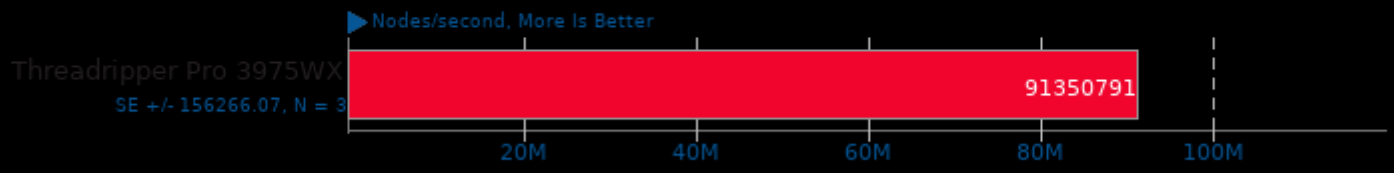
Time To Solve



1. (CXX) g++ options: -fopenmp -O2 -march=native

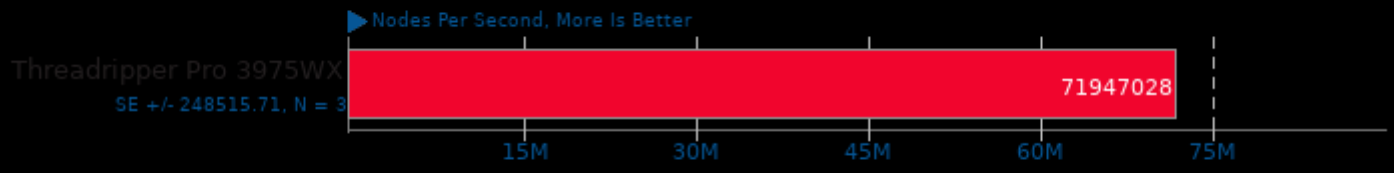
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



Stockfish 12

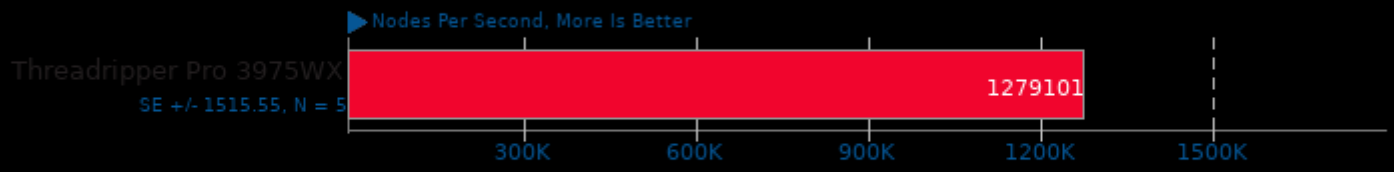
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++17 -pedantic -O3 -msse -msse3 -mpopcnt -msse4.1 -mssse3 -msse2 -flto -flto=jobserver

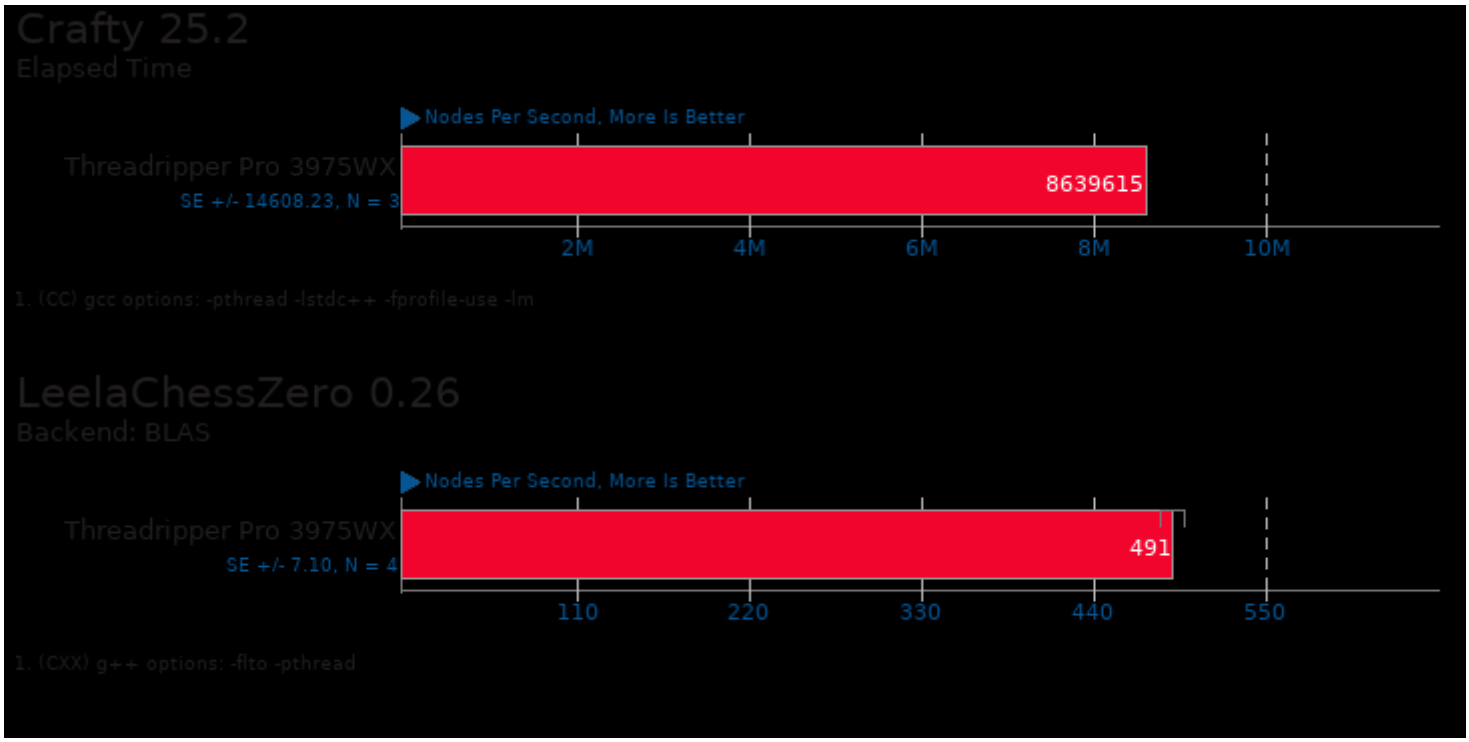
TSCP 1.81

AI Chess Performance



1. (CC) gcc options: -O3 -march=native

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