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EPYC 7F52 webp2 askap

AMD EPYC 7F52 16-Core testing with a Supermicro H11DSi-NT v2.00 (2.1 BIOS) and llvmpipe on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

3 had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.012x the speed of the slowest (4). 2 was 0.995x the speed of 3, 1 was 0.996x the speed of 2, 4 was 0.996x the speed of 1.

Test Systems:

1

2

3

4

Processor: AMD EPYC 7F52 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: Supermicro H11DSi-NT v2.00 (2.1 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: llvmpipe, Monitor: VE228

OS: Ubuntu 20.04, Kernel: 5.10.3-051003-generic (x86_64), Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, OpenGL: 3.3 Mesa 20.0.4 (LLVM 9.0.1 128 bits), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

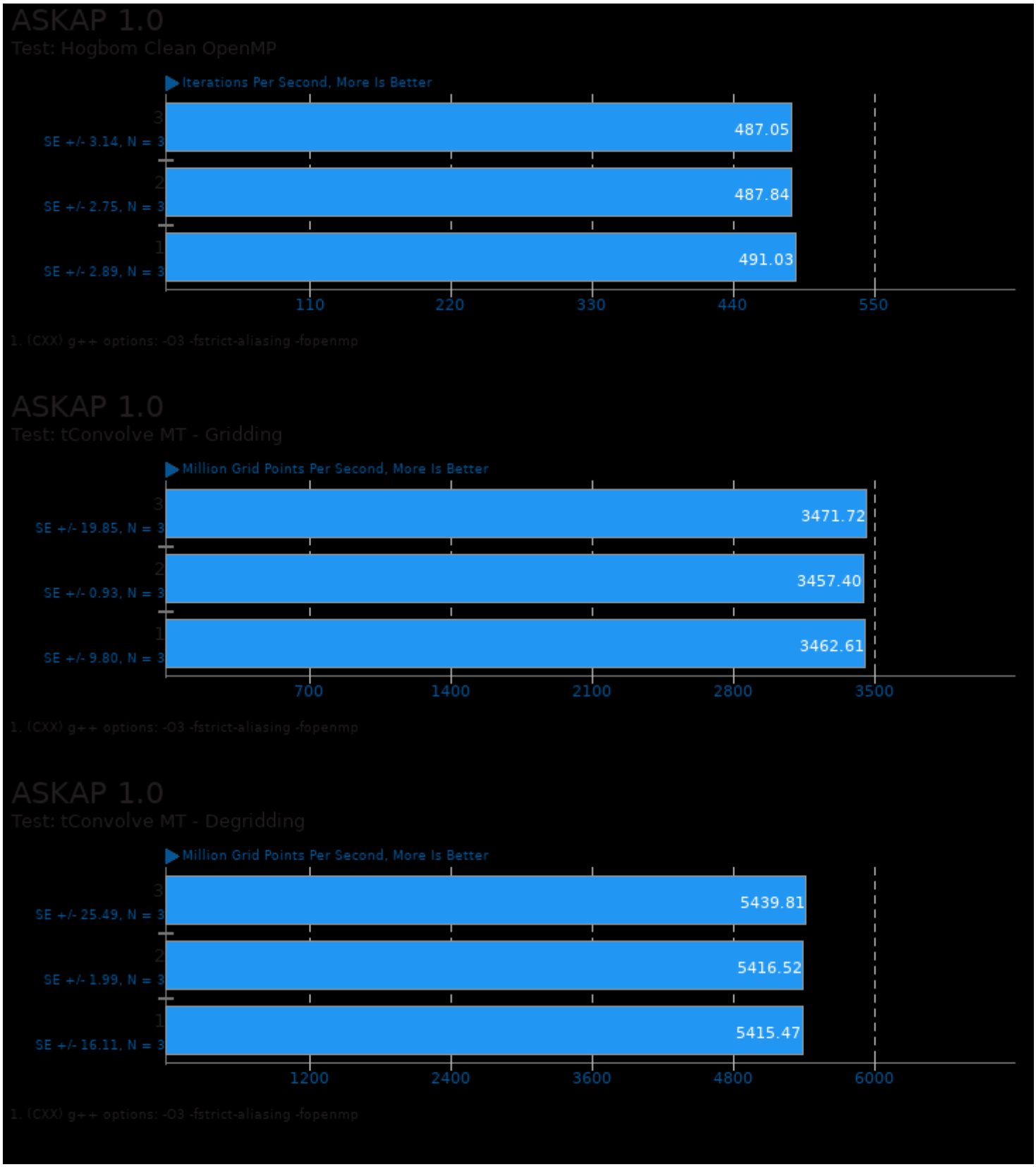
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --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: 0x8301034
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: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3	4
ASKAP - H.C.O (Iterations/sec)	**491.033**	487.836	**487.054**	
Normalized	100%	99.35%	99.19%	
Standard Deviation	1%	1%	1.1%	
ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)	3463	**3457**	**3472**	
Normalized	99.74%	99.59%	100%	
Standard Deviation	0.5%	0%	1%	
ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)	**5415**	5417	**5440**	
Normalized	99.55%	99.57%	100%	
Standard Deviation	0.5%	0.1%	0.8%	
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	**5257**	5626	**5667**	
Normalized	92.77%	99.28%	100%	
Standard Deviation	2.2%	1.2%	2.1%	
ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)	**5221**	**5256**	**5256**	
Normalized	99.34%	100%	100%	
Standard Deviation	0%	1.1%	1.1%	
ASKAP - tConvolve MPI - Degridding (Mpix/sec)	**14059**	**13963**	**14059**	
Normalized	100%	99.32%	100%	
Standard Deviation	1.5%	2.3%	1.5%	
ASKAP - tConvolve MPI - Gridding (Mpix/sec)	**16234**	16300	**16576**	
Normalized	97.94%	98.34%	100%	
Standard Deviation	1.8%	1.4%	1.8%	
WebP2 Image Encode - Default (sec)	**3.142**	**3.055**	3.075	3.136

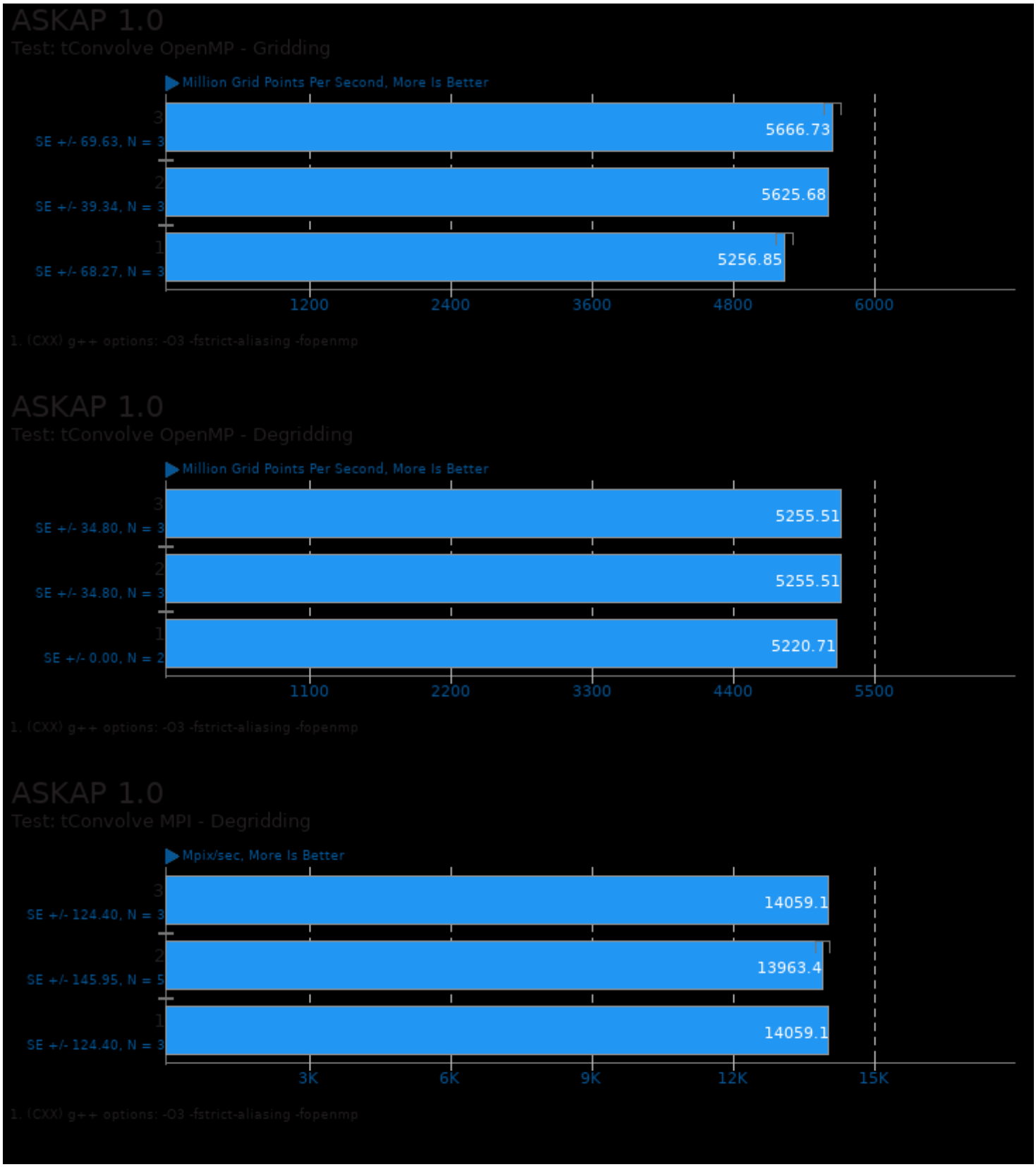
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Normalized	97.23%	100%	99.35%	97.42%
Standard Deviation	2.5%	2.3%	2.3%	2.4%
WebP2 Image Encode - Q.7.C.E.7	140.647	140.187	**139.225**	**140.780**
Normalized	98.99%	99.31%	100%	98.9%
Standard Deviation	1.2%	0.7%	0.9%	0.7%
WebP2 Image Encode - Q.9.C.E.7	**252.834**	255.850	253.375	**257.105**
Normalized	100%	98.82%	99.79%	98.34%
Standard Deviation	0.5%	1.3%	0.6%	0.3%
WebP2 Image Encode - Q.1.C.E.5	7.878	**7.903**	**7.843**	7.870
Normalized	99.56%	99.24%	100%	99.66%
Standard Deviation	0.3%	0.4%	0.3%	0.4%
WebP2 Image Encode - Q.1.L.C (sec)	**448.246**	449.253	**450.288**	
Normalized	100%	99.78%	99.55%	
Standard Deviation	0.2%	0.1%	0.5%	

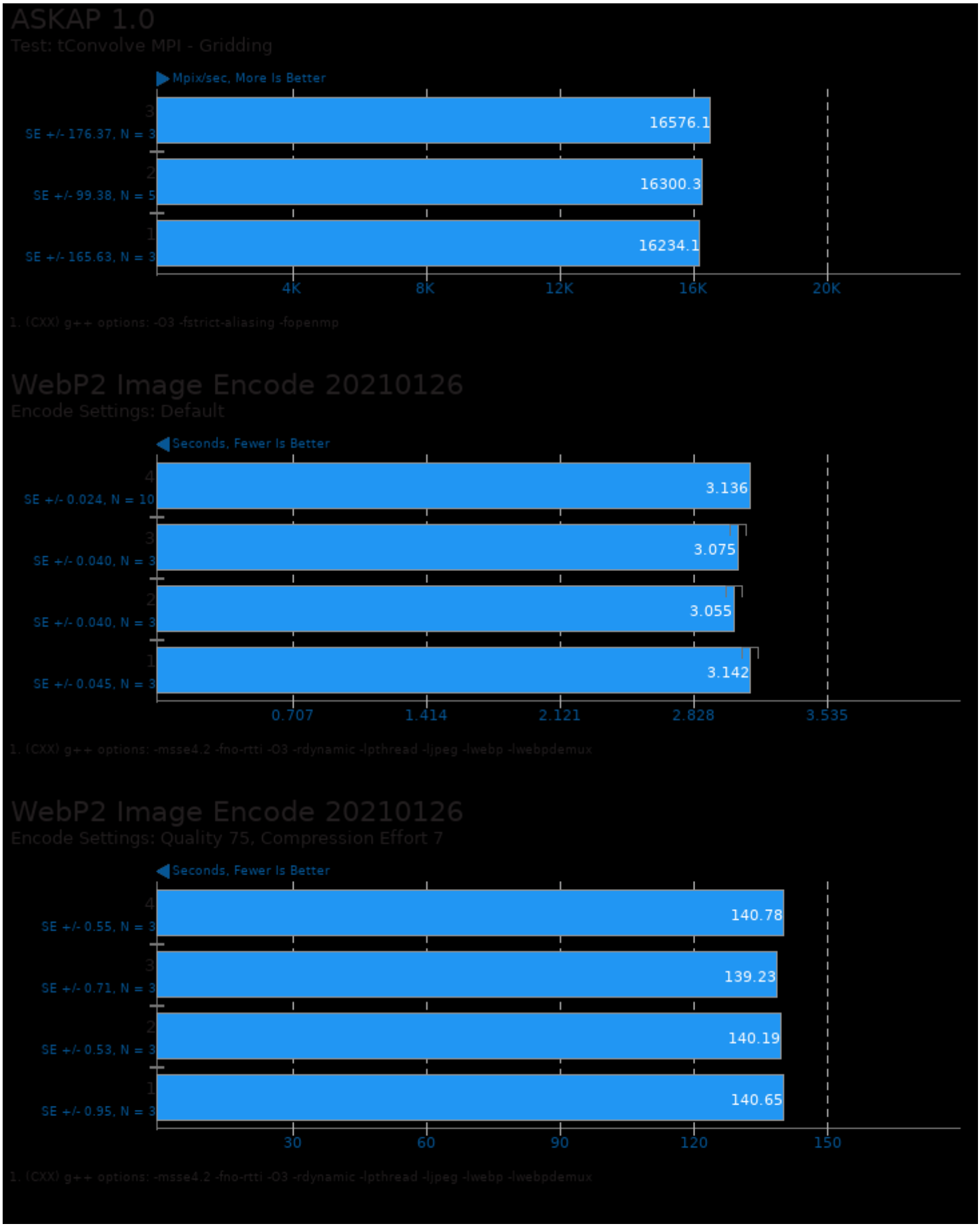
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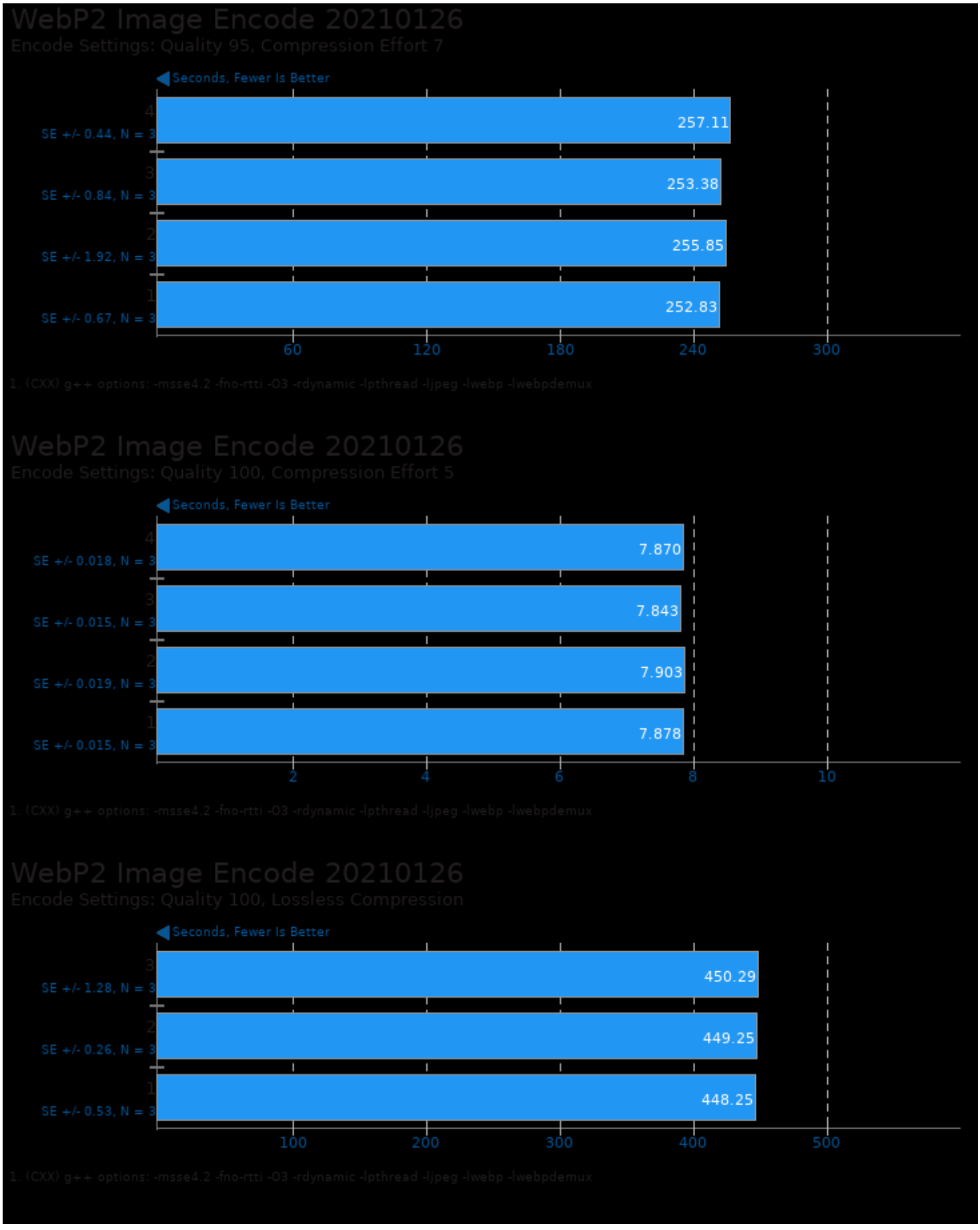
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