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3900XT Mon

AMD Ryzen 9 3900XT 12-Core testing with a MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.B3 BIOS) and AMD Radeon RX 56/64 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 48% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.034x the speed of the slowest (3). 2 was 0.978x the speed of 1, 4 was 0.988x the speed of 2, 3 was 1x the speed of 4.

The results with the greatest spread from best to worst included:

lzbench (Test: Crush 0 - Process: Compression) at 1.127x
Redis (Test: GET) at 1.109x
Redis (Test: SADD) at 1.065x
lzbench (Test: XZ 0 - Process: Decompression) at 1.054x
Etcpak (Configuration: DXT1) at 1.047x
lzbench (Test: XZ 0 - Process: Compression) at 1.047x
lzbench (Test: Libdeflate 1 - Process: Compression) at 1.044x
QuantLib at 1.043x
Cython Benchmark (Test: N-Queens) at 1.042x

lzbench (Test: Zstd 1 - Process: Decompression) at 1.042x.

Test Systems:

1

2

3

4

Processor: AMD Ryzen 9 3900XT 12-Core @ 3.80GHz (12 Cores / 24 Threads), Motherboard: MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.B3 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB Seagate FireCuda 520 SSD ZP500GM30002, Graphics: AMD Radeon RX 56/64 8GB (1630/945MHz), Audio: AMD Vega 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek Device 2600 + Realtek Device 3000 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.11.0-rc1-phx (x86_64) 20201228, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: 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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8701021
Python Notes: Python 2.7.18 + 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 Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3	4
IOR - 2MB (MB/s)	**1114**	1011	**1004**	1042
Normalized	100%	90.72%	90.15%	93.52%
Standard Deviation	10.6%	10.1%	10.7%	11%
IOR - 4MB (MB/s)	**642.36**	651.65	655.02	**679.56**
Normalized	94.53%	95.89%	96.39%	100%
Standard Deviation	16.1%	8.1%	9.8%	10.4%
IOR - 8MB (MB/s)	572.49	**627.88**	475.40	**459.80**
Normalized	91.18%	100%	75.72%	73.23%
Standard Deviation	7.4%	9%	17.5%	15.2%
IOR - 16MB (MB/s)	**502.00**	**436.13**	453.34	452.64

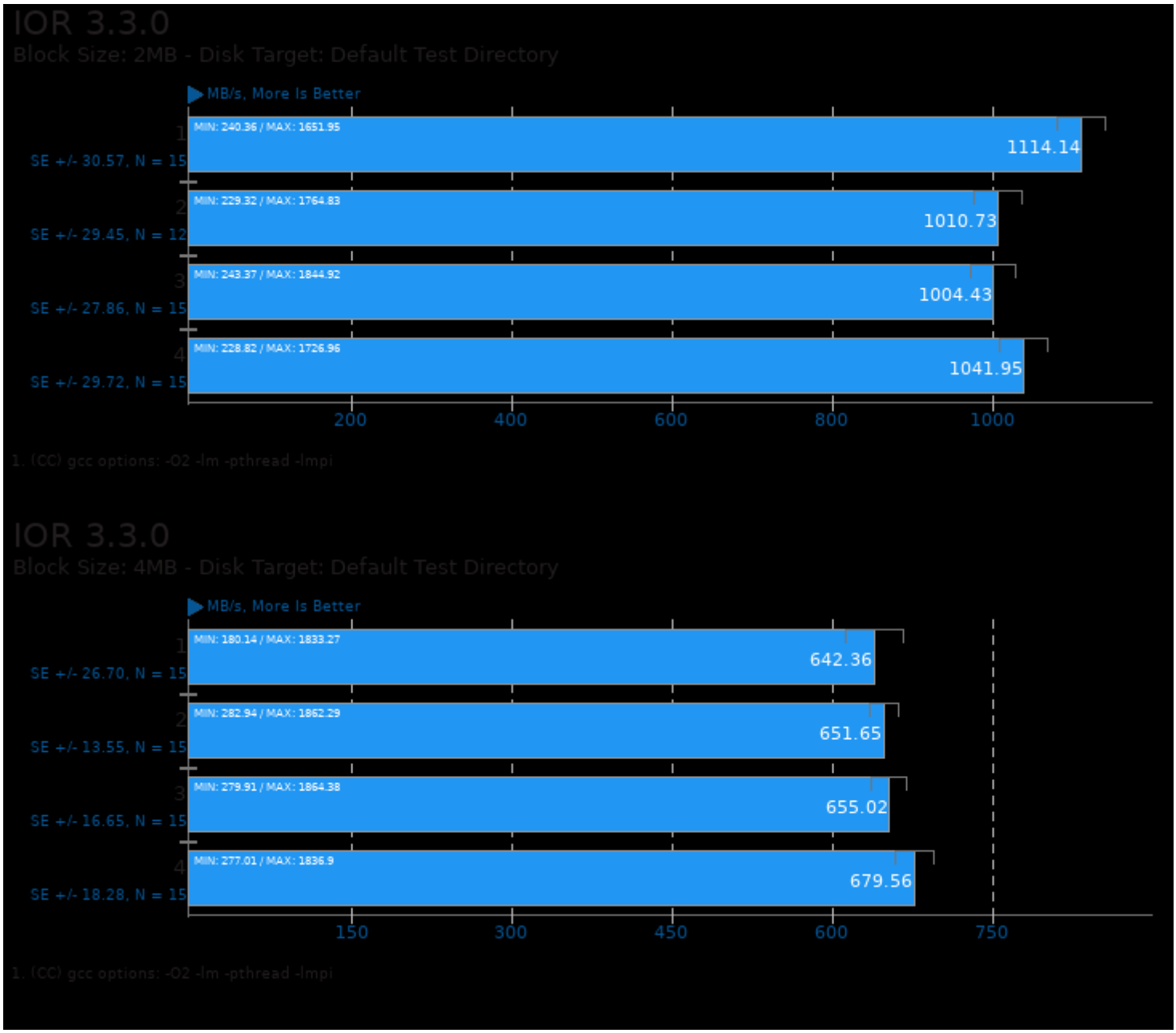
Normalized	100%	86.88%	90.31%	90.17%
Standard Deviation	3.7%	15.2%	4.3%	4.6%
IOR - 32MB (MB/s)	**495.89**	460.44	**449.38**	450.46
Normalized	100%	92.85%	90.62%	90.84%
Standard Deviation	5.1%	4.4%	6.4%	2.4%
QuantLib (MFLOPS)	**2657**	2628	2557	**2547**
Normalized	100%	98.91%	96.24%	95.85%
Standard Deviation	0.1%	2.3%	2.4%	2.4%
Etcpak - DXT1 (Mpx/s)	**1444**	1431	1403	**1380**
Normalized	100%	99.09%	97.11%	95.52%
Standard Deviation	0.6%	2.4%	2.9%	0.6%
Etcpak - ETC1 (Mpx/s)	323.102	**324.961**	319.761	**315.411**
Normalized	99.43%	100%	98.4%	97.06%
Standard Deviation	2.3%	2.4%	2.1%	0.5%
Etcpak - ETC2 (Mpx/s)	191.526	**191.707**	184.876	**184.174**
Normalized	99.91%	100%	96.44%	96.07%
Standard Deviation	0.1%	0.2%	0.9%	0.8%
Etcpak - ETC1 + Dithering (Mpx/s)	299.985	**299.986**	292.669	**288.250**
Normalized	100%	100%	97.56%	96.09%
Standard Deviation	0%	0%	2.4%	0%
NAS Parallel Benchmarks - EP.C (Mop/s)	**1126**	1122	1124	**1121**
Normalized	100%	99.71%	99.87%	99.58%
Standard Deviation	0.3%	0.3%	0.2%	0.2%
NAS Parallel Benchmarks - EP.D (Mop/s)	**1114**	1116	**1118**	1116
Normalized	99.65%	99.87%	100%	99.82%
Standard Deviation	0.2%	0.3%	0.2%	0.2%
NAS Parallel Benchmarks - LU.C (Mop/s)	**25441**	25747	**25770**	25620
Normalized	98.72%	99.91%	100%	99.42%
Standard Deviation	0.1%	0.1%	0%	0.6%
lzbench - XZ 0 - Compression (MB/s)	**45**	**43**	**43**	44
Normalized	100%	95.56%	95.56%	97.78%
Standard Deviation				2.3%
lzbench - XZ 0 - Decompression	**137**	**130**	131	133
Normalized	100%	94.89%	95.62%	97.08%
Standard Deviation				2.2%
lzbench - Zstd 1 - Compression (MB/s)	**586**	567	567	**566**
Normalized	100%	96.76%	96.76%	96.59%
Standard Deviation	0.2%	0.8%		
lzbench - Zstd 1 - Decompression	**1821**	**1748**	1750	1749
Normalized	100%	95.99%	96.1%	96.05%
Standard Deviation	0.9%	0.5%	0.3%	0.1%
lzbench - Zstd 8 - Compression (MB/s)	**113**	**111**	112	**111**
Normalized	100%	98.23%	99.12%	98.23%
Standard Deviation		2.5%	3.4%	
lzbench - Zstd 8 - Decompression	**2000**	1973	1988	**1971**
Normalized	100%	98.65%	99.4%	98.55%
Standard Deviation	1.4%	1.9%	2.2%	2.1%
lzbench - Crush 0 - Compression	**124**	113	113	**110**
Normalized	100%	91.13%	91.13%	88.71%
Standard Deviation		2.4%	2.6%	

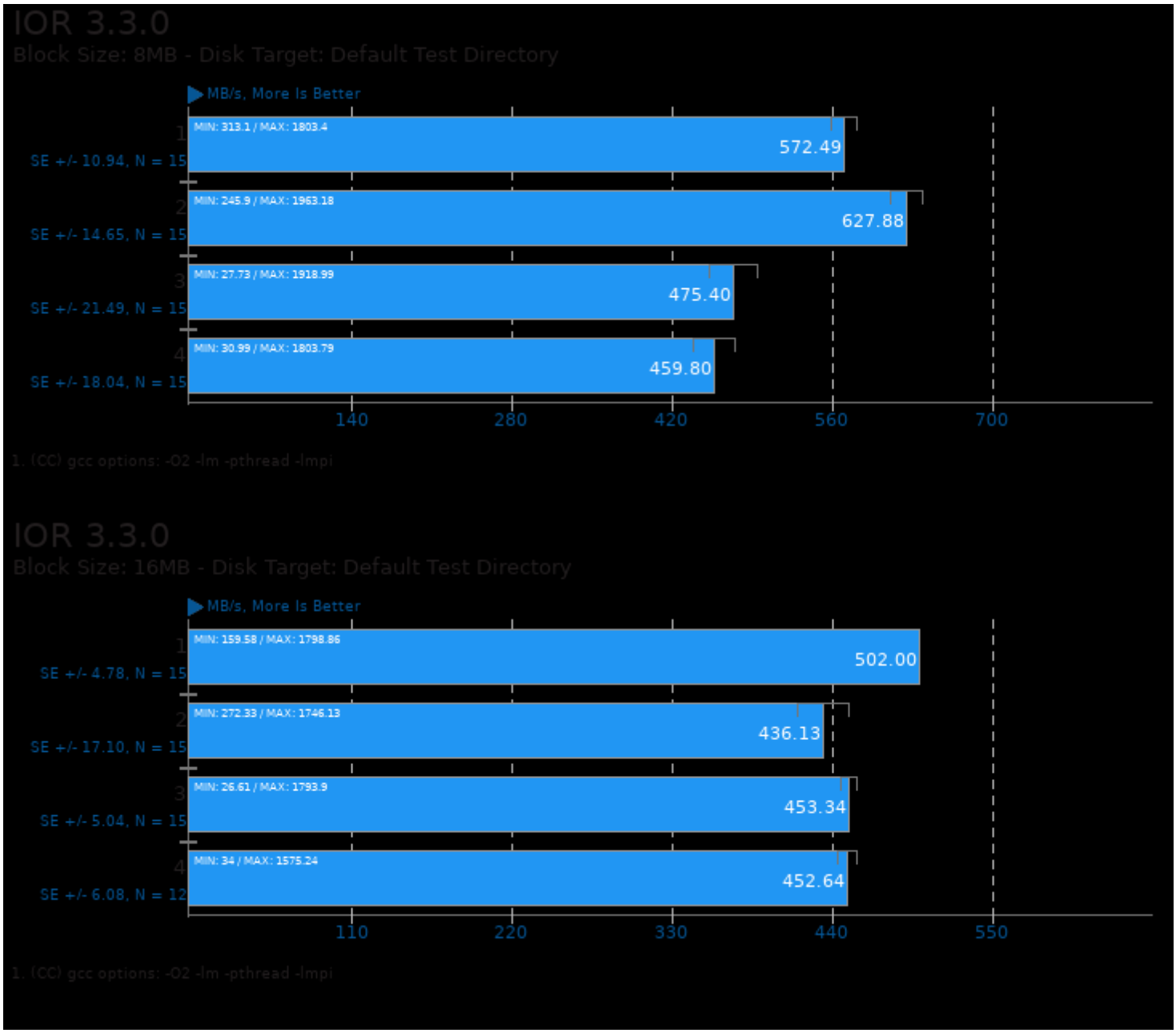
lzbench - Crush 0 - Decompression (MB/s)	**555**	540	535	**533**
Normalized	100%	97.3%	96.4%	96.04%
Standard Deviation		2.5%	1.1%	0.4%
lzbench - Brotli 0 - Compression	**568**	562	556	**551**
Normalized	100%	98.94%	97.89%	97.01%
Standard Deviation	1.2%	2.4%	1.9%	2.4%
lzbench - Brotli 0 - Decompression (MB/s)	**661**	655	650	**644**
Normalized	100%	99.09%	98.34%	97.43%
Standard Deviation	0.7%	2.1%	1.8%	2.2%
lzbench - Brotli 2 - Compression	**226**	**226**	**229**	**226**
Normalized	98.69%	98.69%	100%	98.69%
Standard Deviation	2%	2.3%		2.5%
lzbench - Brotli 2 - Decompression (MB/s)	773	**768**	**781**	773
Normalized	98.98%	98.34%	100%	98.98%
Standard Deviation	2.4%	2.3%	0.4%	2.6%
lzbench - Libdeflate 1 - Compression (MB/s)	**282**	**270**	281	272
Normalized	100%	95.74%	99.65%	96.45%
Standard Deviation				0.2%
Cython Benchmark - N-Queens (sec)	21.841	**22.567**	**21.657**	22.258
Normalized	99.16%	95.97%	100%	97.3%
Standard Deviation	0.6%	2.2%	0.5%	2.5%
Gcrypt Library (sec)	**189.379**	**194.921**	190.739	192.549
Normalized	100%	97.16%	99.29%	98.35%
Standard Deviation	0.2%	2.4%	2.2%	1.6%
Cpuminer-Opt - Magi (kH/s)	656.06	658.45	**650.47**	**660.96**
Normalized	99.26%	99.62%	98.41%	100%
Standard Deviation	2%	5.5%	0.3%	1.9%
Cpuminer-Opt - x25x (kH/s)	437.02	**434.50**	436.52	**443.08**
Normalized	98.63%	98.06%	98.52%	100%
Standard Deviation	1.7%	7.2%	2.3%	5.1%
Cpuminer-Opt - Deepcoin (kH/s)	11670	**11760**	11643	**11496**
Normalized	99.23%	100%	99.01%	97.76%
Standard Deviation	1.4%	1.8%	0.2%	5.3%
Cpuminer-Opt - Ringcoin (kH/s)	2708	**2738**	2724	**2555**
Normalized	98.92%	100%	99.5%	93.31%
Standard Deviation	0.1%	1.2%	1.6%	23.8%
Cpuminer-Opt - Blake-2 S (kH/s)	**424753**	431572	431999	**436577**
Normalized	97.29%	98.85%	98.95%	100%
Standard Deviation	2.4%	3.9%	3.6%	3.6%
Cpuminer-Opt - Garlicoin (kH/s)	2741	**2739**	2743	**2787**
Normalized	98.36%	98.27%	98.44%	100%
Standard Deviation	0.5%	0.1%	3.9%	2%
Cpuminer-Opt - Skeincoin (kH/s)	**79968**	**75588**	76781	77967
Normalized	100%	94.52%	96.01%	97.5%
Standard Deviation	5.7%	7.3%	7.4%	4.8%
Cpuminer-Opt - Myriad-Groestl (kH/s)	**15704**	14706	14520	**14474**
Normalized	100%	93.64%	92.46%	92.17%
Standard Deviation	29.2%	4%	0.9%	6.3%

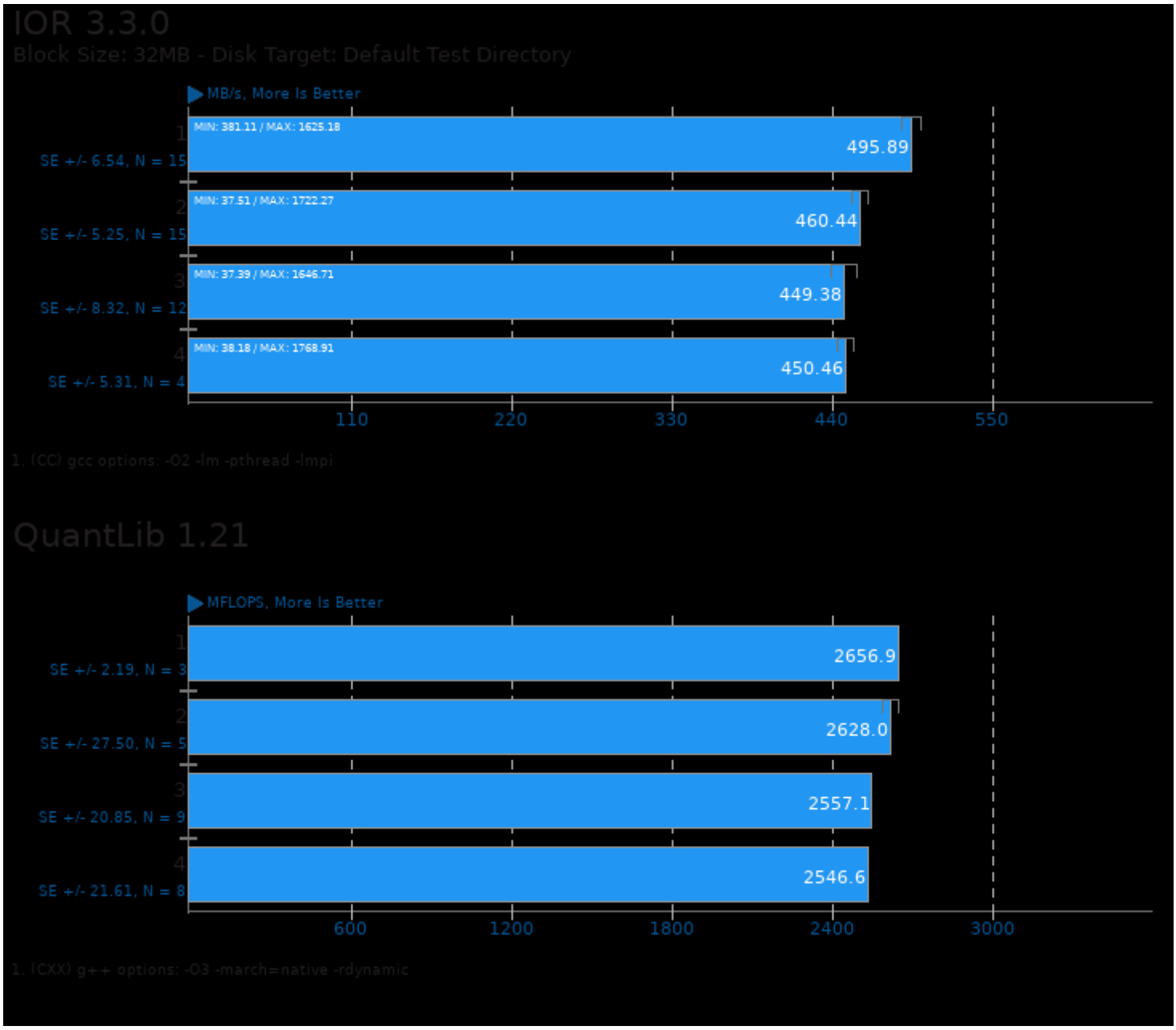
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	34423	**35490**	**33917**	35479
Normalized	96.99%	100%	95.57%	99.97%
Standard Deviation	2.5%	1.5%	8.5%	4.2%
Cpuminer-Opt - Q.S.2.P (kH/s)	66104	**57327**	63937	**66815**
Normalized	98.94%	85.8%	95.69%	100%
Standard Deviation	2.4%	23%	1.9%	23%
Cpuminer-Opt - T.S.2.O (kH/s)	88850	**93133**	**86578**	87550
Normalized	95.4%	100%	92.96%	94.01%
Standard Deviation	0.9%	1.2%	8.1%	9.6%
FinanceBench - Repo OpenMP (ms)	**34171**	**33975**	34077	34164
Normalized	99.43%	100%	99.7%	99.45%
Standard Deviation	1%	0.4%	0.6%	0.6%
FinanceBench - Bonds OpenMP (ms)	48901	**49064**	**48800**	48943
Normalized	99.79%	99.46%	100%	99.71%
Standard Deviation	0.4%	0.4%	0.3%	0.4%
ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)	**768.326**	**765.929**	766.603	767.094
Normalized	100%	99.69%	99.78%	99.84%
Standard Deviation	0.3%	0%	0%	0.1%
ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)	1304	**1306**	1303	**1303**
Normalized	99.89%	100%	99.81%	99.77%
Standard Deviation	0.5%	0.4%	0.3%	0.2%
ASKAP - tConvolve MPI - Degridding (Mpix/sec)	**7380**	7428	**7380**	**7476**
Normalized	98.73%	99.36%	98.73%	100%
Standard Deviation	1.1%	1.9%	1.1%	2.2%
ASKAP - tConvolve MPI - Gridding (Mpix/sec)	**7718**	**7718**	7620	**7523**
Normalized	100%	100%	98.74%	97.48%
Standard Deviation			2.2%	2.2%
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	1458	**1460**	**1460**	**1450**
Normalized	99.82%	100%	100%	99.27%
Standard Deviation	0.3%	0.6%	0.6%	0.3%
ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)	1594	**1604**	1601	**1591**
Normalized	99.4%	100%	99.8%	99.21%
Standard Deviation	0%	0%	0.3%	0.9%
ASKAP - H.C.O (Iterations/sec)	165.837	**165.847**	**163.845**	164.114
Normalized	99.99%	100%	98.79%	98.96%
Standard Deviation	0%	0.9%	0.1%	0.1%
Redis - LPOP (Reqs/sec)	**2646764**	2053102	**1592607**	1667546
Normalized	100%	77.57%	60.17%	63%
Standard Deviation	2.1%	23.4%	1.2%	2.4%
Redis - SADD (Reqs/sec)	**2198505**	2144898	**2065240**	2095076
Normalized	100%	97.56%	93.94%	95.3%
Standard Deviation	1.9%	1.5%	3%	1.6%
Redis - LPUSH (Reqs/sec)	**1639285**	1611296	1605402	**1587779**
Normalized	100%	98.29%	97.93%	96.86%
Standard Deviation	2.3%	2.6%	0.8%	2.1%
Redis - GET (Reqs/sec)	**2495306**	2268726	**2249303**	2315347
Normalized	100%	90.92%	90.14%	92.79%

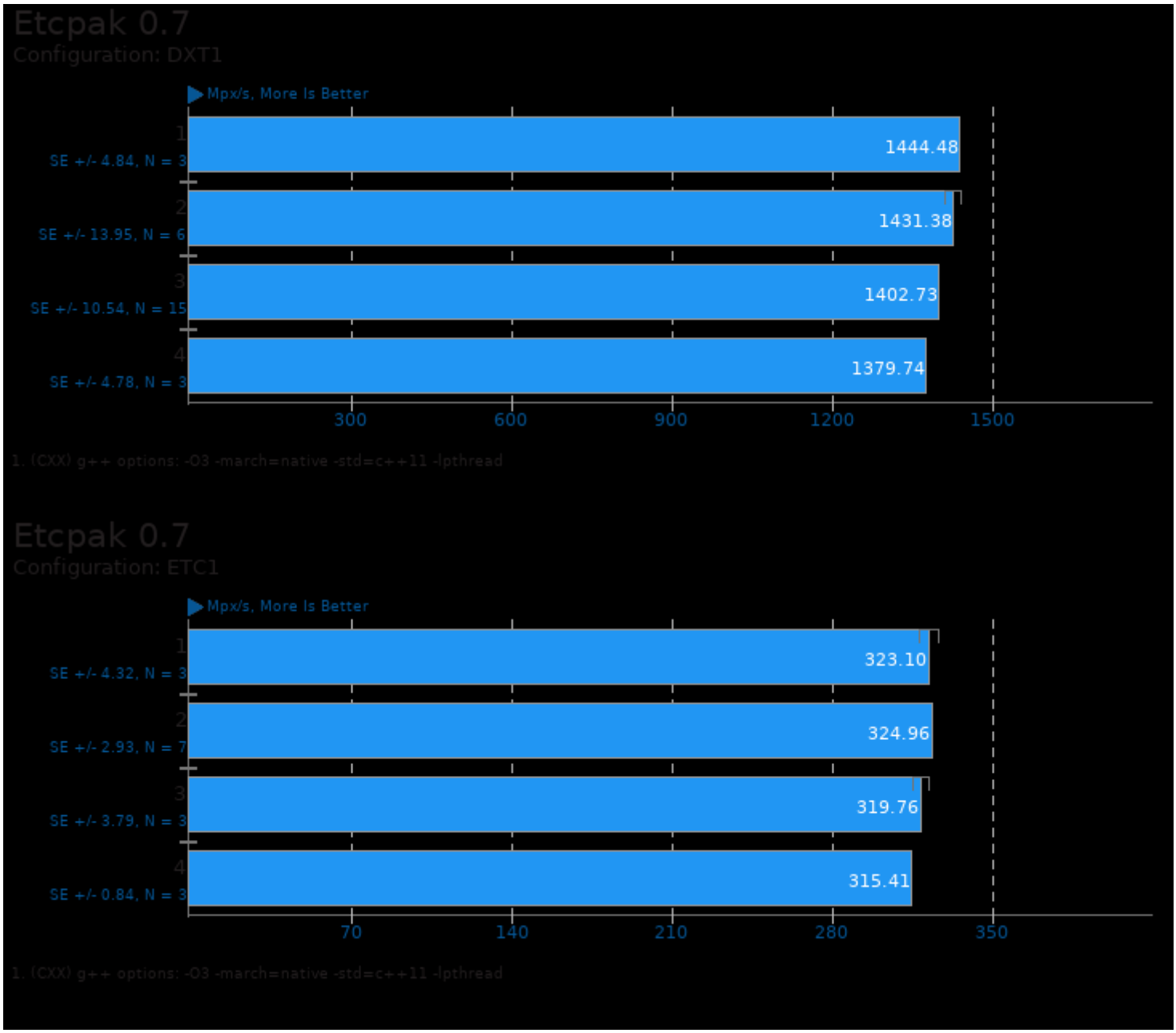
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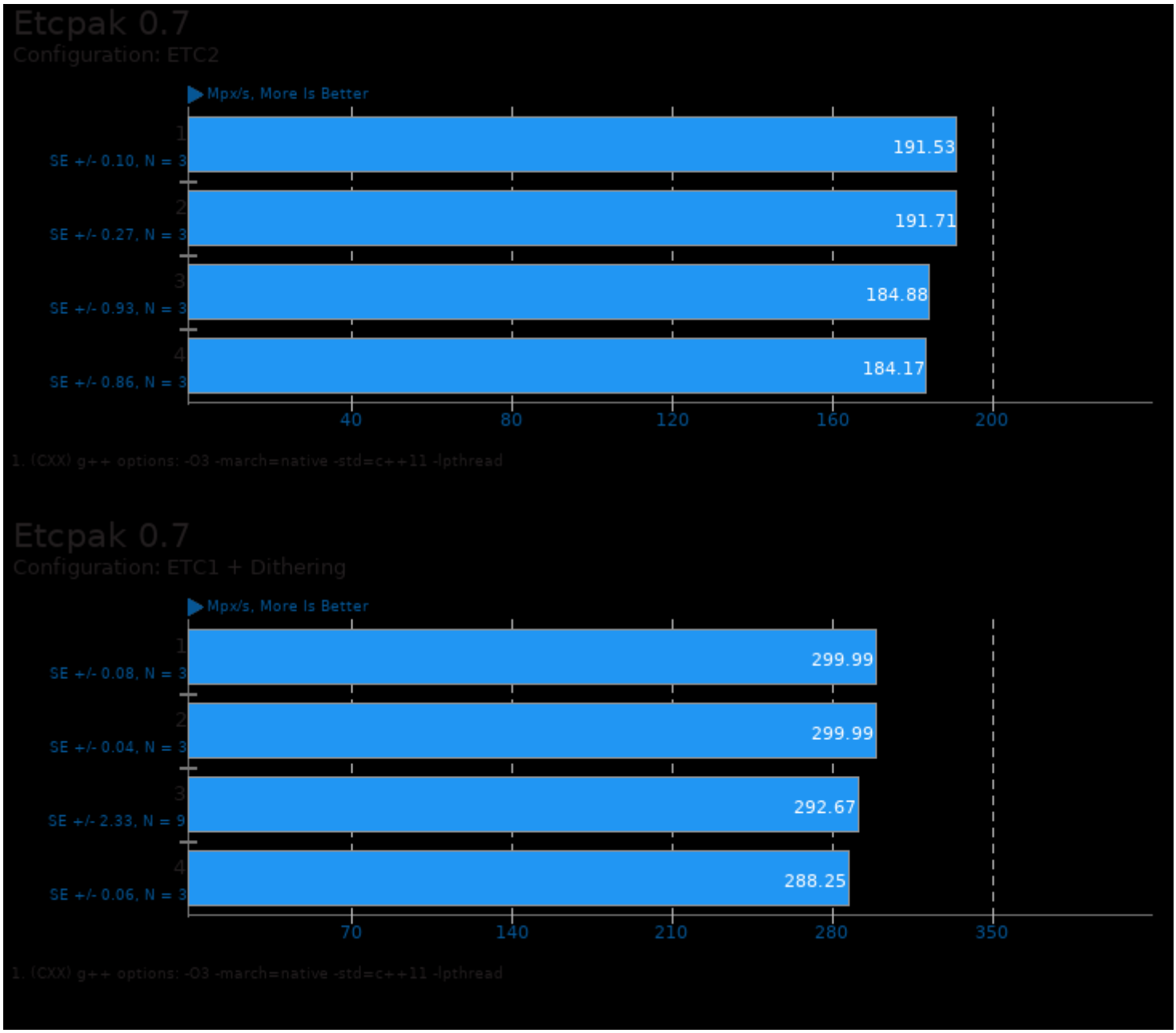
Standard Deviation	2.3%	0.7%	2%	3.6%
Redis - SET (Reqs/sec)	1848259	**1864367**	1845440	**1829014**
Normalized	99.14%	100%	98.98%	98.1%
Standard Deviation	2.4%	3.4%	1.8%	2%
GnuPG - 2.7.S.F.E (sec)	64.036	63.864	**64.675**	**63.853**
Normalized	99.71%	99.98%	98.73%	100%
Standard Deviation	2.3%	2.3%	0.8%	2.3%

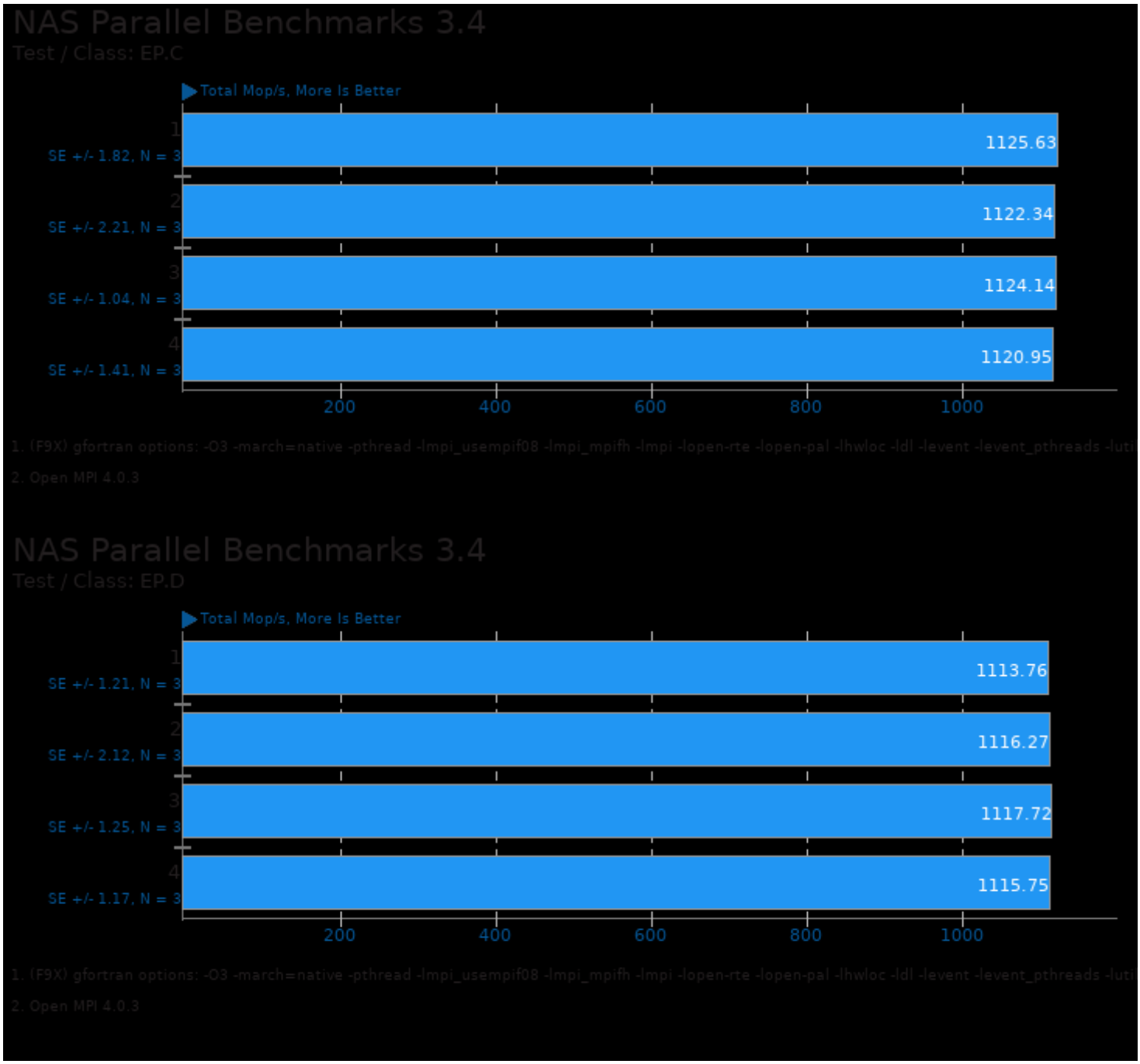

IOR 3.3.0
Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
1
MIN: 240.36 / MAX: 1651.95
1114.14
SE +/- 30.57, N = 15
2
MIN: 229.32 / MAX: 1764.83
1010.73
SE +/- 29.45, N = 12
3
MIN: 243.37 / MAX: 1844.92
1004.43
SE +/- 27.86, N = 15
4
MIN: 228.82 / MAX: 1726.96
1041.95
SE +/- 29.72, N = 15
200
400
600
800
1000
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 4MB - Disk Target: Default Test Directory
MB/s, More Is Better
1
MIN: 180.14 / MAX: 1833.27
642.36
SE +/- 26.70, N = 15
2
MIN: 282.94 / MAX: 1862.29
651.65
SE +/- 13.55, N = 15
3
MIN: 279.91 / MAX: 1864.38
655.02
SE +/- 16.65, N = 15
4
MIN: 277.01 / MAX: 1836.9
679.56
SE +/- 18.28, N = 15
150
300
450
600
750
1. (CC) gcc options: -O2 -lm -pthread -lmpi

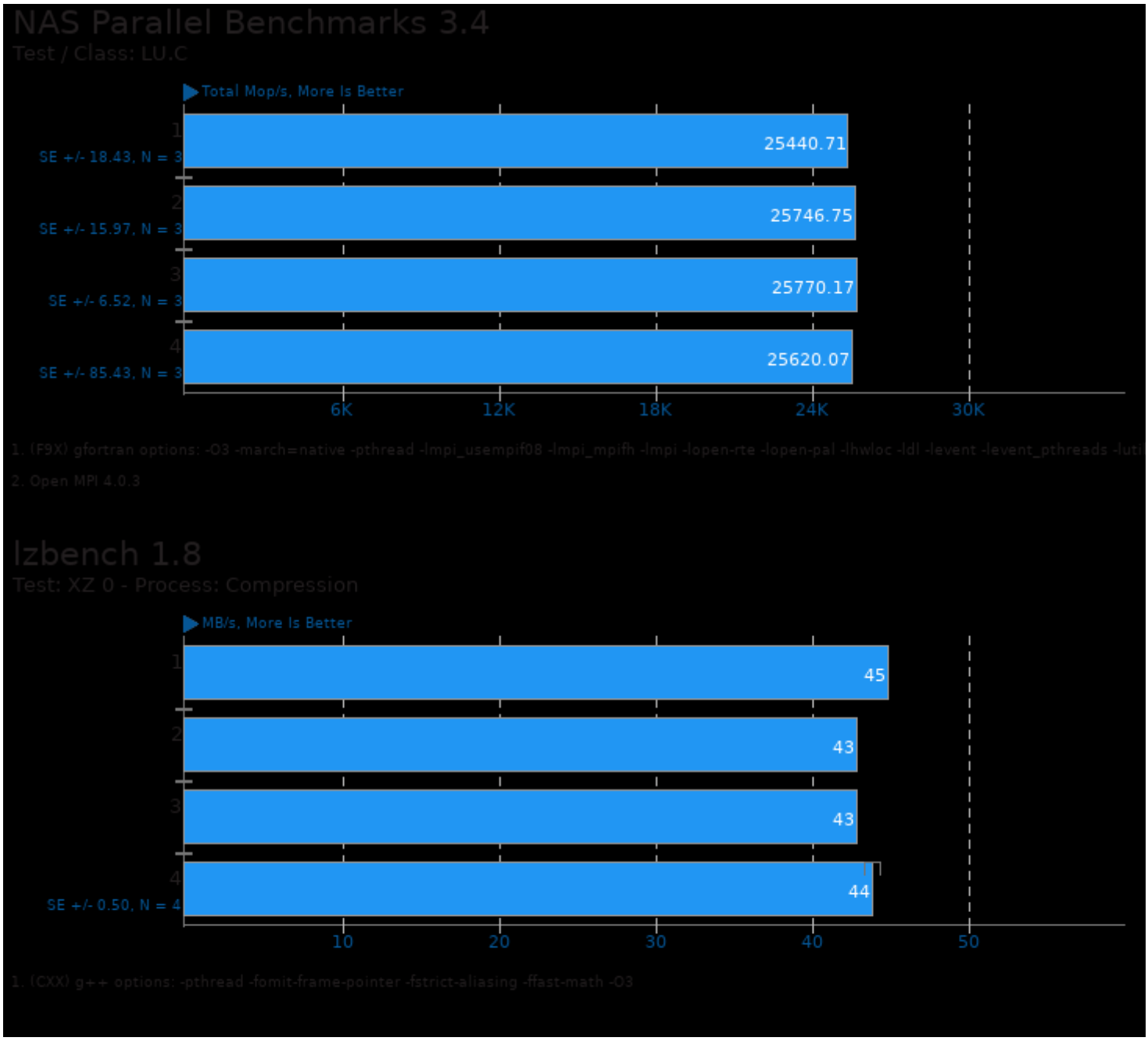

IOR 3.3.0
Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 313.1 / MAX: 1803.4
572.49
SE +/- 10.94, N = 15
MIN: 245.9 / MAX: 1963.18
627.88
SE +/- 14.65, N = 15
MIN: 27.73 / MAX: 1918.99
475.40
SE +/- 21.49, N = 15
MIN: 30.99 / MAX: 1803.79
459.80
SE +/- 18.04, N = 15
140
280
420
560
700
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 16MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 159.58 / MAX: 1798.86
502.00
SE +/- 4.78, N = 15
MIN: 272.33 / MAX: 1746.13
436.13
SE +/- 17.10, N = 15
MIN: 26.61 / MAX: 1793.9
453.34
SE +/- 5.04, N = 15
MIN: 34 / MAX: 1575.24
452.64
SE +/- 6.08, N = 12
110
220
330
440
550
1. (CC) gcc options: -O2 -lm -pthread -lmpi

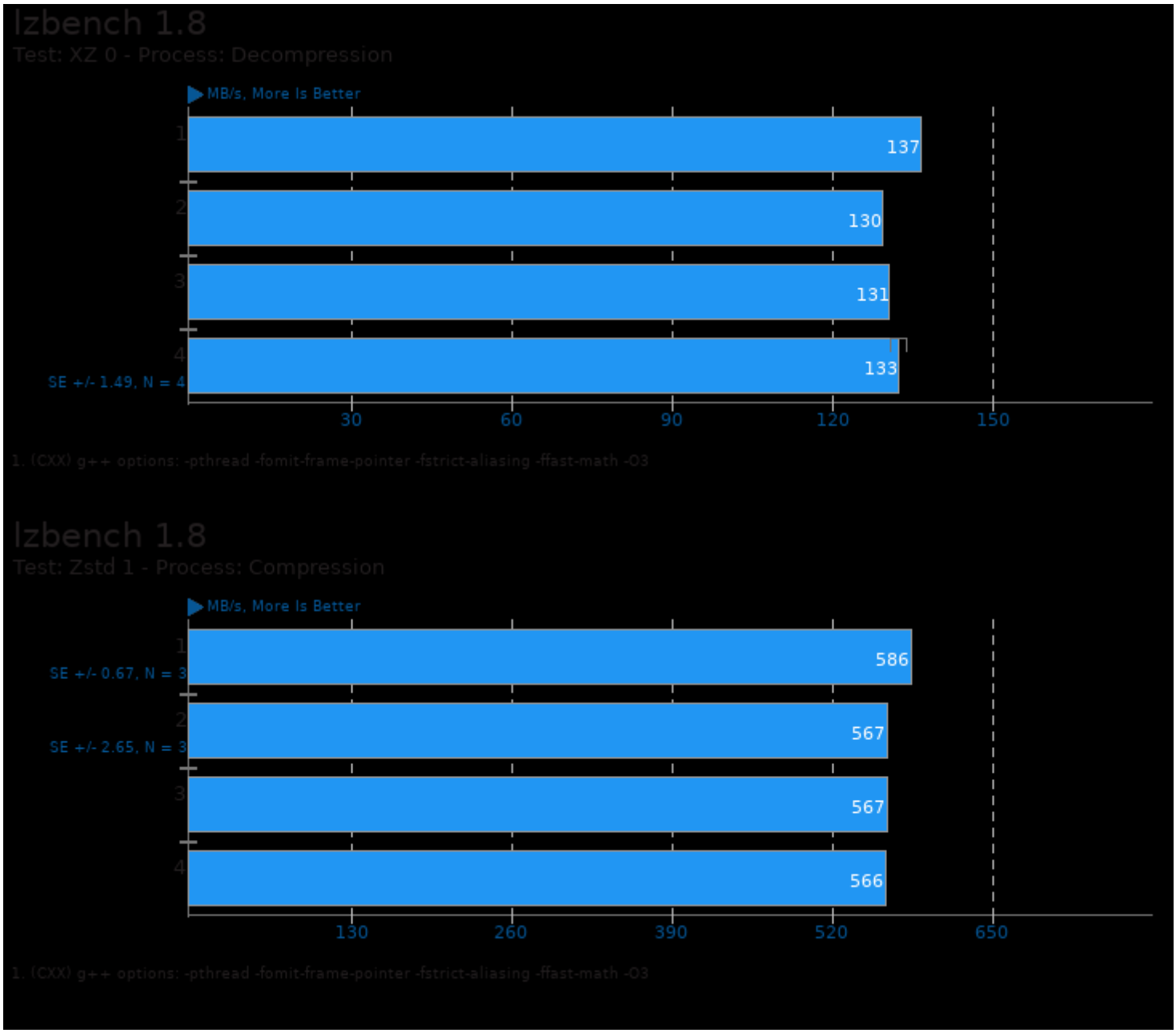

IOR 3.3.0
Block Size: 32MB - Disk Target: Default Test Directory
MB/s, More Is Better
1
MIN: 381.11 / MAX: 1625.18
495.89
SE +/- 6.54, N = 15
2
MIN: 37.51 / MAX: 1722.27
460.44
SE +/- 5.25, N = 15
3
MIN: 37.39 / MAX: 1646.71
449.38
SE +/- 8.32, N = 12
4
MIN: 38.18 / MAX: 1768.91
450.46
SE +/- 5.31, N = 4
110
220
330
440
550
1. (CC) gcc options: -O2 -lm -pthread -lmpi
QuantLib 1.21
MFLOPS, More Is Better
1
2656.9
SE +/- 2.19, N = 3
2
2628.0
SE +/- 27.50, N = 5
3
2557.1
SE +/- 20.85, N = 9
4
2546.6
SE +/- 21.61, N = 8
600
1200
1800
2400
3000
1. (CXX) g++ options: -O3 -march=native -rdynamic

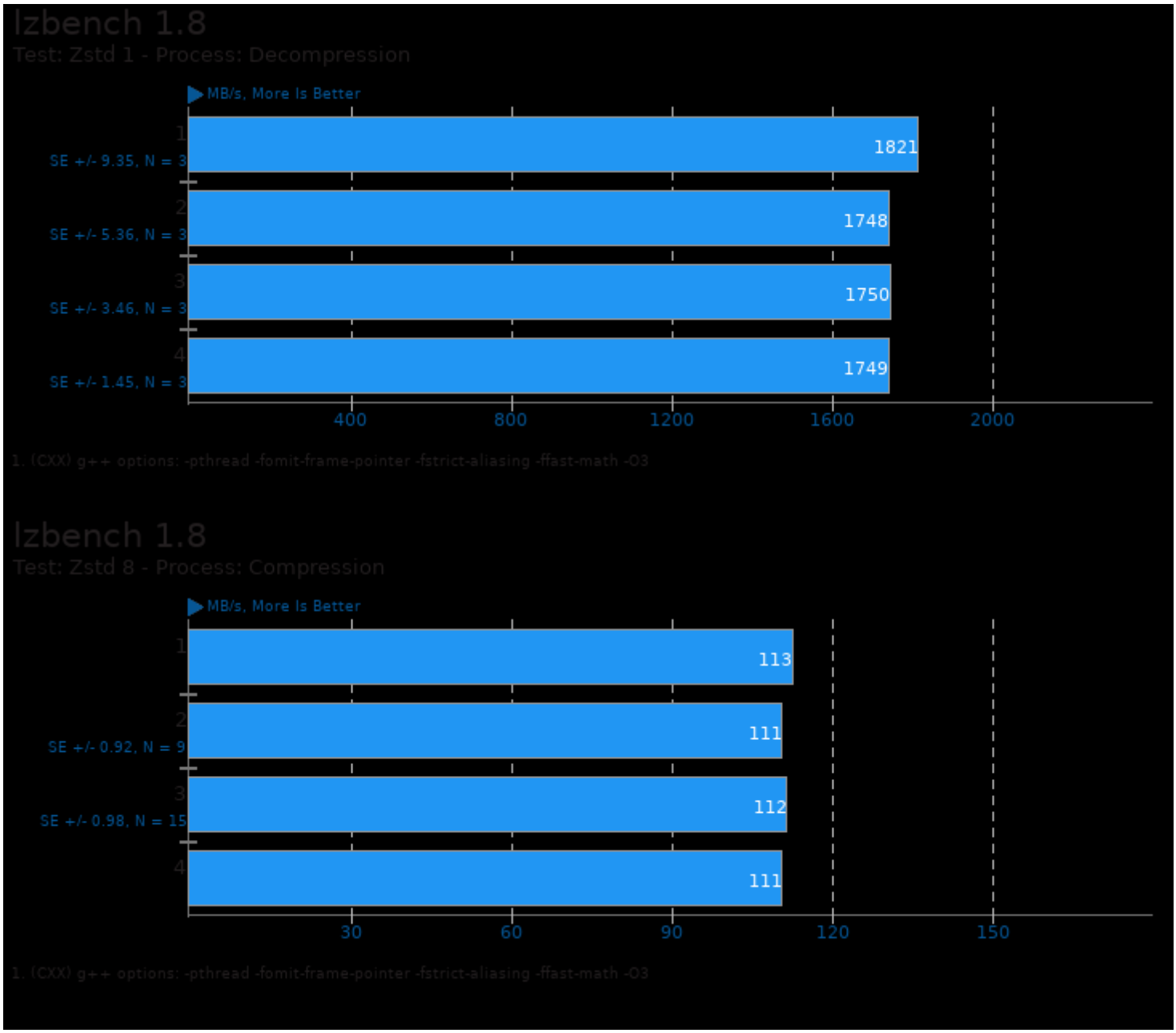

Etcpak 0.7
Configuration: DXT1
Mpx/s, More Is Better
1
SE +/- 4.84, N = 3
1444.48
2
SE +/- 13.95, N = 6
1431.38
3
SE +/- 10.54, N = 15
1402.73
4
SE +/- 4.78, N = 3
1379.74
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 0.7
Configuration: ETC1
Mpx/s, More Is Better
1
SE +/- 4.32, N = 3
323.10
2
SE +/- 2.93, N = 7
324.96
3
SE +/- 3.79, N = 3
319.76
4
SE +/- 0.84, N = 3
315.41
70
140
210
280
350
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

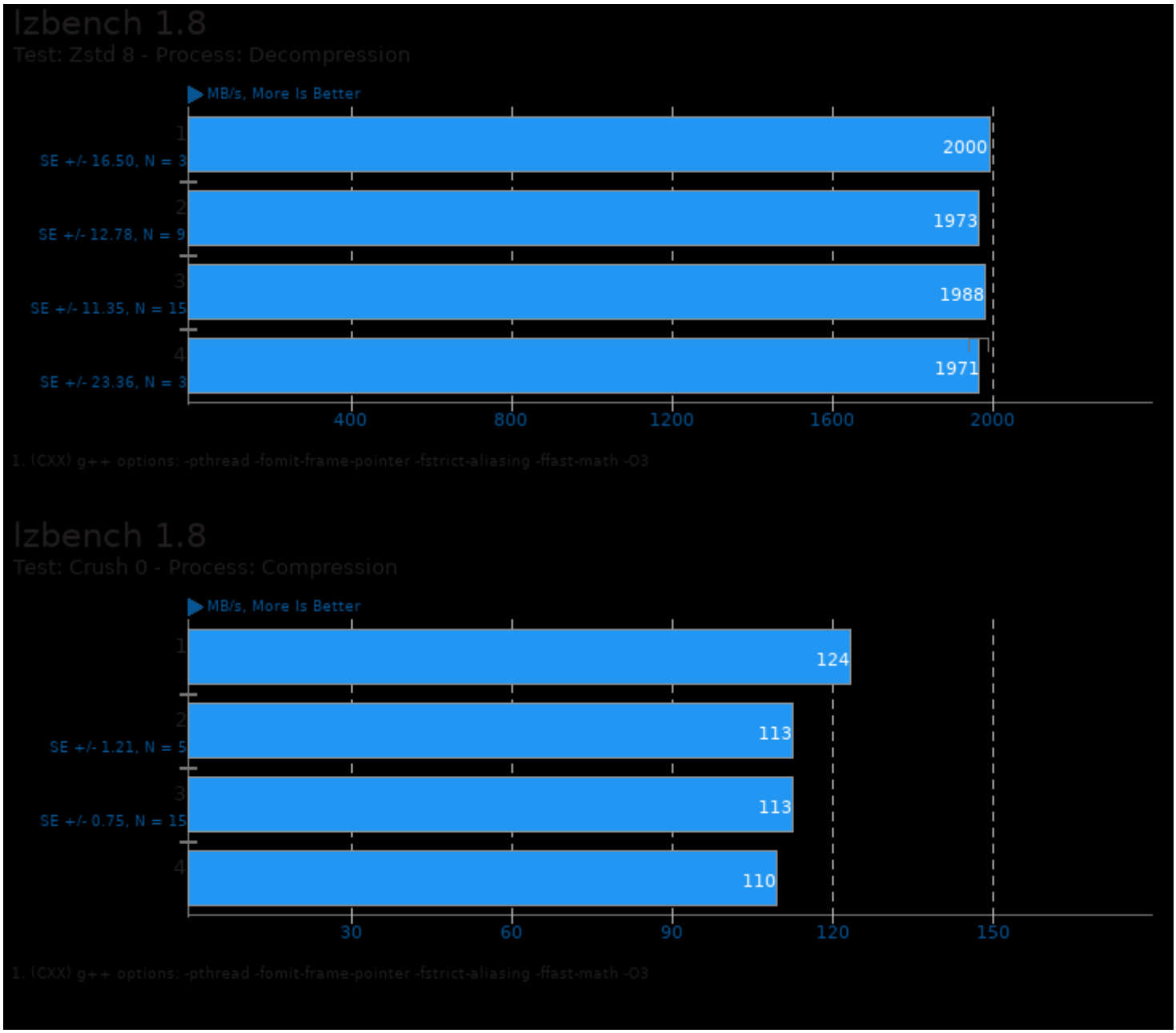

Etcpak 0.7
Configuration: ETC2
Mpx/s, More Is Better
1
SE +/- 0.10, N = 3
191.53
2
SE +/- 0.27, N = 3
191.71
3
SE +/- 0.93, N = 3
184.88
4
SE +/- 0.86, N = 3
184.17
40
80
120
160
200
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 0.7
Configuration: ETC1 + Dithering
Mpx/s, More Is Better
1
SE +/- 0.08, N = 3
299.99
2
SE +/- 0.04, N = 3
299.99
3
SE +/- 2.33, N = 9
292.67
4
SE +/- 0.06, N = 3
288.25
70
140
210
280
350
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

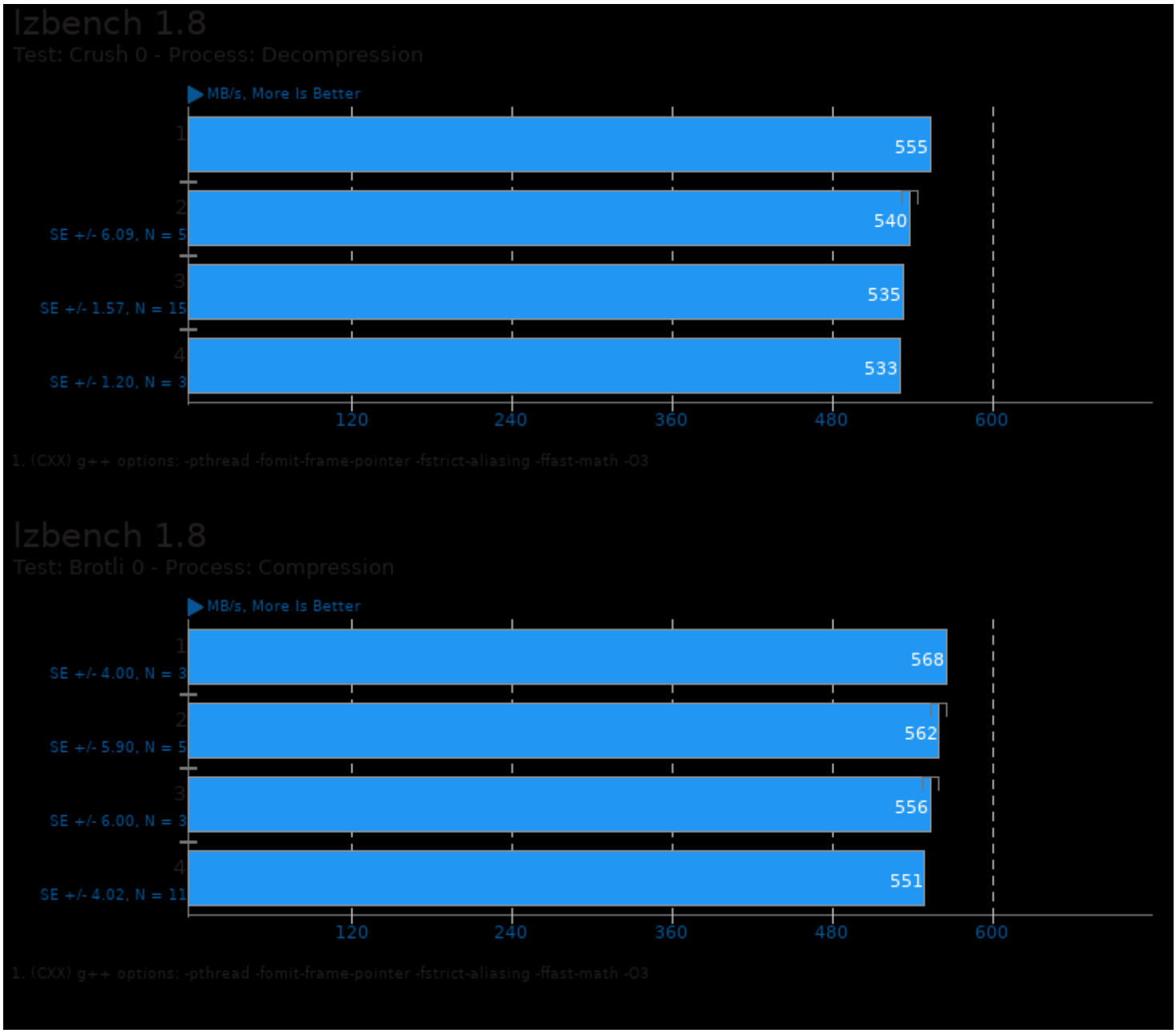

NAS Parallel Benchmarks 3.4
Test / Class: EP.C
Total Mop/s, More Is Better
1
SE +/- 1.82, N = 3
1125.63
2
SE +/- 2.21, N = 3
1122.34
3
SE +/- 1.04, N = 3
1124.14
4
SE +/- 1.41, N = 3
1120.95
200
400
600
800
1000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti
2. Open MPI 4.0.3
NAS Parallel Benchmarks 3.4
Test / Class: EP.D
Total Mop/s, More Is Better
1
SE +/- 1.21, N = 3
1113.76
2
SE +/- 2.12, N = 3
1116.27
3
SE +/- 1.25, N = 3
1117.72
4
SE +/- 1.17, N = 3
1115.75
200
400
600
800
1000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti
2. Open MPI 4.0.3

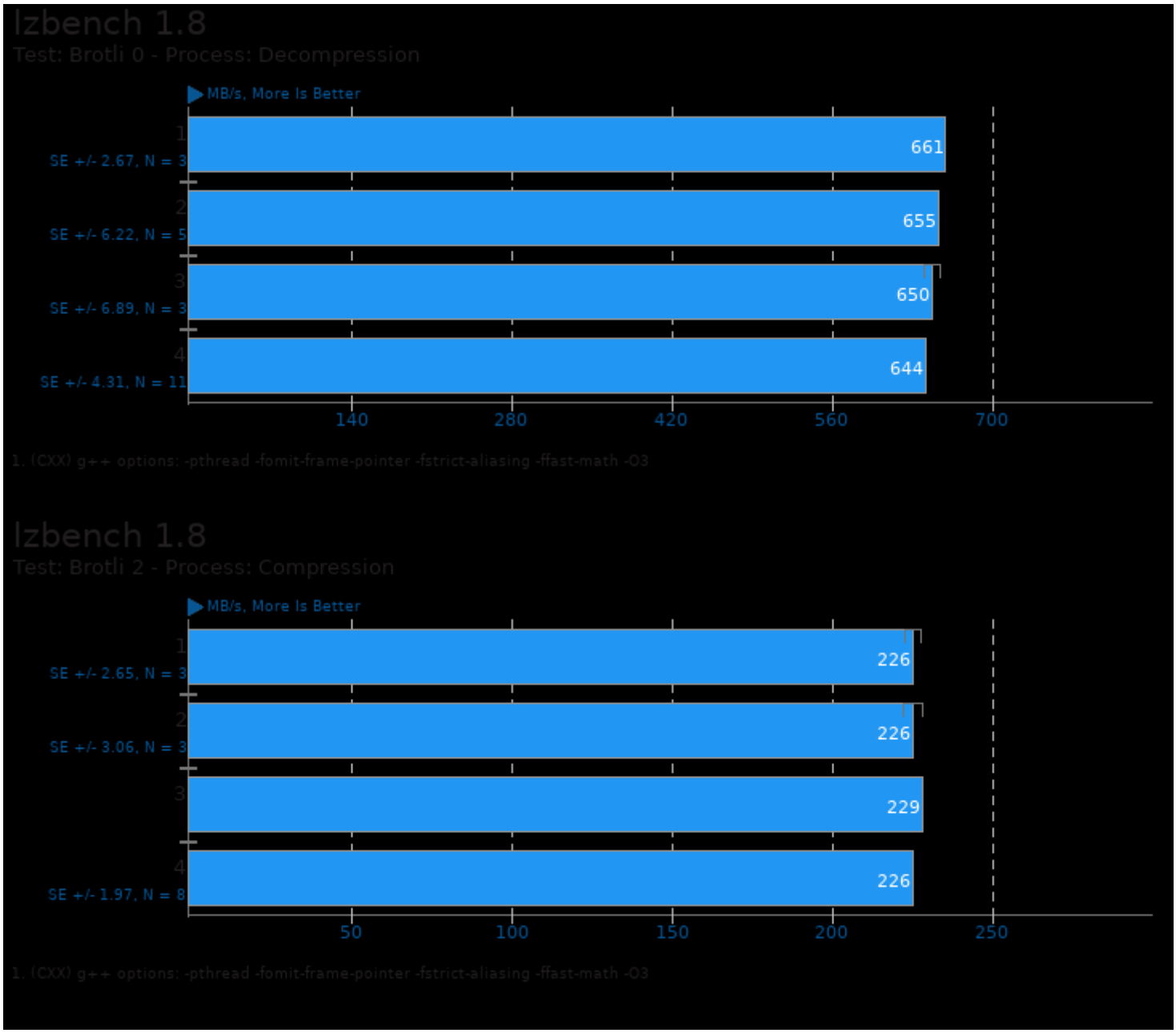

NAS Parallel Benchmarks 3.4
Test / Class: LU.C
Total Mop/s, More Is Better
1
SE +/- 18.43, N = 3
25440.71
2
SE +/- 15.97, N = 3
25746.75
3
SE +/- 6.52, N = 3
25770.17
4
SE +/- 85.43, N = 3
25620.07
6K
12K
18K
24K
30K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti
2. Open MPI 4.0.3
lzbench 1.8
Test: XZ 0 - Process: Compression
MB/s, More Is Better
1
45
2
43
3
43
4
SE +/- 0.50, N = 4
44
10
20
30
40
50
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: XZ 0 - Process: Decompression
MB/s, More Is Better
1
137
2
130
3
131
4
133
SE +/- 1.49, N = 4
30
60
90
120
150
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Zstd 1 - Process: Compression
MB/s, More Is Better
1
586
SE +/- 0.67, N = 3
2
567
SE +/- 2.65, N = 3
3
567
4
566
130
260
390
520
650
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: Zstd 1 - Process: Decompression
MB/s, More Is Better
1
SE +/- 9.35, N = 3
1821
2
SE +/- 5.36, N = 3
1748
3
SE +/- 3.46, N = 3
1750
4
SE +/- 1.45, N = 3
1749
400
800
1200
1600
2000
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Zstd 8 - Process: Compression
MB/s, More Is Better
1
113
2
SE +/- 0.92, N = 9
111
3
SE +/- 0.98, N = 15
112
4
111
30
60
90
120
150
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

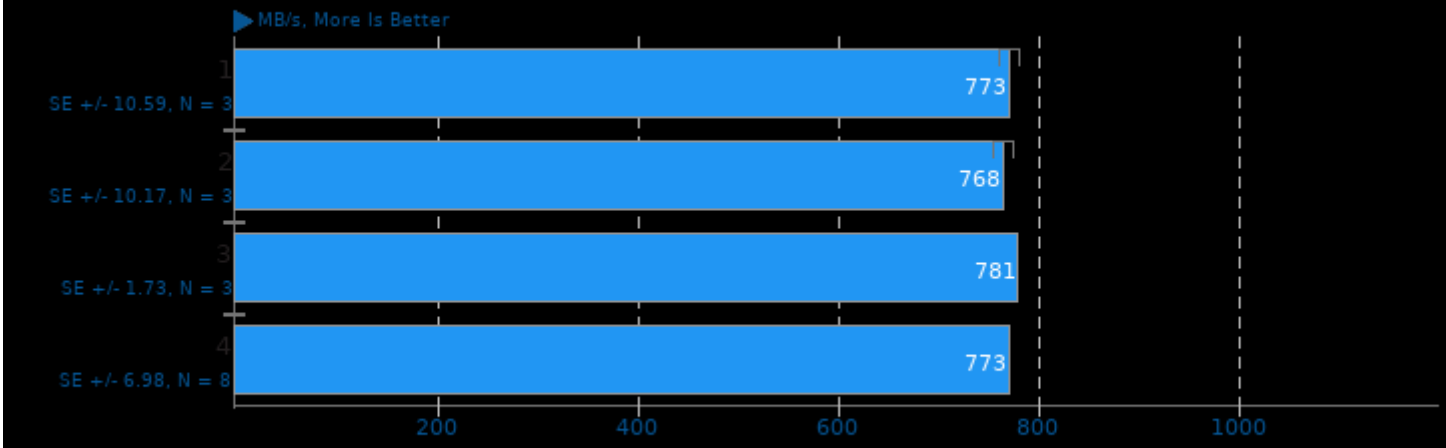

lzbench 1.8
Test: Zstd 8 - Process: Decompression
MB/s, More Is Better
1
SE +/- 16.50, N = 3
2000
2
SE +/- 12.78, N = 9
1973
3
SE +/- 11.35, N = 15
1988
4
SE +/- 23.36, N = 3
1971
400
800
1200
1600
2000
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Crush 0 - Process: Compression
MB/s, More Is Better
1
124
2
SE +/- 1.21, N = 5
113
3
SE +/- 0.75, N = 15
113
4
110
30
60
90
120
150
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: Crush 0 - Process: Decompression
MB/s, More Is Better
1
555
2
540
SE +/- 6.09, N = 5
3
535
SE +/- 1.57, N = 15
4
533
SE +/- 1.20, N = 3
120
240
360
480
600
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Brotli 0 - Process: Compression
MB/s, More Is Better
1
568
SE +/- 4.00, N = 3
2
562
SE +/- 5.90, N = 5
3
556
SE +/- 6.00, N = 3
4
551
SE +/- 4.02, N = 11
120
240
360
480
600
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: Brotli 0 - Process: Decompression
MB/s, More Is Better
1
SE +/- 2.67, N = 3
661
2
SE +/- 6.22, N = 5
655
3
SE +/- 6.89, N = 3
650
4
SE +/- 4.31, N = 11
644
140
280
420
560
700
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Brotli 2 - Process: Compression
MB/s, More Is Better
1
SE +/- 2.65, N = 3
226
2
SE +/- 3.06, N = 3
226
3
229
4
SE +/- 1.97, N = 8
226
50
100
150
200
250
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

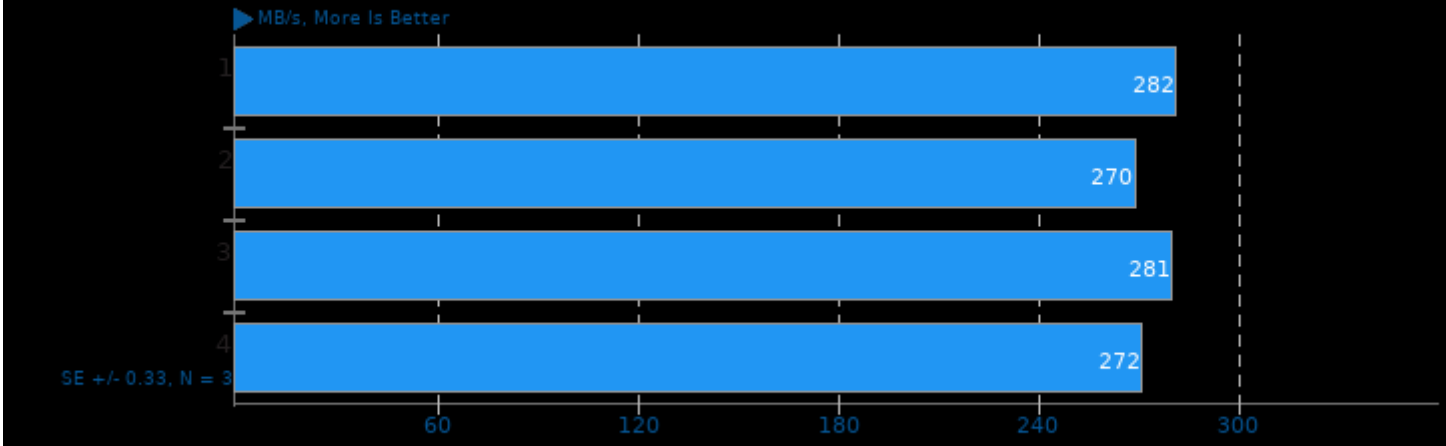
Test: Brotli 2 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

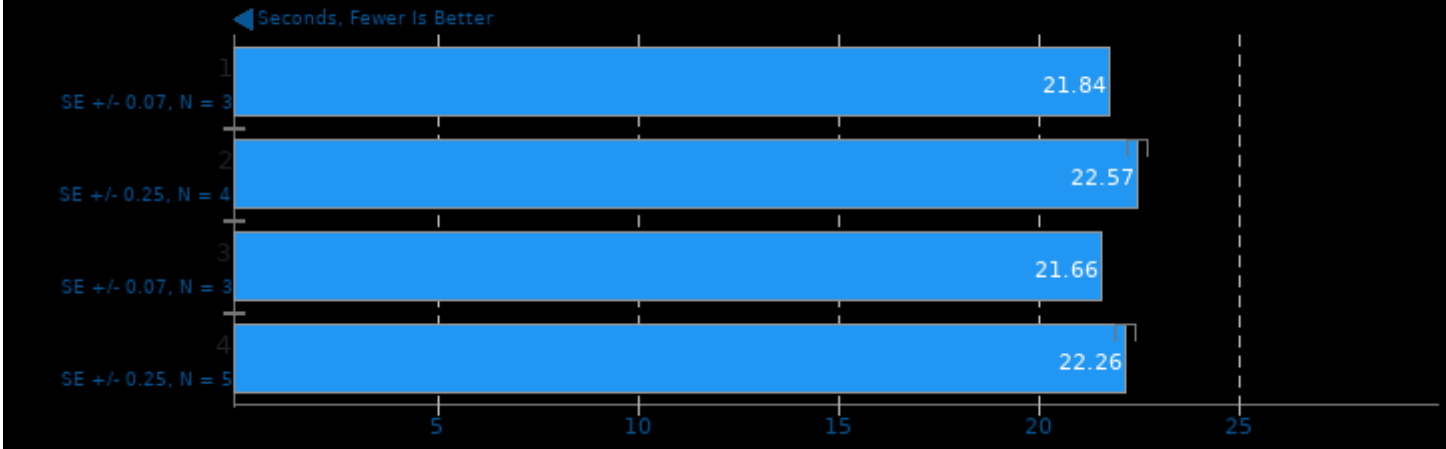
Test: Libdeflate 1 - Process: Compression

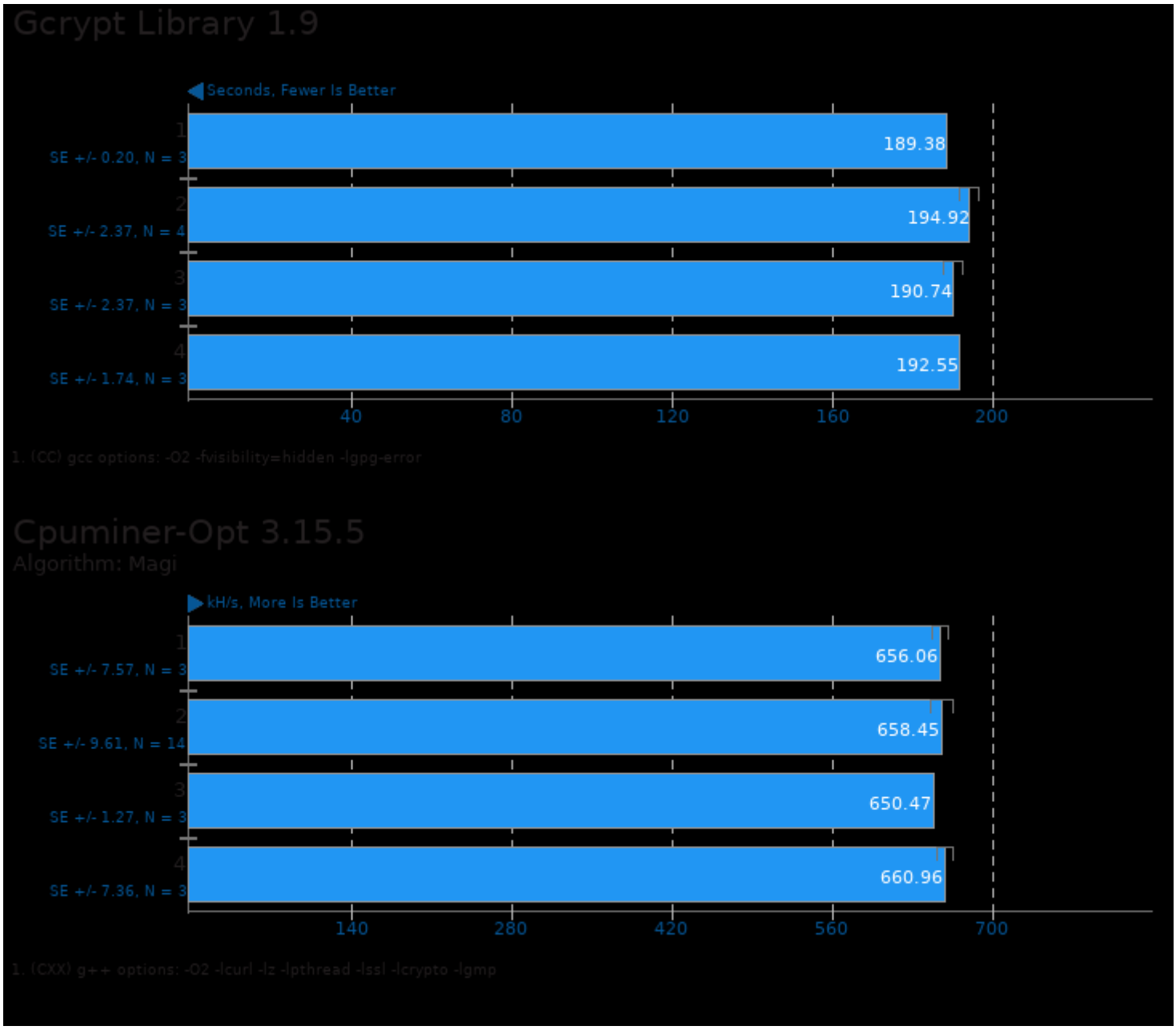


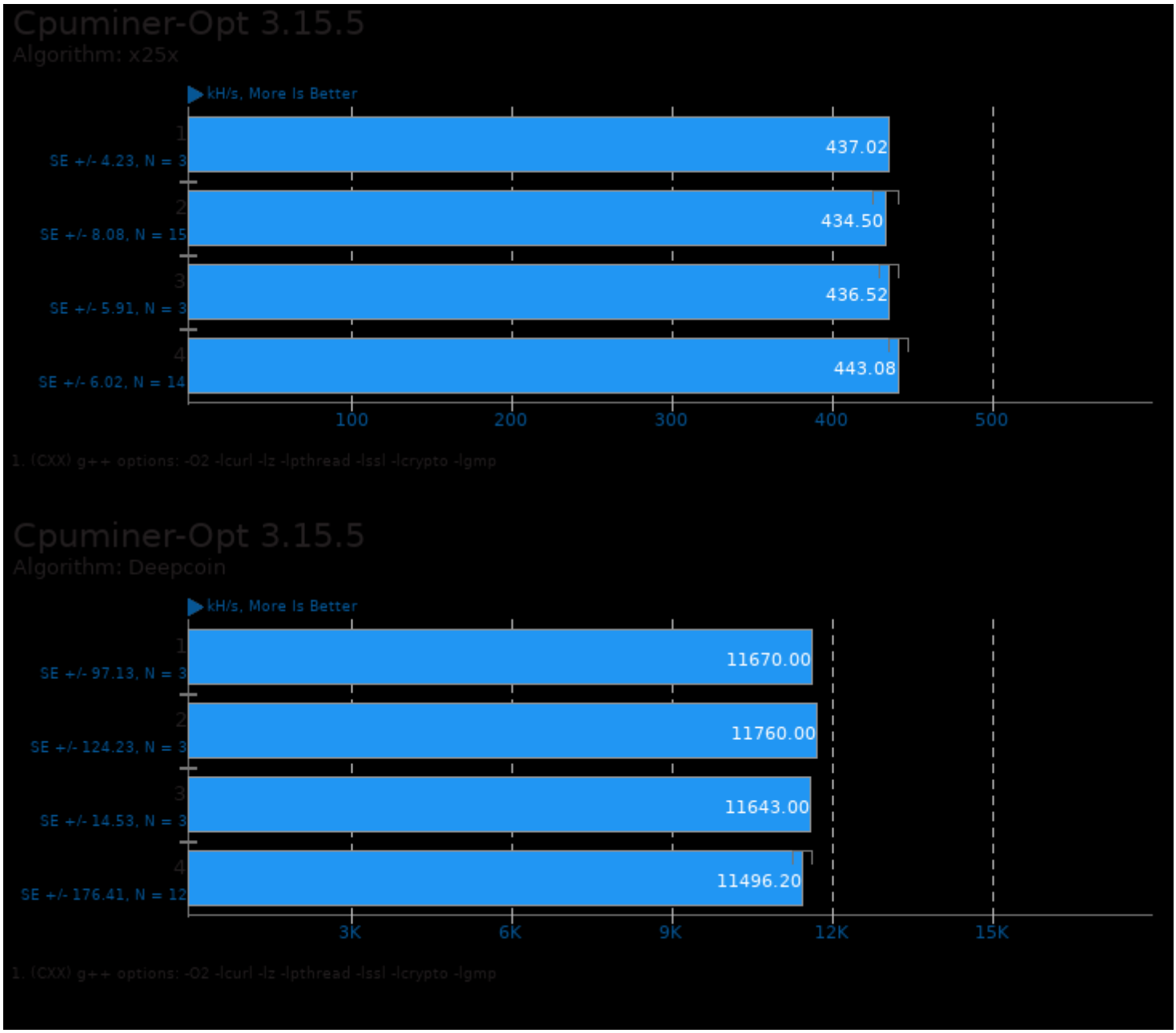
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

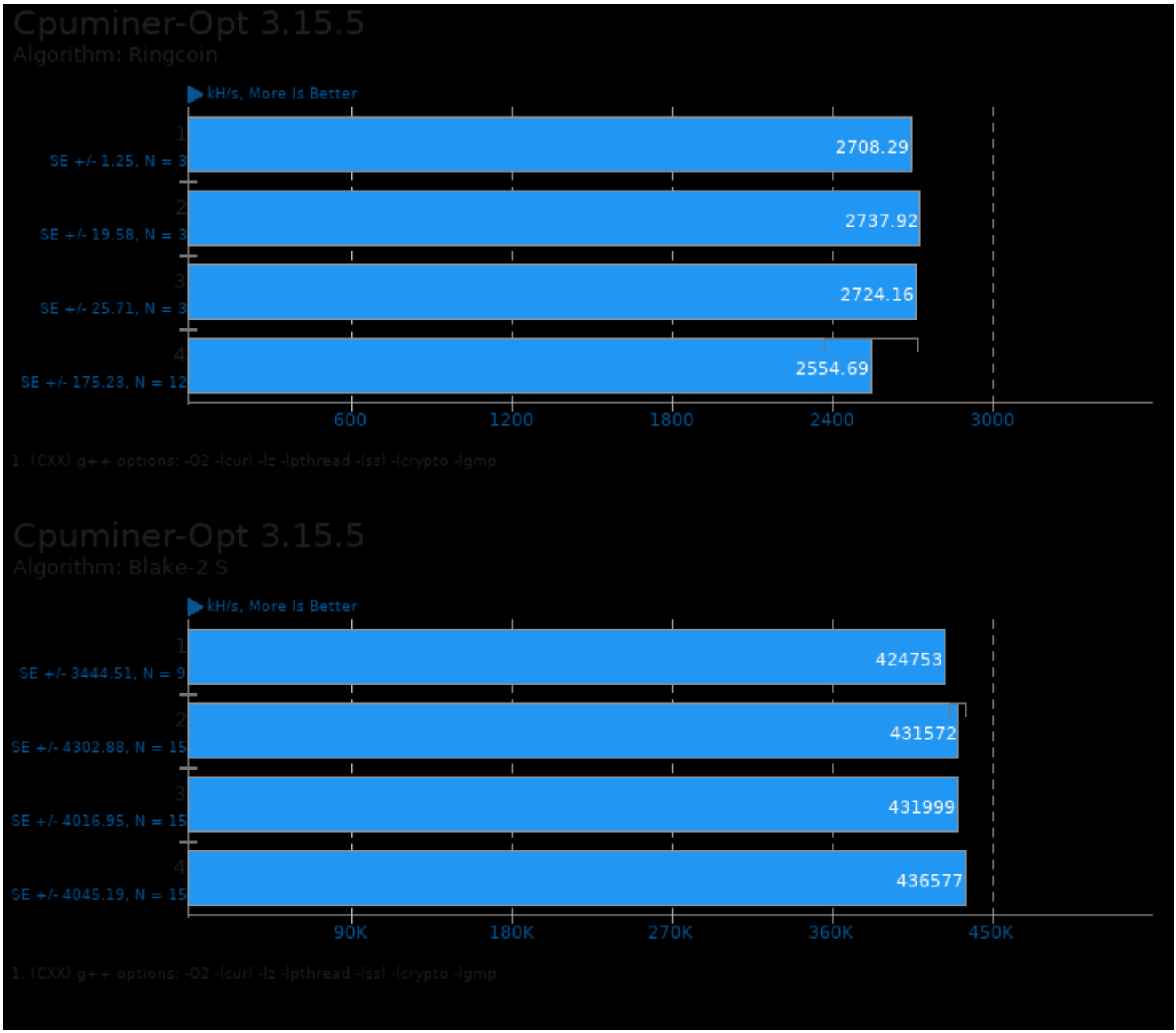
Cython Benchmark 0.29.21

Test: N-Queens

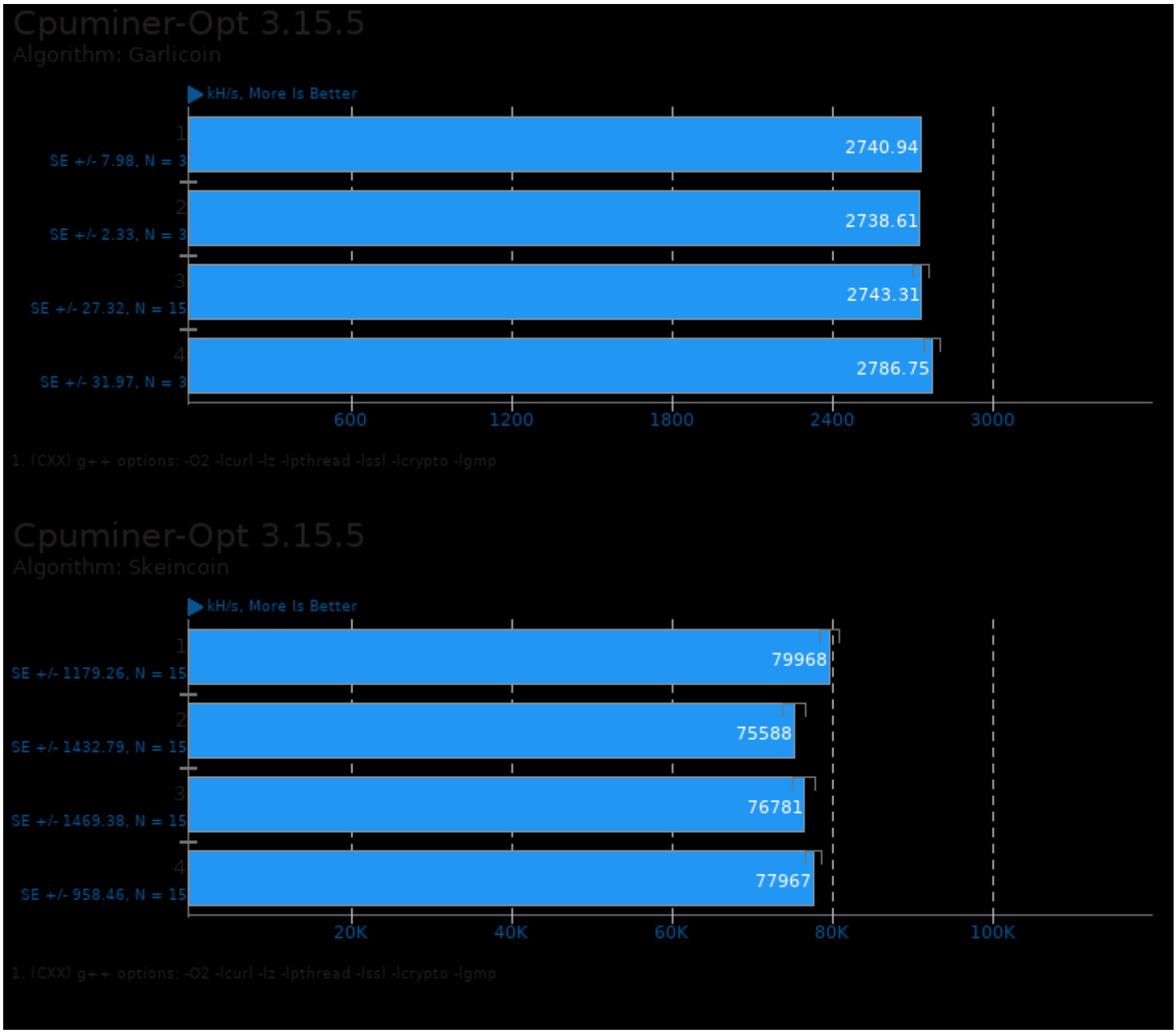



Gcrypt Library 1.9
Seconds, Fewer Is Better
1
SE +/- 0.20, N = 3
189.38
2
SE +/- 2.37, N = 4
194.92
3
SE +/- 2.37, N = 3
190.74
4
SE +/- 1.74, N = 3
192.55
40
80
120
160
200
1. (CC) gcc options: -O2 -fvisibility=hidden -lgpg-error
Cpuminer-Opt 3.15.5
Algorithm: Magi
kH/s, More Is Better
1
SE +/- 7.57, N = 3
656.06
2
SE +/- 9.61, N = 14
658.45
3
SE +/- 1.27, N = 3
650.47
4
SE +/- 7.36, N = 3
660.96
140
280
420
560
700
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

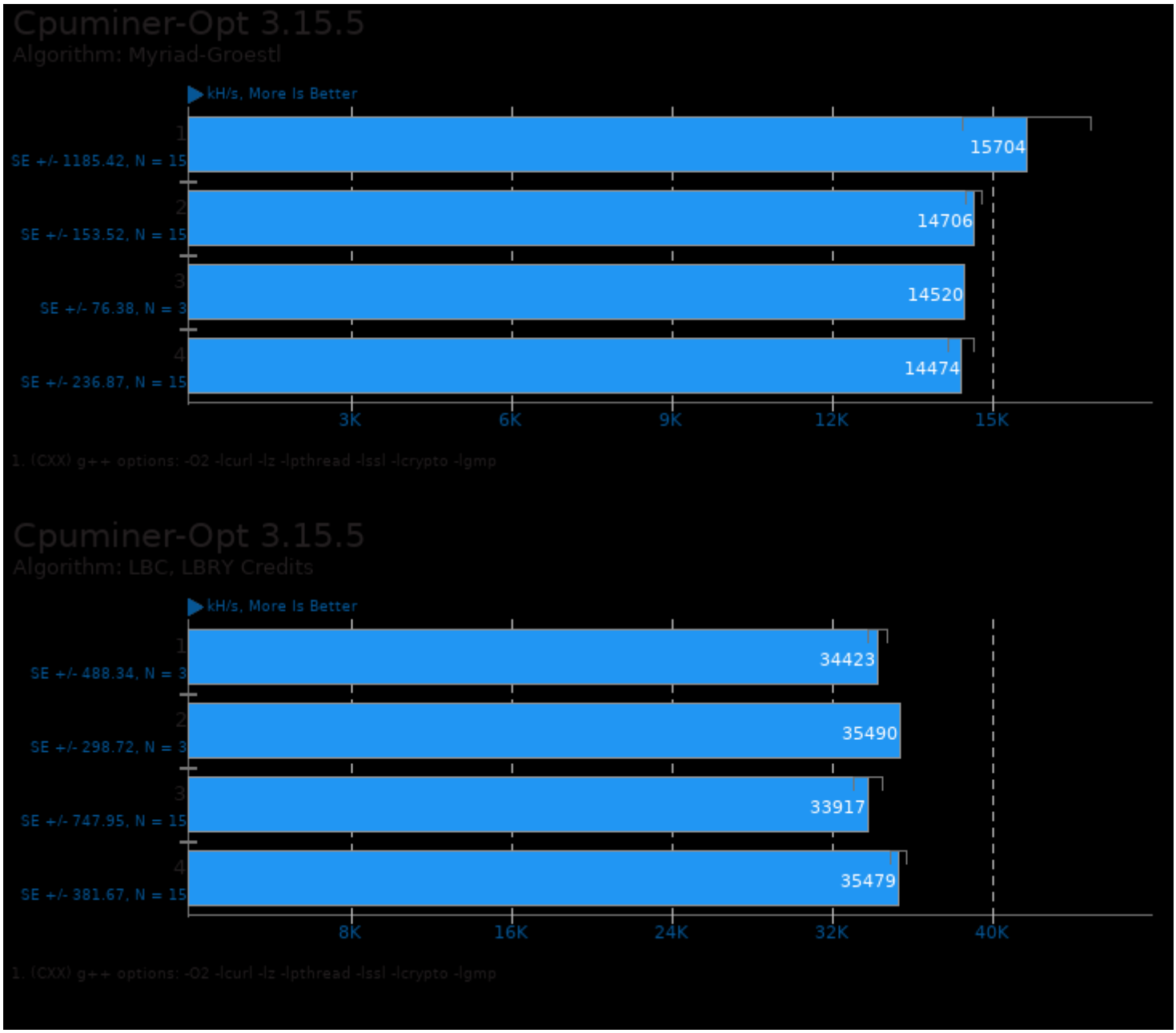

Cpuminer-Opt 3.15.5
Algorithm: x25x
kH/s, More Is Better
1
SE +/- 4.23, N = 3
437.02
2
SE +/- 8.08, N = 15
434.50
3
SE +/- 5.91, N = 3
436.52
4
SE +/- 6.02, N = 14
443.08
100
200
300
400
500
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.15.5
Algorithm: Deepcoin
kH/s, More Is Better
1
SE +/- 97.13, N = 3
11670.00
2
SE +/- 124.23, N = 3
11760.00
3
SE +/- 14.53, N = 3
11643.00
4
SE +/- 176.41, N = 12
11496.20
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

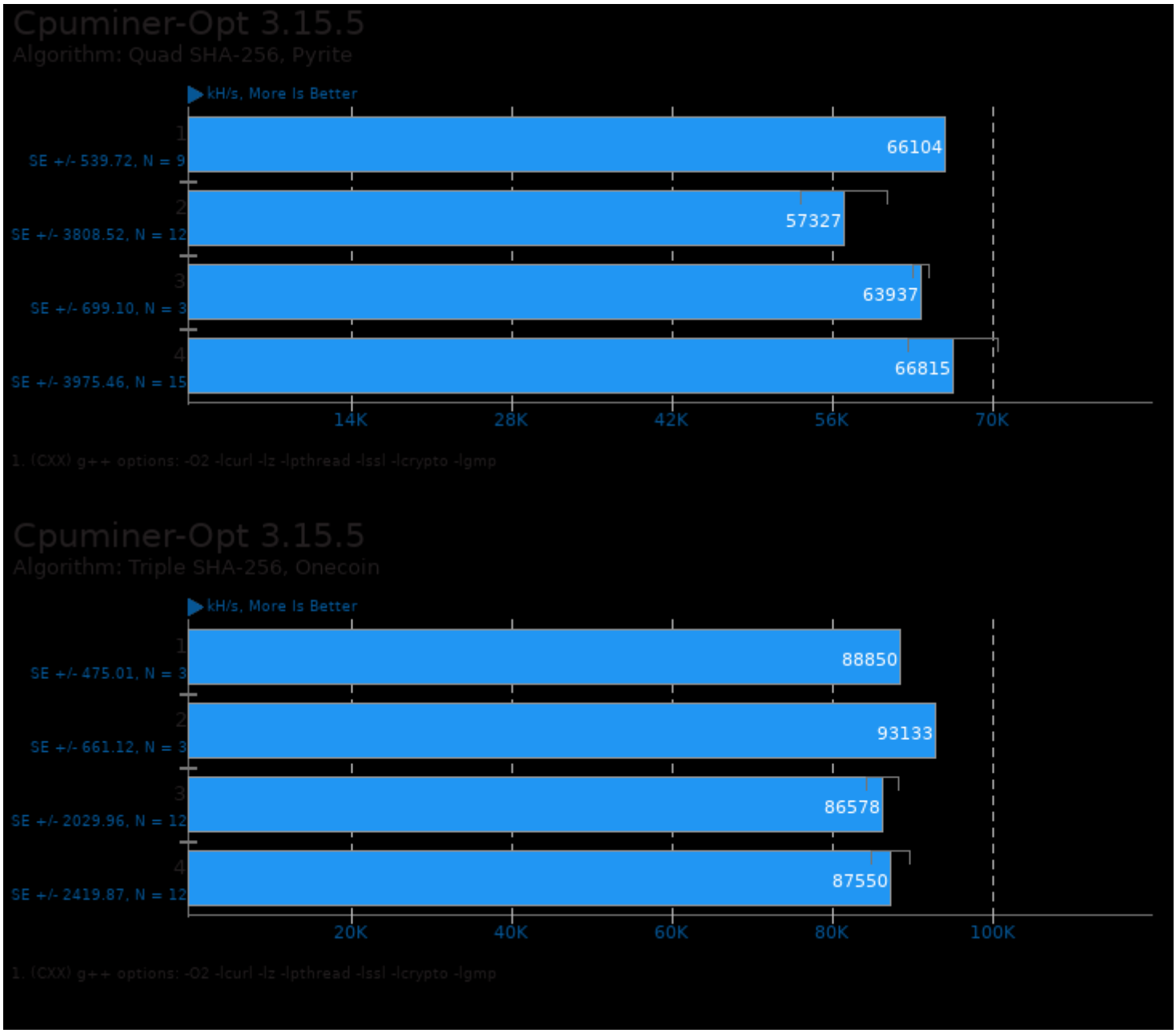

Cpuminer-Opt 3.15.5
Algorithm: Ringcoin
kH/s, More Is Better
1
SE +/- 1.25, N = 3
2708.29
2
SE +/- 19.58, N = 3
2737.92
3
SE +/- 25.71, N = 3
2724.16
4
SE +/- 175.23, N = 12
2554.69
600
1200
1800
2400
3000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.15.5
Algorithm: Blake-2 S
kH/s, More Is Better
1
SE +/- 3444.51, N = 9
424753
2
SE +/- 4302.88, N = 15
431572
3
SE +/- 4016.95, N = 15
431999
4
SE +/- 4045.19, N = 15
436577
90K
180K
270K
360K
450K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

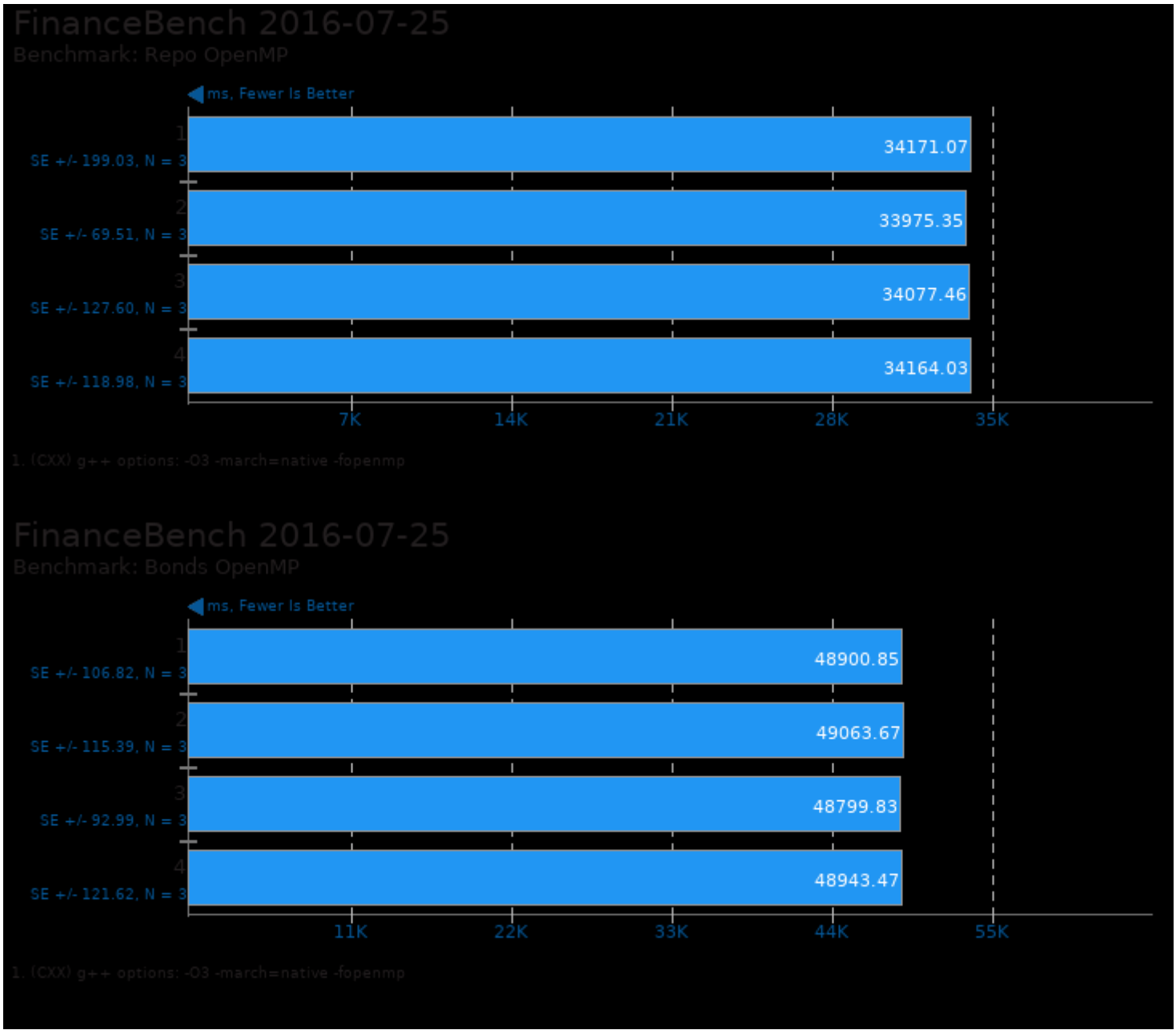
3900XT Mon

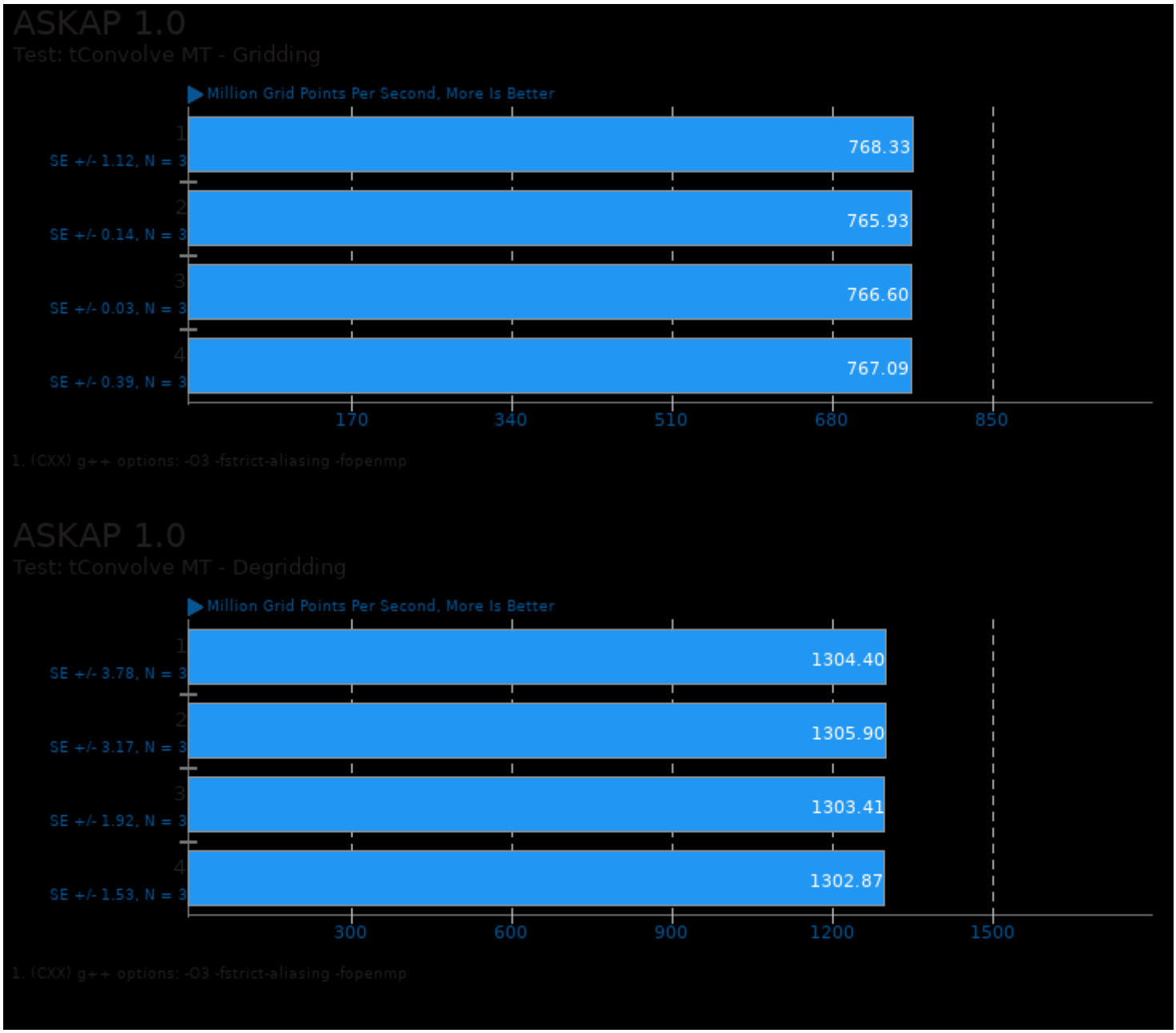

Cpuminer-Opt 3.15.5
Algorithm: Garlicoin
kH/s, More Is Better
1
SE +/- 7.98, N = 3
2740.94
2
SE +/- 2.33, N = 3
2738.61
3
SE +/- 27.32, N = 15
2743.31
4
SE +/- 31.97, N = 3
2786.75
600
1200
1800
2400
3000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.15.5
Algorithm: Skeincoin
kH/s, More Is Better
1
SE +/- 1179.26, N = 15
79968
2
SE +/- 1432.79, N = 15
75588
3
SE +/- 1469.38, N = 15
76781
4
SE +/- 958.46, N = 15
77967
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

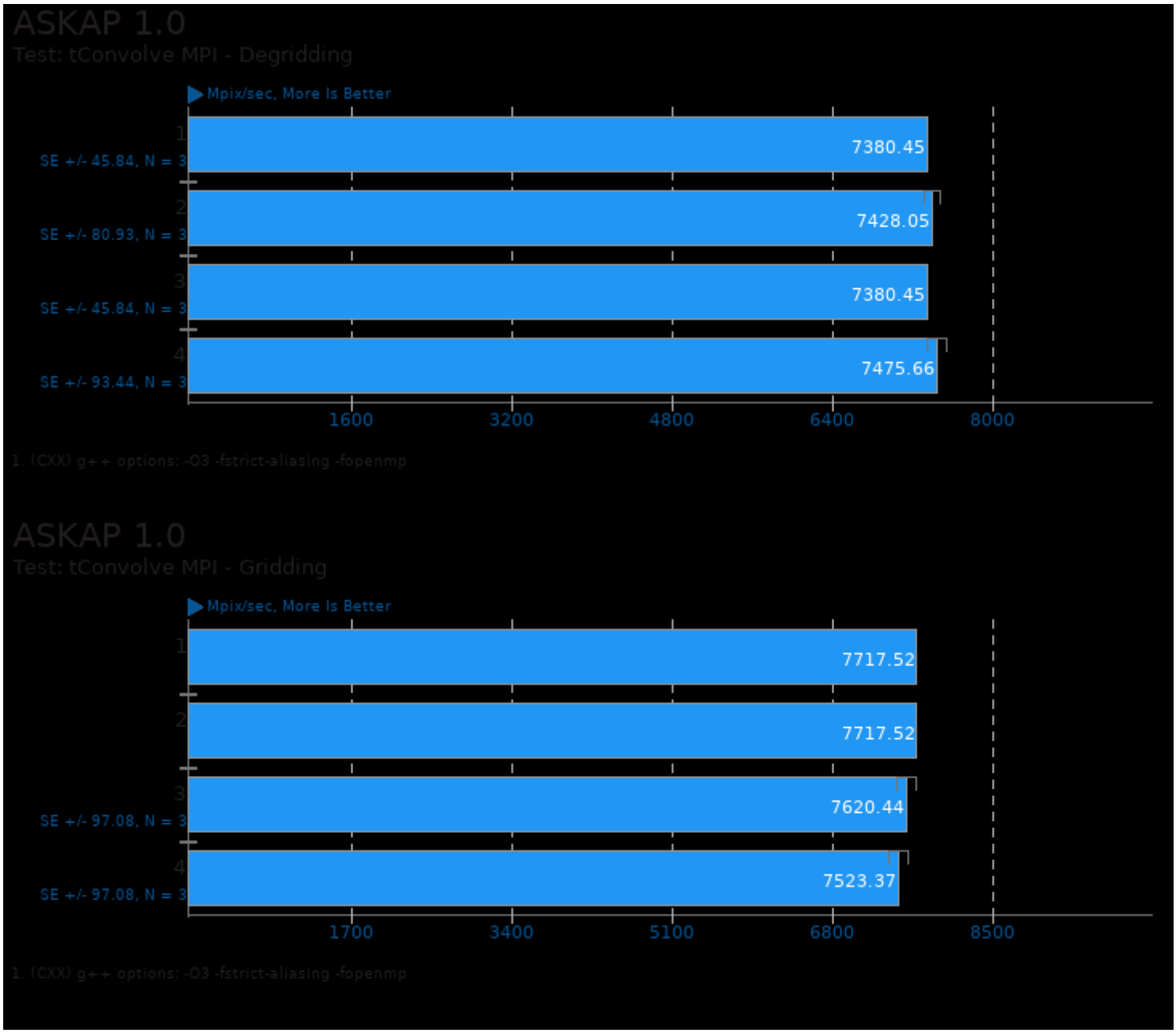
3900XT Mon

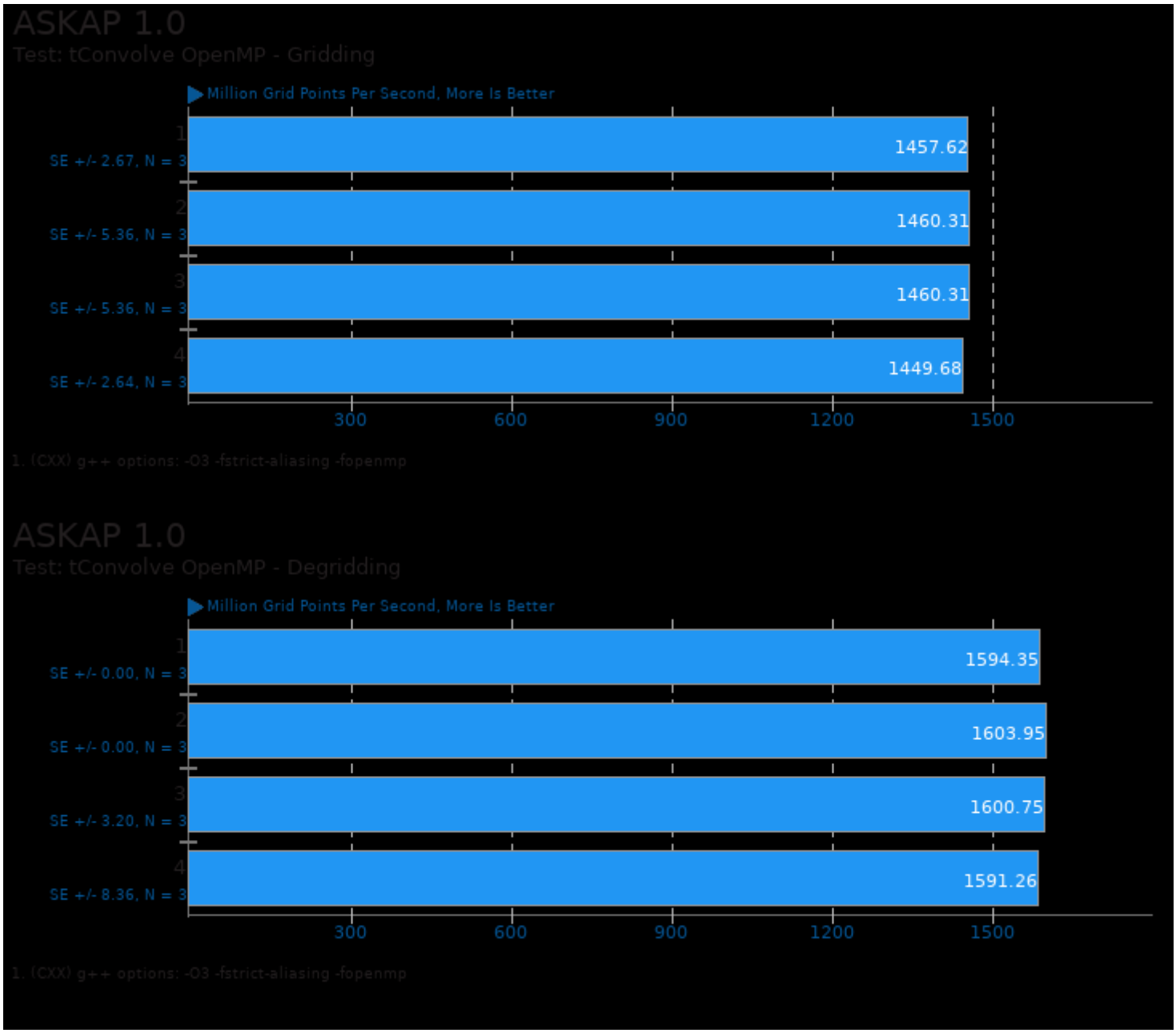

Cpuminer-Opt 3.15.5
Algorithm: Myriad-Groestl
kH/s, More Is Better
1
SE +/- 1185.42, N = 15
15704
2
SE +/- 153.52, N = 15
14706
3
SE +/- 76.38, N = 3
14520
4
SE +/- 236.87, N = 15
14474
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.15.5
Algorithm: LBC, LBRY Credits
kH/s, More Is Better
1
SE +/- 488.34, N = 3
34423
2
SE +/- 298.72, N = 3
35490
3
SE +/- 747.95, N = 15
33917
4
SE +/- 381.67, N = 15
35479
8K
16K
24K
32K
40K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

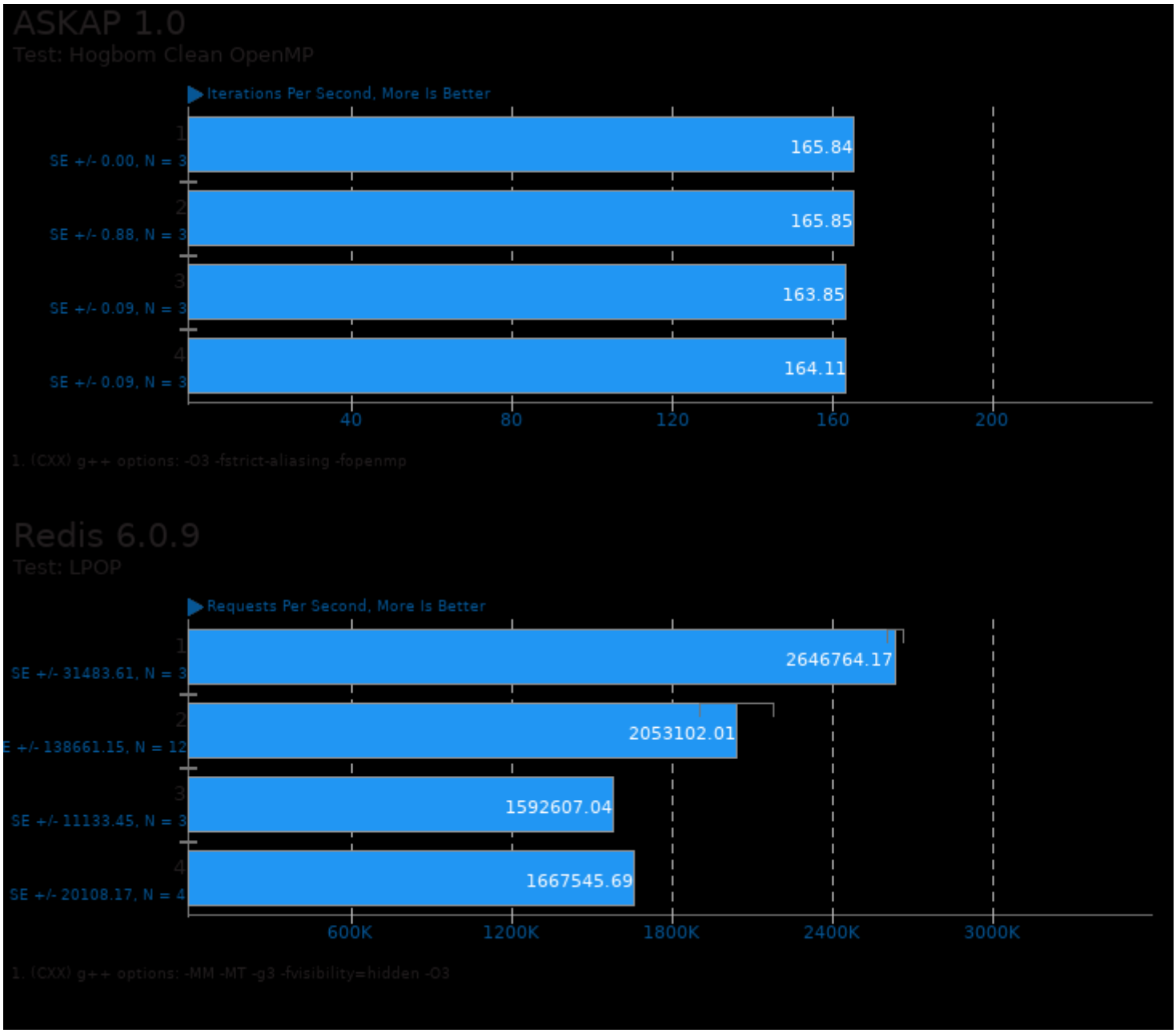

Cpuminer-Opt 3.15.5
Algorithm: Quad SHA-256, Pyrite
kH/s, More Is Better
1
SE +/- 539.72, N = 9
66104
2
SE +/- 3808.52, N = 12
57327
3
SE +/- 699.10, N = 3
63937
4
SE +/- 3975.46, N = 15
66815
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.15.5
Algorithm: Triple SHA-256, Onecoin
kH/s, More Is Better
1
SE +/- 475.01, N = 3
88850
2
SE +/- 661.12, N = 3
93133
3
SE +/- 2029.96, N = 12
86578
4
SE +/- 2419.87, N = 12
87550
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

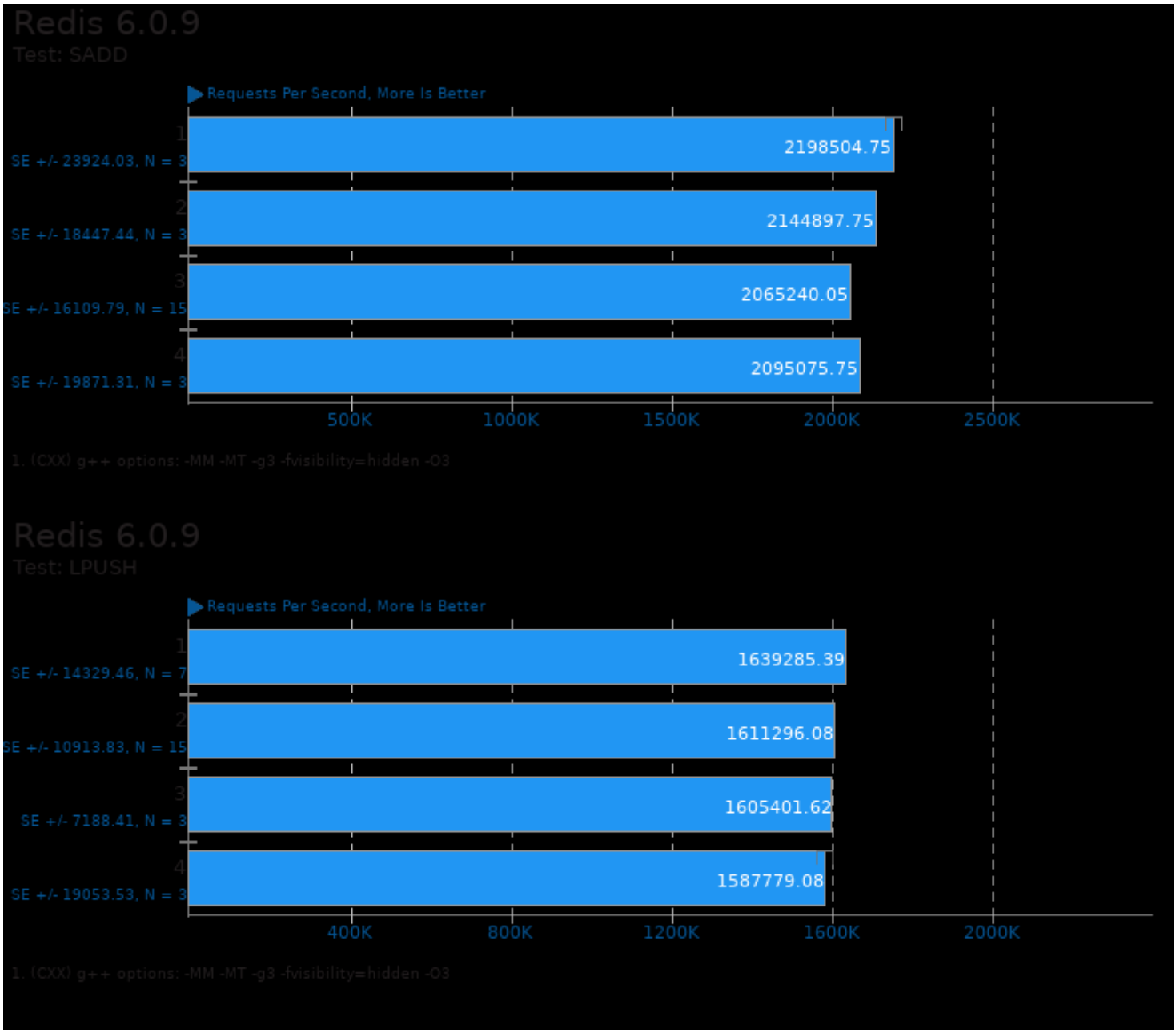

FinanceBench 2016-07-25
Benchmark: Repo OpenMP
ms, Fewer Is Better
1
SE +/- 199.03, N = 3
34171.07
2
SE +/- 69.51, N = 3
33975.35
3
SE +/- 127.60, N = 3
34077.46
4
SE +/- 118.98, N = 3
34164.03
7K
14K
21K
28K
35K
1. (CXX) g++ options: -O3 -march=native -fopenmp
FinanceBench 2016-07-25
Benchmark: Bonds OpenMP
ms, Fewer Is Better
1
SE +/- 106.82, N = 3
48900.85
2
SE +/- 115.39, N = 3
49063.67
3
SE +/- 92.99, N = 3
48799.83
4
SE +/- 121.62, N = 3
48943.47
11K
22K
33K
44K
55K
1. (CXX) g++ options: -O3 -march=native -fopenmp

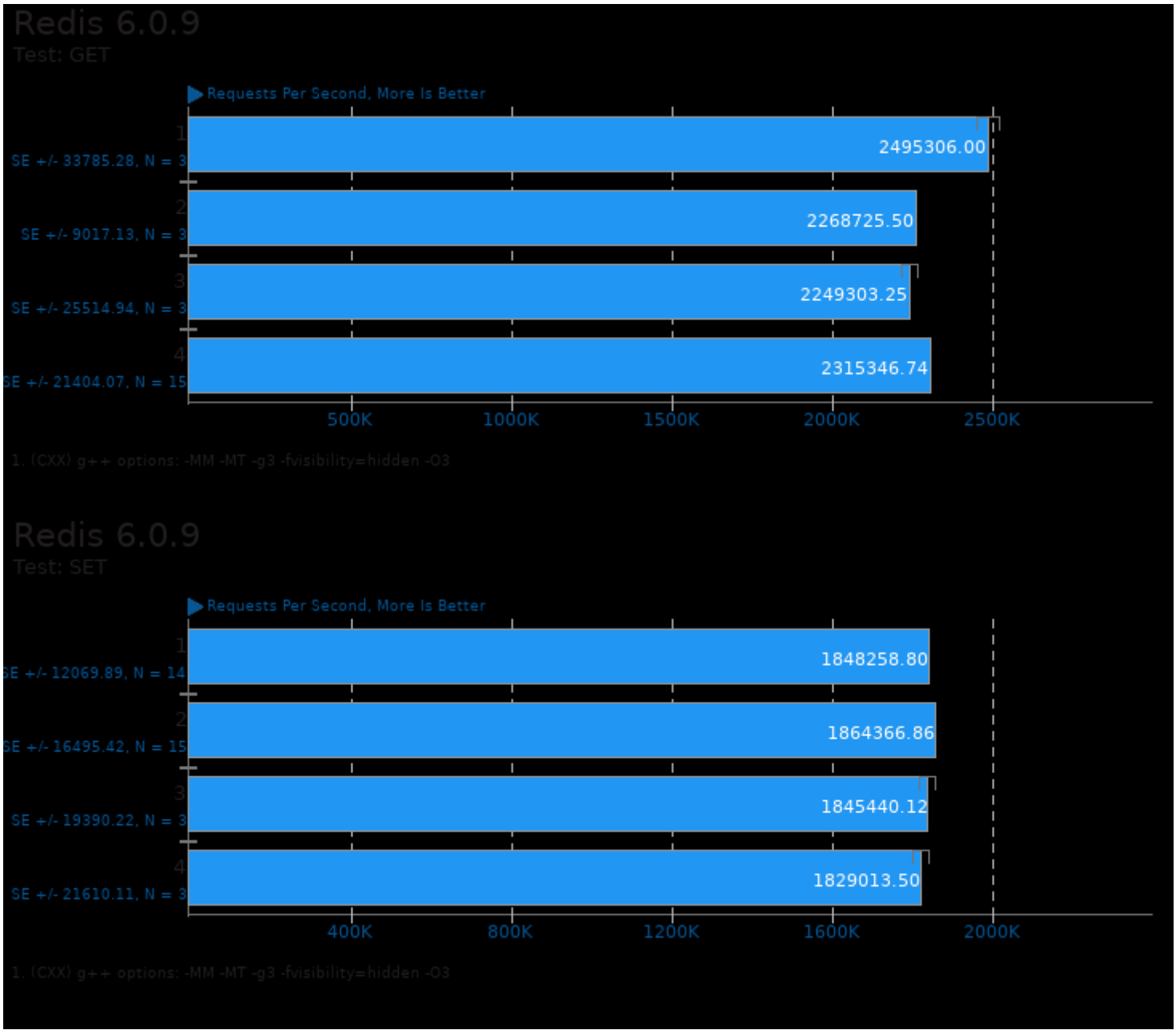

ASKAP 1.0
Test: tConvolve MT - Gridding
Million Grid Points Per Second, More Is Better
1
SE +/- 1.12, N = 3
768.33
2
SE +/- 0.14, N = 3
765.93
3
SE +/- 0.03, N = 3
766.60
4
SE +/- 0.39, N = 3
767.09
170
340
510
680
850
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve MT - Degridding
Million Grid Points Per Second, More Is Better
1
SE +/- 3.78, N = 3
1304.40
2
SE +/- 3.17, N = 3
1305.90
3
SE +/- 1.92, N = 3
1303.41
4
SE +/- 1.53, N = 3
1302.87
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

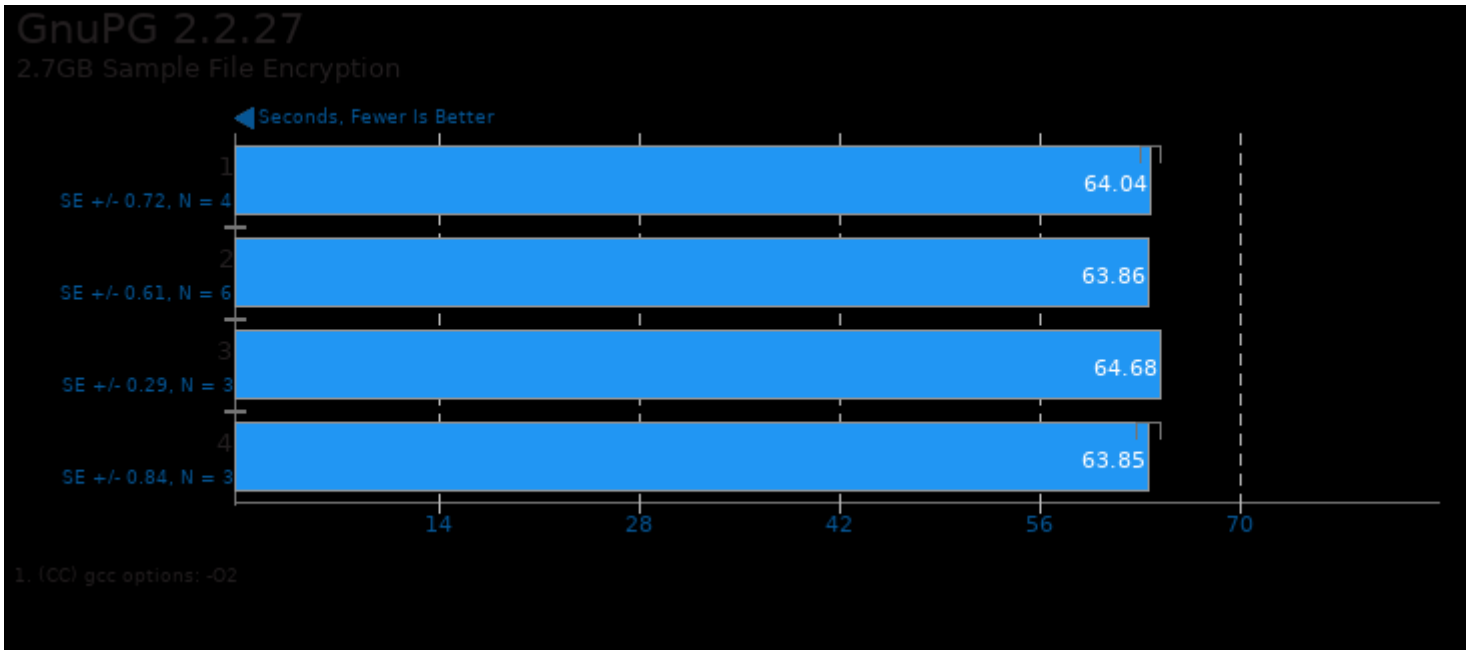

ASKAP 1.0
Test: tConvolve MPI - Degridding
Mpix/sec, More Is Better
1
SE +/- 45.84, N = 3
7380.45
2
SE +/- 80.93, N = 3
7428.05
3
SE +/- 45.84, N = 3
7380.45
4
SE +/- 93.44, N = 3
7475.66
1600
3200
4800
6400
8000
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve MPI - Gridding
Mpix/sec, More Is Better
1
7717.52
2
7717.52
3
SE +/- 97.08, N = 3
7620.44
4
SE +/- 97.08, N = 3
7523.37
1700
3400
5100
6800
8500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp


ASKAP 1.0
Test: tConvolve OpenMP - Gridding
Million Grid Points Per Second, More Is Better
1
SE +/- 2.67, N = 3
1457.62
2
SE +/- 5.36, N = 3
1460.31
3
SE +/- 5.36, N = 3
1460.31
4
SE +/- 2.64, N = 3
1449.68
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve OpenMP - Degridding
Million Grid Points Per Second, More Is Better
1
SE +/- 0.00, N = 3
1594.35
2
SE +/- 0.00, N = 3
1603.95
3
SE +/- 3.20, N = 3
1600.75
4
SE +/- 8.36, N = 3
1591.26
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

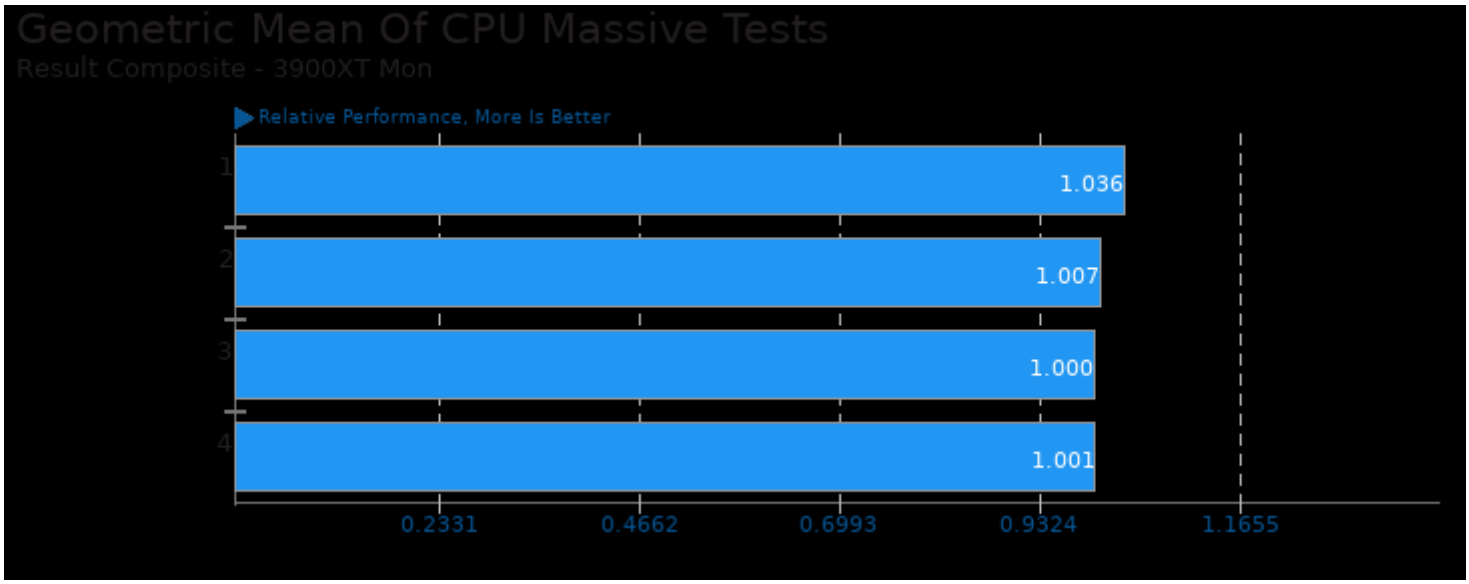

ASKAP 1.0
Test: Hogbom Clean OpenMP
Iterations Per Second, More Is Better
1
SE +/- 0.00, N = 3
165.84
2
SE +/- 0.88, N = 3
165.85
3
SE +/- 0.09, N = 3
163.85
4
SE +/- 0.09, N = 3
164.11
40
80
120
160
200
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
Redis 6.0.9
Test: LPOP
Requests Per Second, More Is Better
1
SE +/- 31483.61, N = 3
2646764.17
2
E +/- 138661.15, N = 12
2053102.01
3
SE +/- 11133.45, N = 3
1592607.04
4
SE +/- 20108.17, N = 4
1667545.69
600K
1200K
1800K
2400K
3000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3


Redis 6.0.9
Test: SADD
Requests Per Second, More Is Better
1
SE +/- 23924.03, N = 3
2198504.75
2
SE +/- 18447.44, N = 3
2144897.75
3
SE +/- 16109.79, N = 15
2065240.05
4
SE +/- 19871.31, N = 3
2095075.75
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: LPUSH
Requests Per Second, More Is Better
1
SE +/- 14329.46, N = 7
1639285.39
2
SE +/- 10913.83, N = 15
1611296.08
3
SE +/- 7188.41, N = 3
1605401.62
4
SE +/- 19053.53, N = 3
1587779.08
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

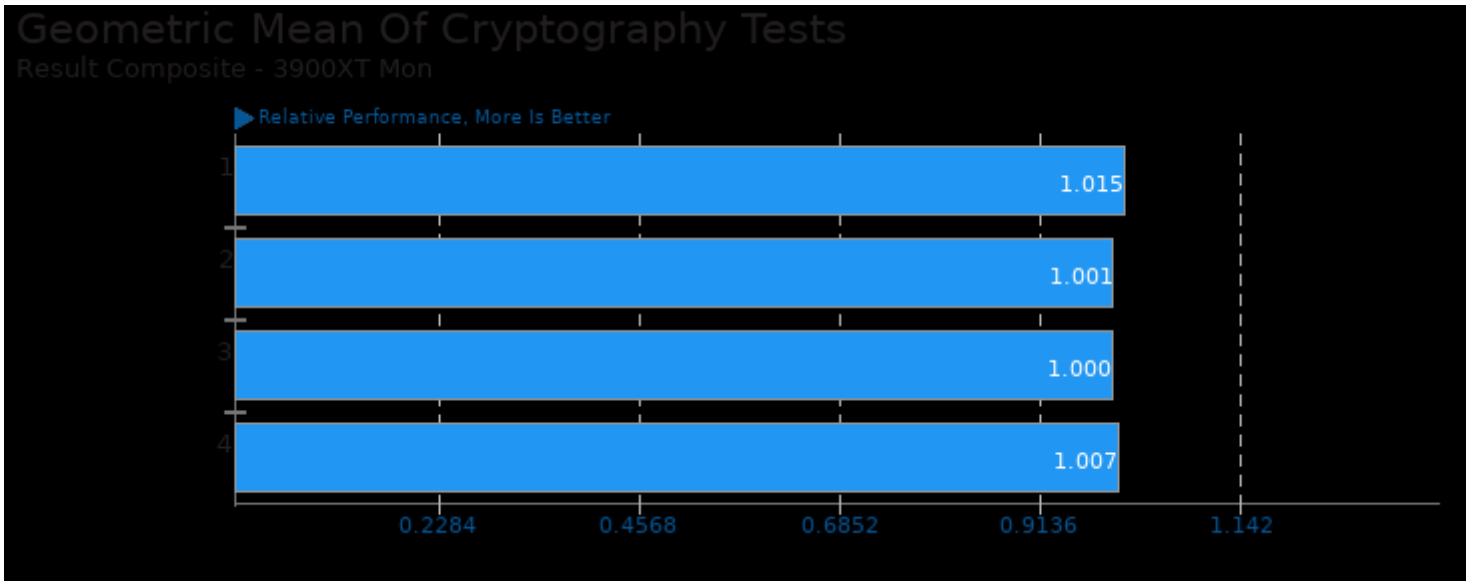

Redis 6.0.9
Test: GET
Requests Per Second, More Is Better
1
2495306.00
SE +/- 33785.28, N = 3
2
2268725.50
SE +/- 9017.13, N = 3
3
2249303.25
SE +/- 25514.94, N = 3
4
2315346.74
SE +/- 21404.07, N = 15
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: SET
Requests Per Second, More Is Better
1
1848258.80
SE +/- 12069.89, N = 14
2
1864366.86
SE +/- 16495.42, N = 15
3
1845440.12
SE +/- 19390.22, N = 3
4
1829013.50
SE +/- 21610.11, N = 3
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3


GnuPG 2.2.27
2.7GB Sample File Encryption
Seconds, Fewer Is Better
1
SE +/- 0.72, N = 4
64.04
2
SE +/- 0.61, N = 6
63.86
3
SE +/- 0.29, N = 3
64.68
4
SE +/- 0.84, N = 3
63.85
14
28
42
56
70
1. (CC) gcc options: -O2

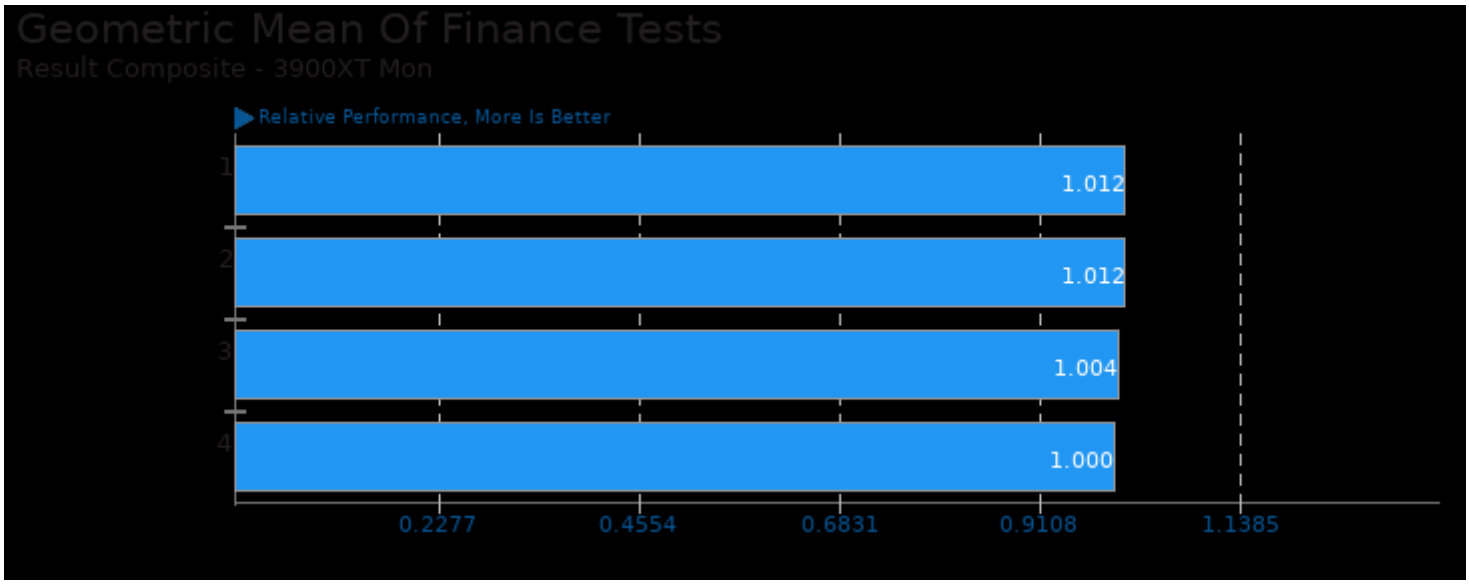
These geometric means are based upon test groupings / test suites for this result file.



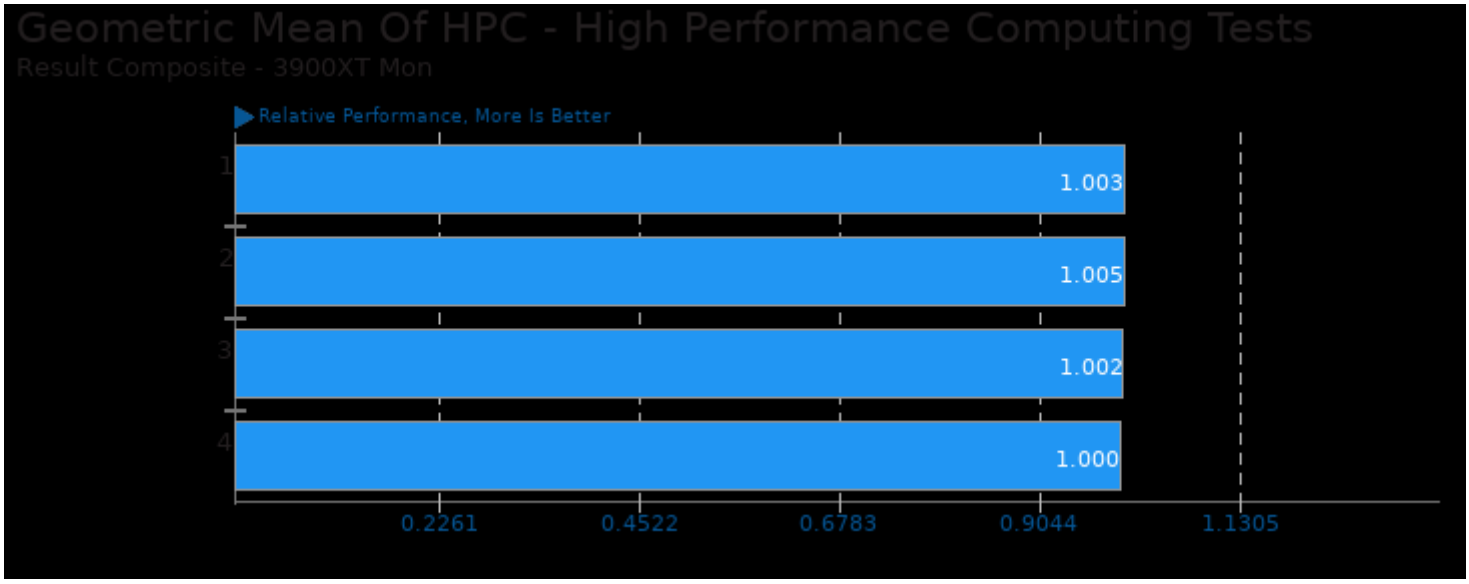
Geometric mean based upon tests: pts/cython-bench, pts/lzbench, pts/npb, pts/redis and pts/cpuminer-opt



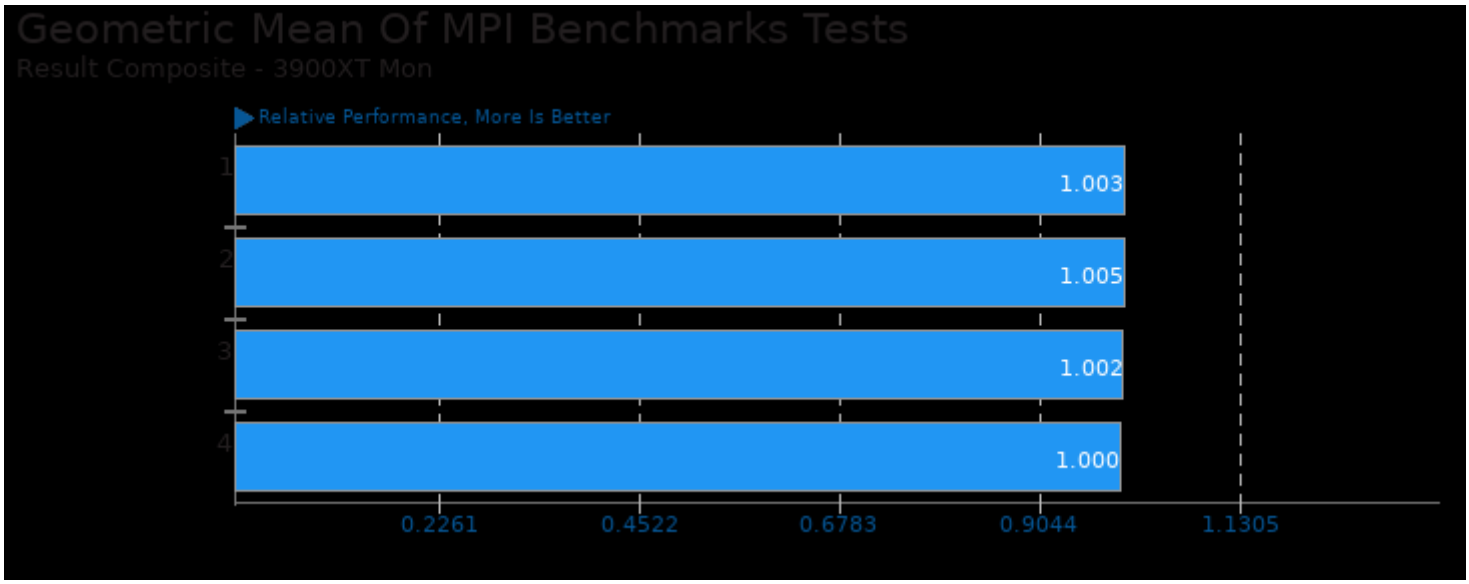
Geometric mean based upon tests: pts/gnupg, pts/gcrypt and pts/cpuminer-opt



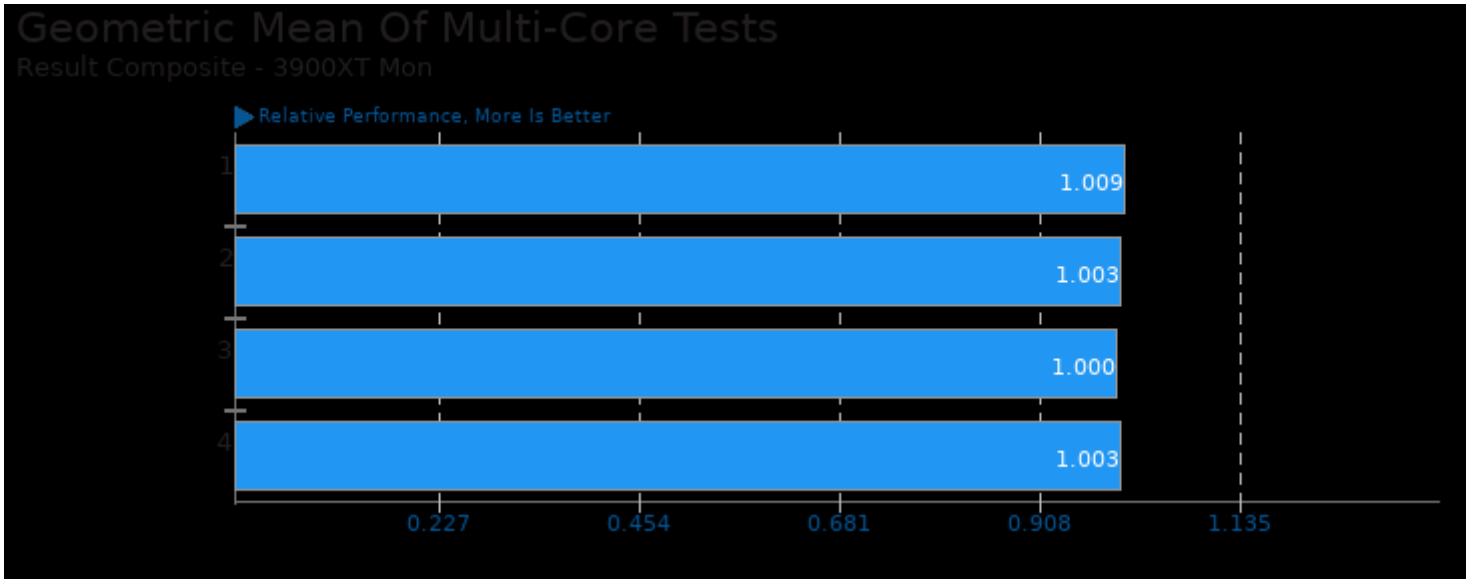
Geometric mean based upon tests: pts/financebench and pts/quantlib



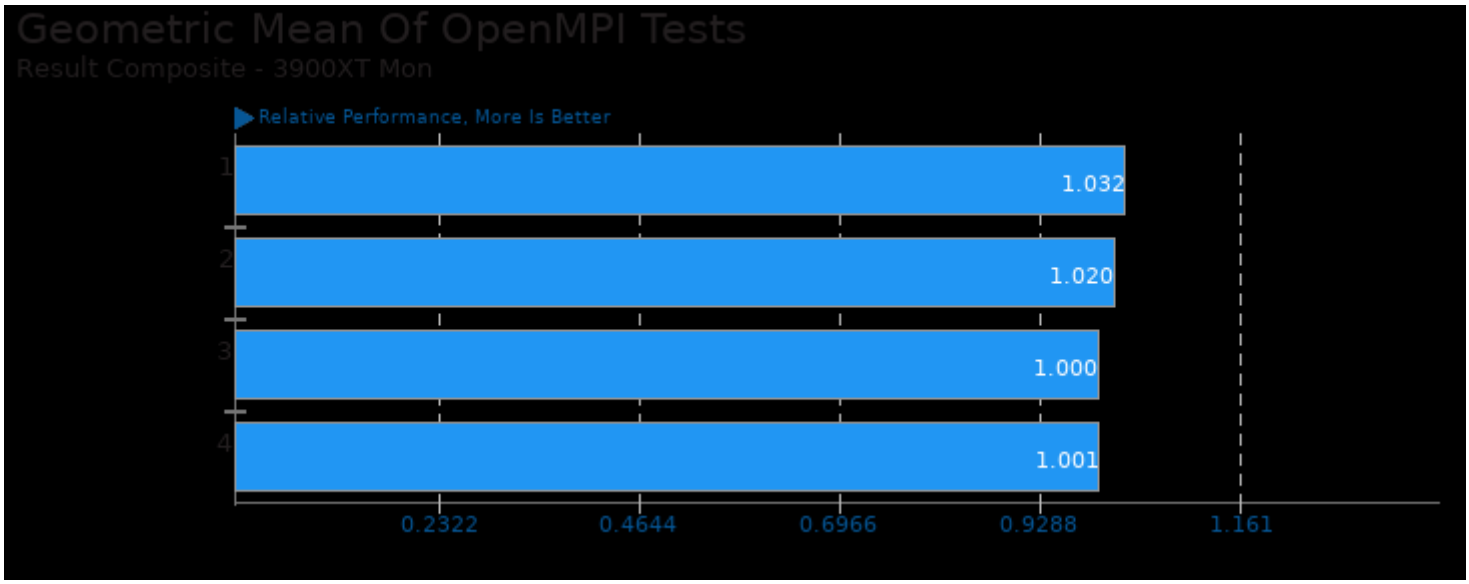
Geometric mean based upon tests: pts/npb and pts/askap



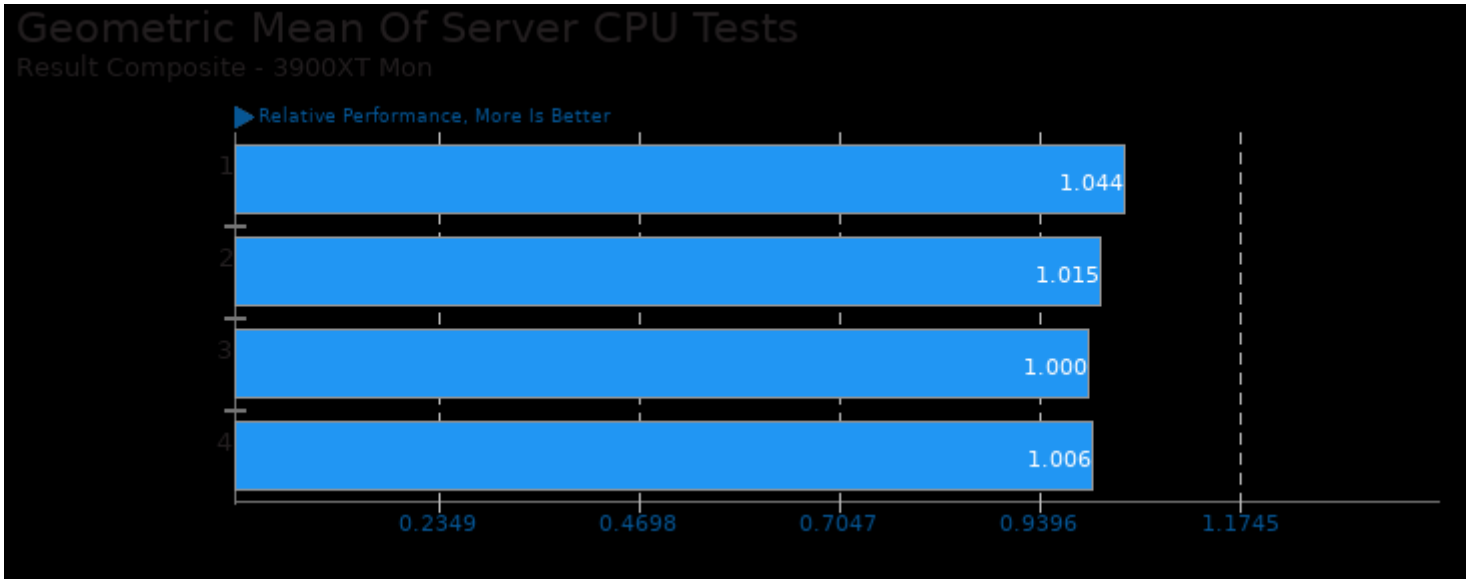
Geometric mean based upon tests: pts/askap and pts/npb



Geometric mean based upon tests: pts/cpuminer-opt, pts/askap and pts/npb

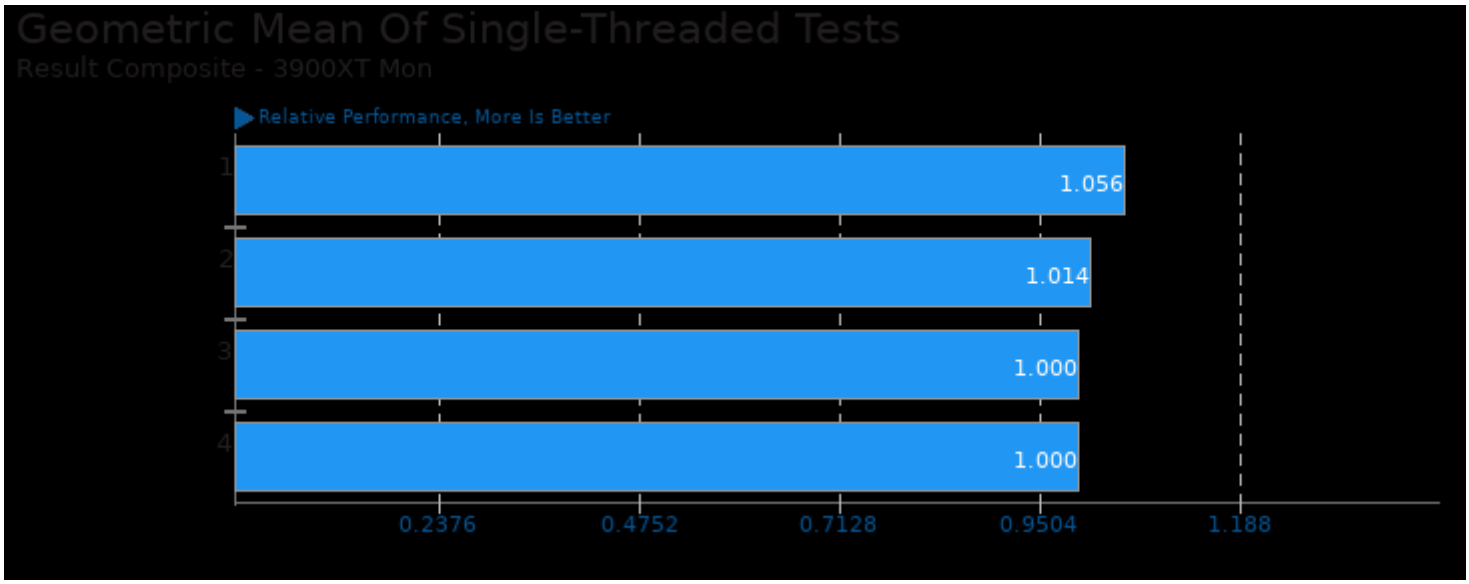


Geometric mean based upon tests: pts/ior, pts/npb and pts/askap



Geometric mean based upon tests: pts/npb, pts/redis, pts/cython-bench and pts/cpuminer-opt

3900XT Mon



Geometric mean based upon tests: pts/lzbench, pts/gnupg and pts/redis

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 16:21.