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cur_bm1

New CPU and with a new bios upgrade ver 27

Automated Executive Summary

new_proc_and_bios_1 had the most wins, coming in first place for 71% of the tests.

Test Systems:

proc_upgr

cur_bm1_performance

Processor: AMD Ryzen 7 3700X 8-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: ASUS ROG CROSSHAIR VIII IMPACT (2206 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Samsung SSD 970 EVO Plus 1TB + 2000GB Samsung SSD 860, Graphics: NVIDIA GeForce RTX 2070 SUPER 8GB (1605/7000MHz), Audio: NVIDIA TU104 HD Audio, Monitor: LG Ultra HD, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.4.0-60-generic (x86_64), Desktop: KDE Plasma 5.18.5, Display Server: X Server 1.20.9, Display Driver: NVIDIA 450.102.04, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.0.228, Vulkan: 1.2.133, Compiler: GCC 9.3.0, File-System: btrfs, Screen Resolution: 3840x2160

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 performance (Boost: Enabled) - CPU Microcode: 0x8701021
OpenCL Notes: GPU Compute Cores: 2560
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

newcpu

new_proc_full

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASUS ROG CROSSHAIR VIII IMPACT (2206 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Samsung SSD 970 EVO Plus 1TB + 2000GB Samsung SSD 860, Graphics: NVIDIA GeForce RTX 2070 SUPER 8GB (1605/7000MHz), Audio: NVIDIA TU104 HD Audio, Monitor: LG Ultra HD, Network: Intel I211 + Intel Wi-Fi 6 AX200

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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 (Boost: Enabled) - CPU Microcode: 0xa201005
OpenCL Notes: GPU Compute Cores: 2560
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 IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

new_proc_and_bios_1

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASUS ROG CROSSHAIR VIII IMPACT (2702 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Samsung SSD 970 EVO Plus 1TB + 2000GB Samsung SSD 860, Graphics: NVIDIA GeForce RTX 2070 SUPER 8GB (1605/7000MHz), Audio: NVIDIA TU104 HD Audio, Monitor: LG Ultra HD, Network: Intel I211 + Intel Wi-Fi 6 AX200

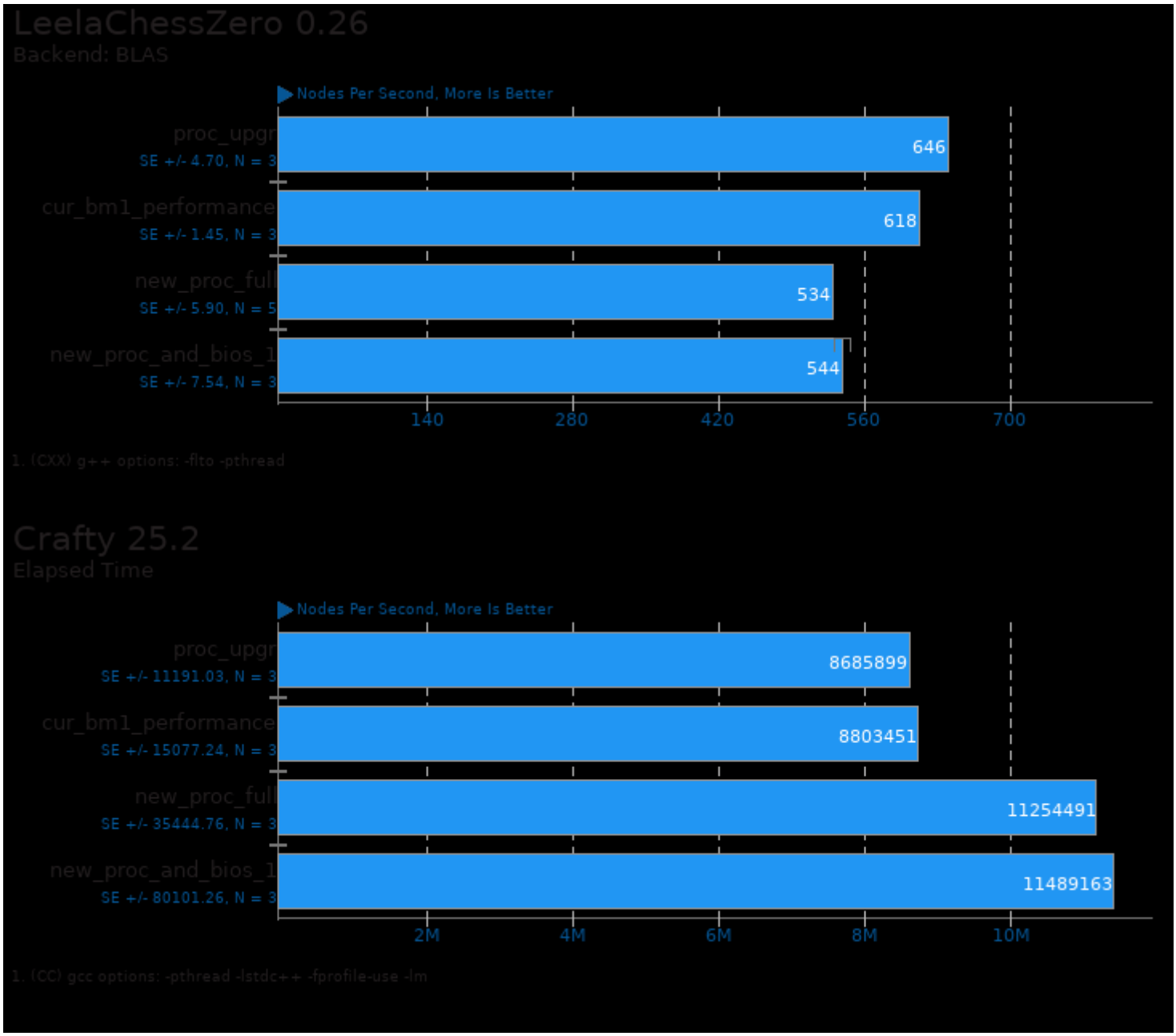
OS: Ubuntu 20.04, Kernel: 5.4.0-60-generic (x86_64), Desktop: KDE Plasma 5.18.5, Display Server: X Server 1.20.9, Display Driver: NVIDIA 450.102.04, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.0.228, Vulkan: 1.2.133, Compiler: GCC 9.3.0, File-System: btrfs, Screen Resolution: 3840x2160

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 (Boost: Enabled) - CPU Microcode: 0xa201009
OpenCL Notes: GPU Compute Cores: 2560
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 IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

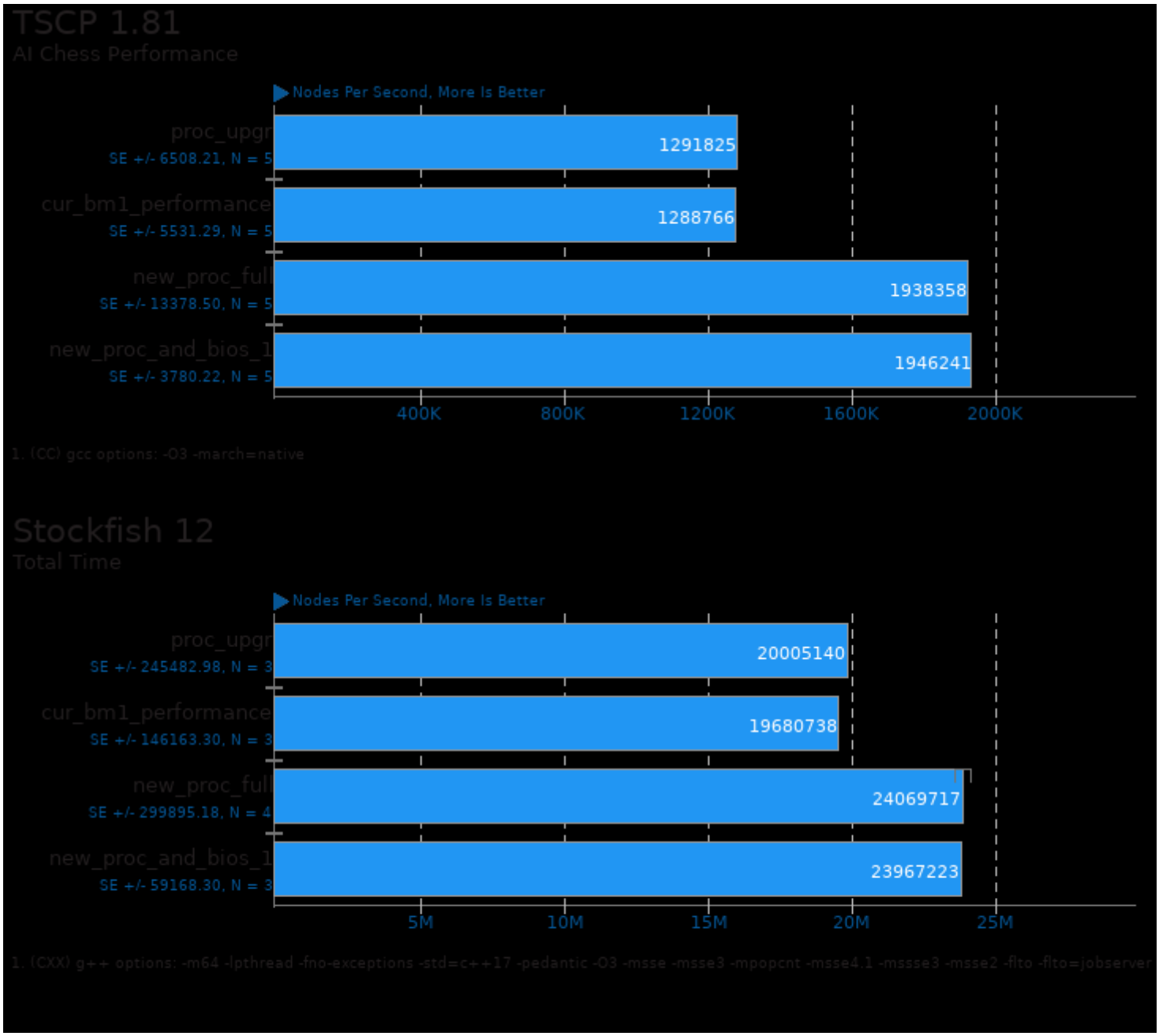
cur_bm1

	proc_upgr	cur_bm1_performance	newcpu	new_proc_full	new_proc_and_bios_1
LeelaChessZero - BLAS	646	618		534	544
Normalized	100%	95.67%		82.66%	84.21%
Standard Deviation	1.3%	0.4%		2.5%	2.4%
Crafty - Elapsed Time (Nodes/s)	8685899	8803451		11254491	11489163
Normalized	75.6%	76.62%		97.96%	100%
Standard Deviation	0.2%	0.3%		0.5%	1.2%
TSCP - A.C.P (Nodes/s)	1291825	1288766		1938358	1946241
Normalized	66.38%	66.22%		99.59%	100%
Standard Deviation	1.1%	1%		1.5%	0.4%
Stockfish - Total Time (Nodes/s)	20005140	19680738		24069717	23967223
Normalized	83.11%	81.77%		100%	99.57%
Standard Deviation	2.1%	1.3%		2.5%	0.4%
asmFish - 1.H.M.2.D (Nodes/s)	26593587	26483088		33862880	34338350
Normalized	77.45%	77.12%		98.62%	100%
Standard Deviation	1.7%	2.2%		2.3%	1.2%
m-queens - Time To Solve (sec)	69.505	70.302		56.228	55.769
Normalized	80.24%	79.33%		99.18%	100%
Standard Deviation	0.1%	0%		1%	0%
N-Queens - Elapsed Time (sec)	13.859	14.028		10.988	10.731
Normalized	77.43%	76.5%		97.66%	100%
Standard Deviation	0%	0.1%		1.5%	0%

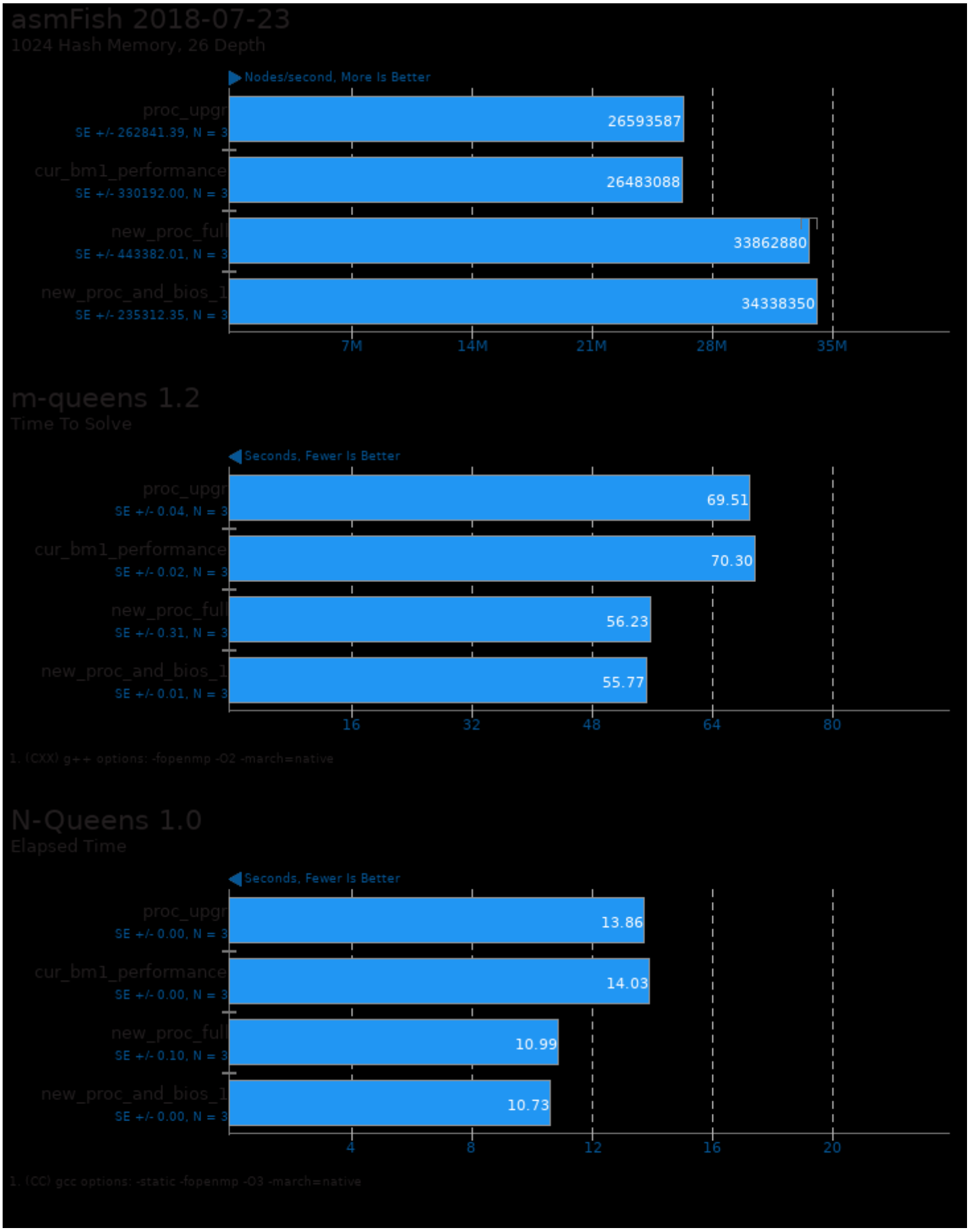
cur_bm1


LeelaChessZero 0.26
Backend: BLAS
Nodes Per Second, More Is Better
proc_upgr
SE +/- 4.70, N = 3
646
cur_bm1_performance
SE +/- 1.45, N = 3
618
new_proc_full
SE +/- 5.90, N = 5
534
new_proc_and_bios_1
SE +/- 7.54, N = 3
544
140
280
420
560
700
1. (CXX) g++ options: -flto -pthread
Crafty 25.2
Elapsed Time
Nodes Per Second, More Is Better
proc_upgr
SE +/- 11191.03, N = 3
8685899
cur_bm1_performance
SE +/- 15077.24, N = 3
8803451
new_proc_full
SE +/- 35444.76, N = 3
11254491
new_proc_and_bios_1
SE +/- 80101.26, N = 3
11489163
2M
4M
6M
8M
10M
1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

cur_bm1


TSCP 1.81
AI Chess Performance
Nodes Per Second, More Is Better
proc_upgr
SE +/- 6508.21, N = 5
1291825
cur_bm1_performance
SE +/- 5531.29, N = 5
1288766
new_proc_full
SE +/- 13378.50, N = 5
1938358
new_proc_and_bios_1
SE +/- 3780.22, N = 5
1946241
400K
800K
1200K
1600K
2000K
1. (CC) gcc options: -O3 -march=native
Stockfish 12
Total Time
Nodes Per Second, More Is Better
proc_upgr
SE +/- 245482.98, N = 3
20005140
cur_bm1_performance
SE +/- 146163.30, N = 3
19680738
new_proc_full
SE +/- 299895.18, N = 4
24069717
new_proc_and_bios_1
SE +/- 59168.30, N = 3
23967223
5M
10M
15M
20M
25M
1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++17 -pedantic -O3 -msse -msse3 -mpopcnt -msse4.1 -mssse3 -msse2 -flto -flto=jobserver

cur_bm1


asmFish 2018-07-23
1024 Hash Memory, 26 Depth
Nodes/second, More Is Better
proc_upgr
SE +/- 262841.39, N = 3
26593587
cur_bm1_performance
SE +/- 330192.00, N = 3
26483088
new_proc_full
SE +/- 443382.01, N = 3
33862880
new_proc_and_bios_1
SE +/- 235312.35, N = 3
34338350
7M
14M
21M
28M
35M
m-queens 1.2
Time To Solve
Seconds, Fewer Is Better
proc_upgr
SE +/- 0.04, N = 3
69.51
cur_bm1_performance
SE +/- 0.02, N = 3
70.30
new_proc_full
SE +/- 0.31, N = 3
56.23
new_proc_and_bios_1
SE +/- 0.01, N = 3
55.77
16
32
48
64
80
1. (CXX) g++ options: -fopenmp -O2 -march=native
N-Queens 1.0
Elapsed Time
Seconds, Fewer Is Better
proc_upgr
SE +/- 0.00, N = 3
13.86
cur_bm1_performance
SE +/- 0.00, N = 3
14.03
new_proc_full
SE +/- 0.10, N = 3
10.99
new_proc_and_bios_1
SE +/- 0.00, N = 3
10.73
4
8
12
16
20
1. (CC) gcc options: -static -fopenmp -O3 -march=native

cur_bm1

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 18:31.