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5900hx rav1e

AMD Ryzen 9 5900HX testing with a ASUS G513QY v1.0 (G513QY.311 BIOS) and ASUS AMD Cezanne 512MB on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

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

Based on the geometric mean of all complete results, the fastest (4) was 1.011x the speed of the slowest (2). 1 was 0.998x the speed of 4, 3 was 0.997x the speed of 1, 2 was 0.994x the speed of 3.

Test Systems:

1

2

3

4

Processor: AMD Ryzen 9 5900HX @ 3.30GHz (8 Cores / 16 Threads), Motherboard: ASUS G513QY v1.0 (G513QY.311 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SAMSUNG MZVLQ512HBLU-00B00, Graphics: ASUS AMD Cezanne 512MB (2600/1000MHz), Audio: AMD Navi 21 HDMI Audio, Monitor: LQ156M1JW25, Network: Realtek RTL8111/8168/8411 + MEDIATEK Device 7961

OS: Ubuntu 21.10, Kernel: 5.15.0-051500rc4daily20211005-generic (x86_64) 20211004, Desktop: GNOME Shell 40.5, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.3.0-devel (git-0a592db 2021-10-05 impish-oibaf-ppa) (LLVM 12.0.1), Vulkan: 1.2.193, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

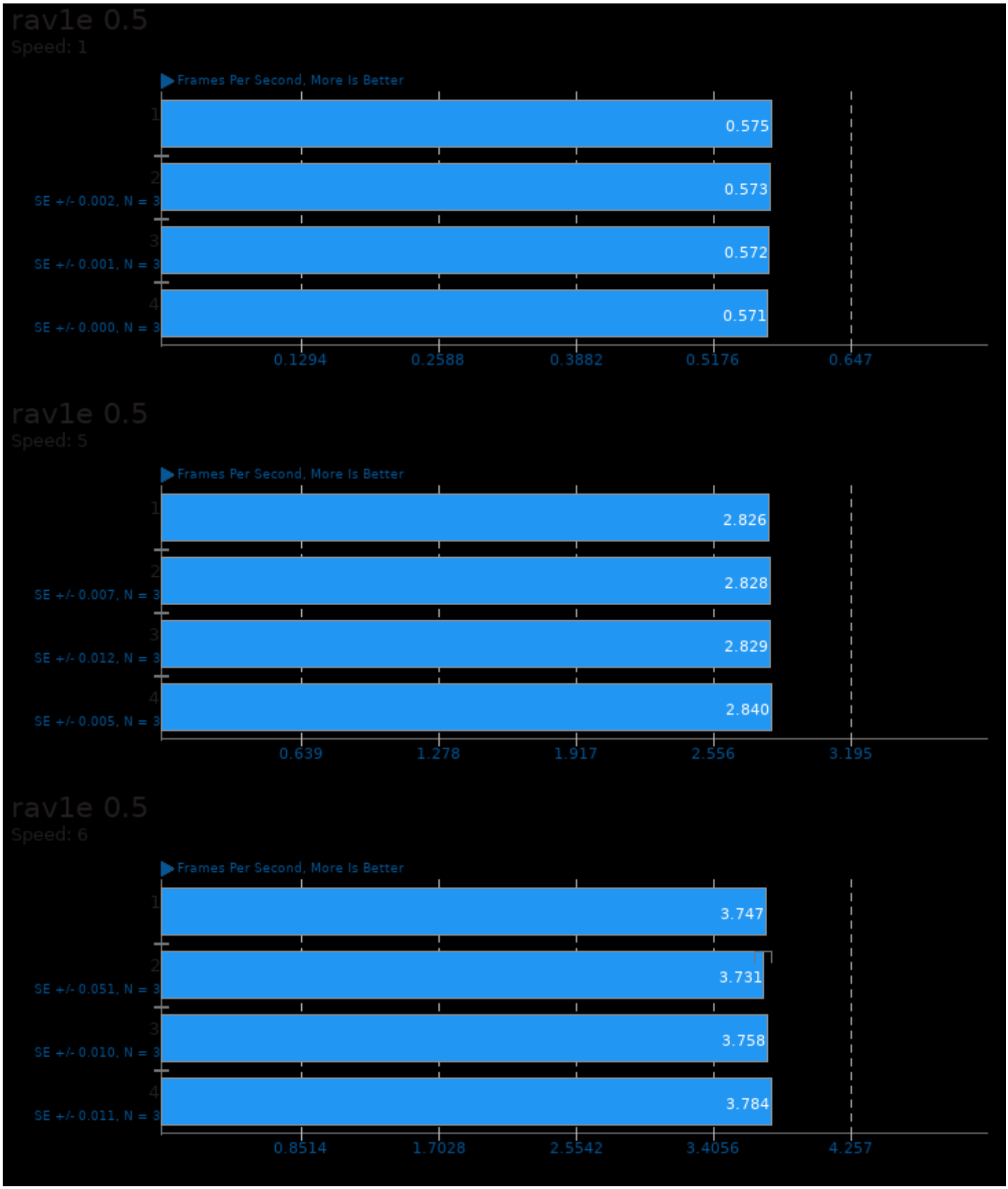
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --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 schedutil (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Python Notes: Python 3.9.7
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

	1	2	3	4
rav1e - 1 (FPS)	**0.575**	0.573	0.572	**0.571**
Normalized	100%	99.65%	99.48%	99.3%
Standard Deviation		0.5%	0.3%	0.1%
rav1e - 5 (FPS)	**2.826**	2.828	2.829	**2.840**
Normalized	99.51%	99.58%	99.61%	100%
Standard Deviation		0.4%	0.7%	0.3%
rav1e - 6 (FPS)	3.747	**3.731**	3.758	**3.784**
Normalized	99.02%	98.6%	99.31%	100%
Standard Deviation		2.4%	0.5%	0.5%
rav1e - 10 (FPS)	**9.209**	9.263	**9.273**	9.248
Normalized	99.31%	99.89%	100%	99.73%
Standard Deviation		1%	1.8%	0.3%
ONNX Runtime - yolov4 - CPU (Inferences/min)	**265**	**263**	264	**265**
Normalized	100%	99.25%	99.62%	100%
Standard Deviation		0.6%	0%	0.2%
ONNX Runtime - fcn-resnet101-11 - CPU (Inferences/min)	48	48	48	48
Standard Deviation		0.6%	0.6%	0.6%
ONNX Runtime - shufflenet-v2-10 - CPU (Inferences/min)	**31433**	**29525**	30743	31310
Normalized	100%	93.93%	97.8%	99.61%
Standard Deviation		8%	2.1%	0.2%

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ONNX Runtime - super-resolution-10 - CPU (Inferences/min)	3555	3554	3550	3576
Normalized	99.41%	99.38%	99.27%	100%
Standard Deviation		1.2%	1.5%	0.8%

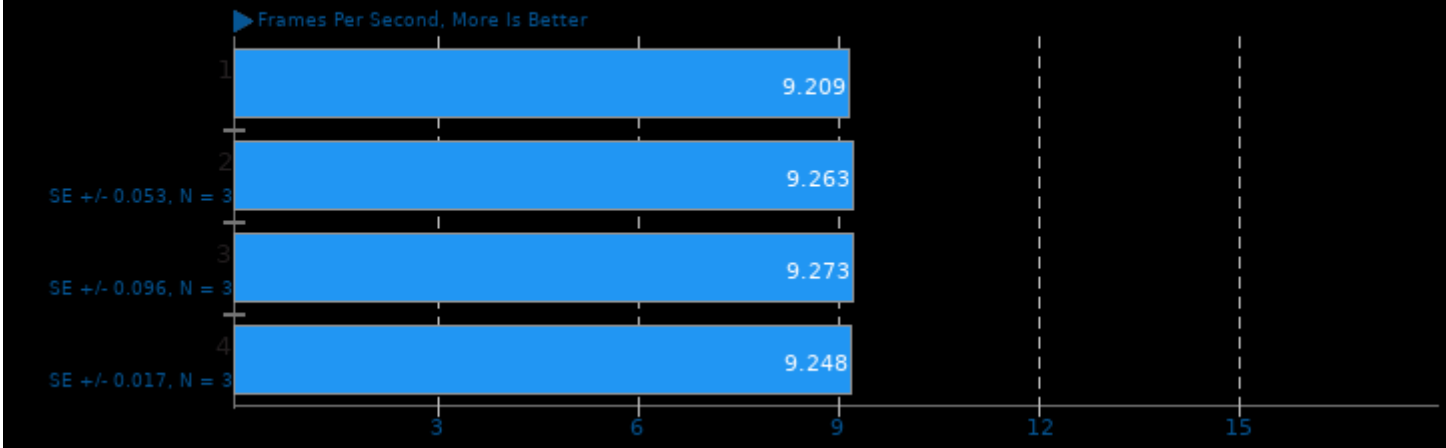
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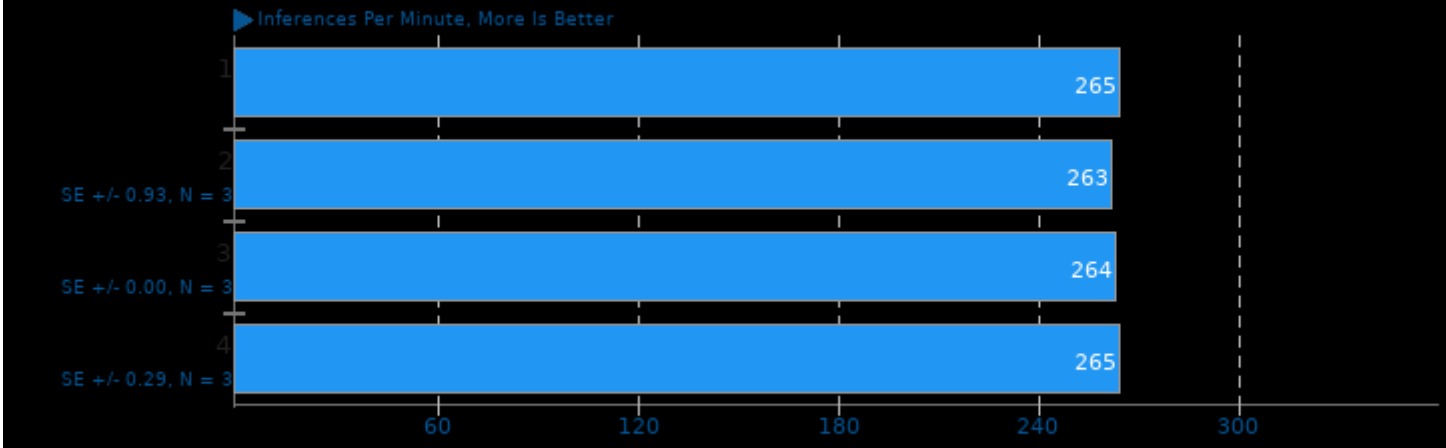
rav1e 0.5

Speed: 10



ONNX Runtime 1.9.1

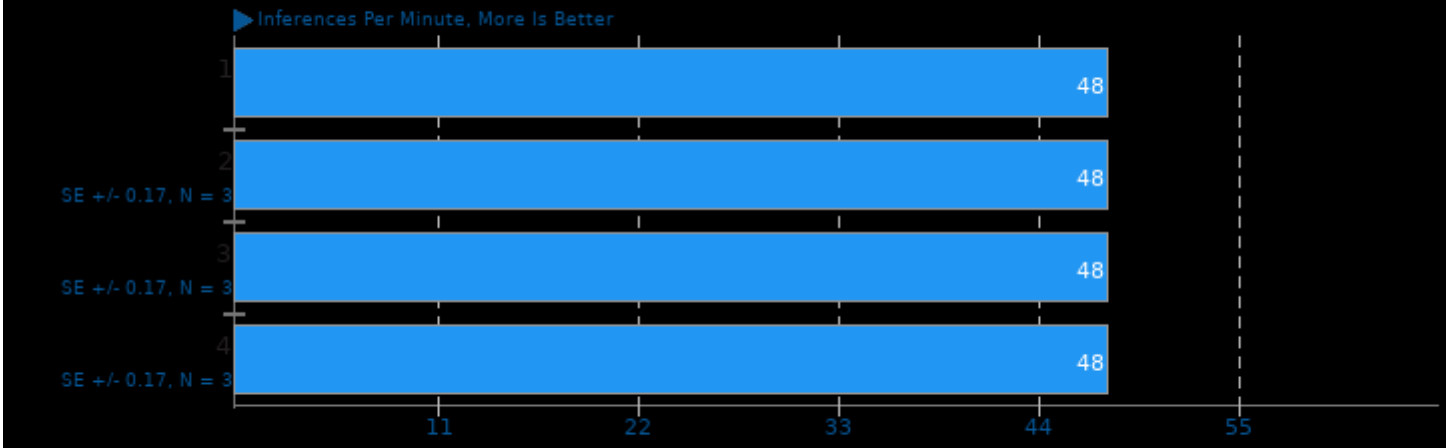
Model: yolov4 - Device: CPU



1: (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt

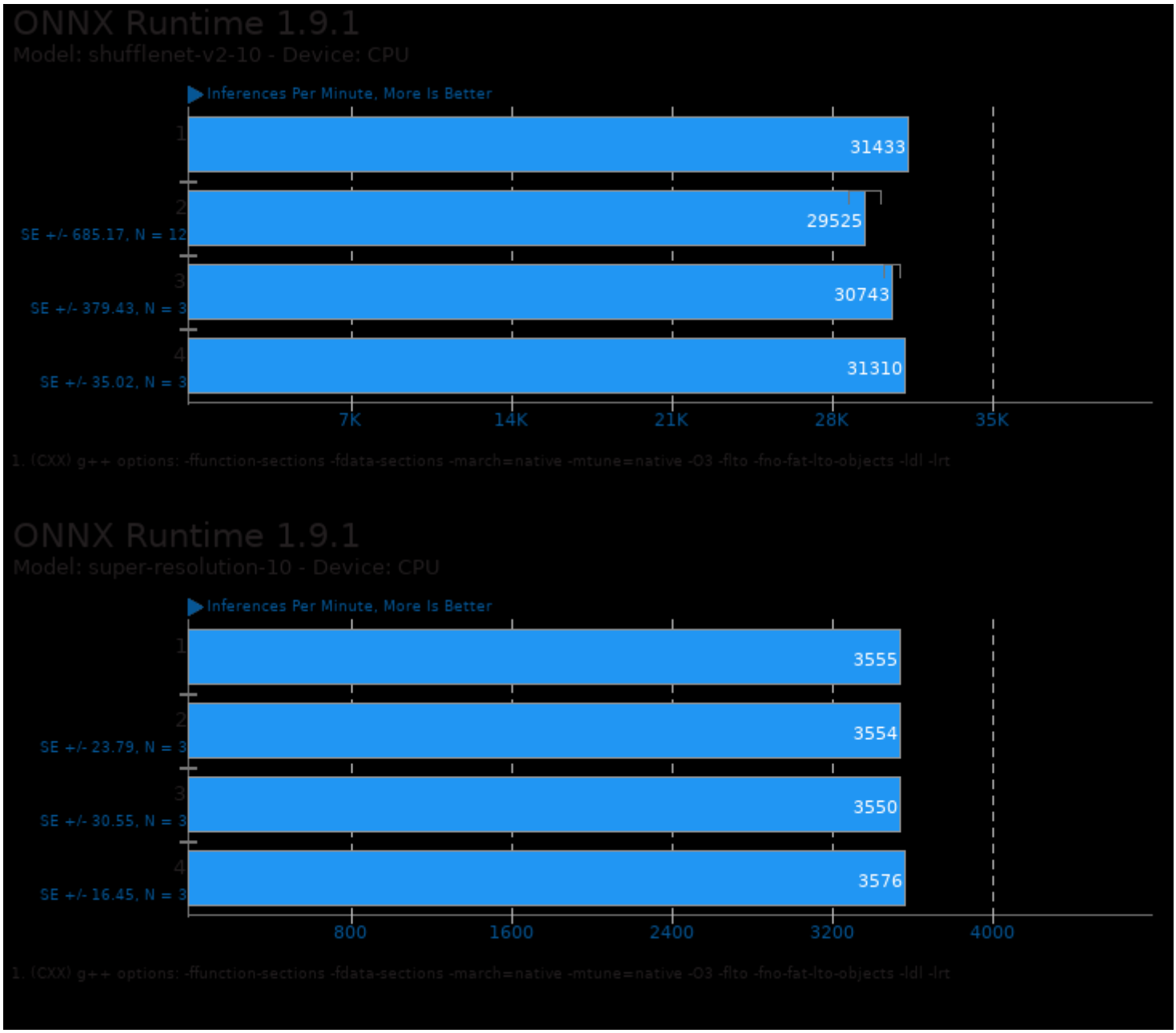
ONNX Runtime 1.9.1

Model: fcn-resnet101-11 - Device: CPU



1: (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt

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