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ASTC Encoder Xeon

2 x Intel Xeon Gold 6258R testing with a GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS) and ASPEED on Ubuntu 20.04 via the Phoronix Test Suite.

Test Systems:

2 x Xeon Gold 6230R V1

2 x Xeon Gold 6230R V2

2 x Xeon Gold 6230R V3

Processor: 2 x Intel Xeon Gold 6230R @ 4.00GHz (52 Cores / 104 Threads), Motherboard: GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 378GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X722 for 1GbE + 2 x QLogic FastLinQ QL41000 10/25/40/50GbE

OS: Ubuntu 20.04, Kernel: 5.8.0-050800rc6daily20200721-generic (x86_64) 20200720, Desktop: GNOME Shell 3.36.1,

Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

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: intel_pstate performance - CPU Microcode: 0x500002c
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

Xeon Gold 6230R V1

Xeon Gold 6230R V2

Xeon Gold 6230R V3

Processor: Intel Xeon Gold 6230R @ 4.00GHz (26 Cores / 52 Threads), Motherboard: GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 188GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: ASPEED, Network: 2 x Intel X722 for 1GbE + 2 x QLogic FastLinQ QL41000 10/25/40/50GbE

OS: Ubuntu 20.04, Kernel: 5.8.0-050800rc6daily20200721-generic (x86_64) 20200720, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

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: intel_pstate performance - CPU Microcode: 0x500002c
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

Xeon Gold 6258R

Xeon Gold 6258R V2

Xeon Gold 6258R V3

Processor: Intel Xeon Gold 6258R @ 4.00GHz (28 Cores / 56 Threads), Motherboard: GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 188GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: ASPEED, Network: 2 x Intel X722 for 1GbE + 2 x QLogic FastLinQ QL41000 10/25/40/50GbE

OS: Ubuntu 20.04, Kernel: 5.8.0-050800rc6daily20200721-generic (x86_64) 20200720, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

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: intel_pstate performance - CPU Microcode: 0x500002c

ASTC Encoder Xeon

Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

Xeon Gold 6258R 2P v1

Xeon Gold 6258R 2P v2

Xeon Gold 6258R 2P v3

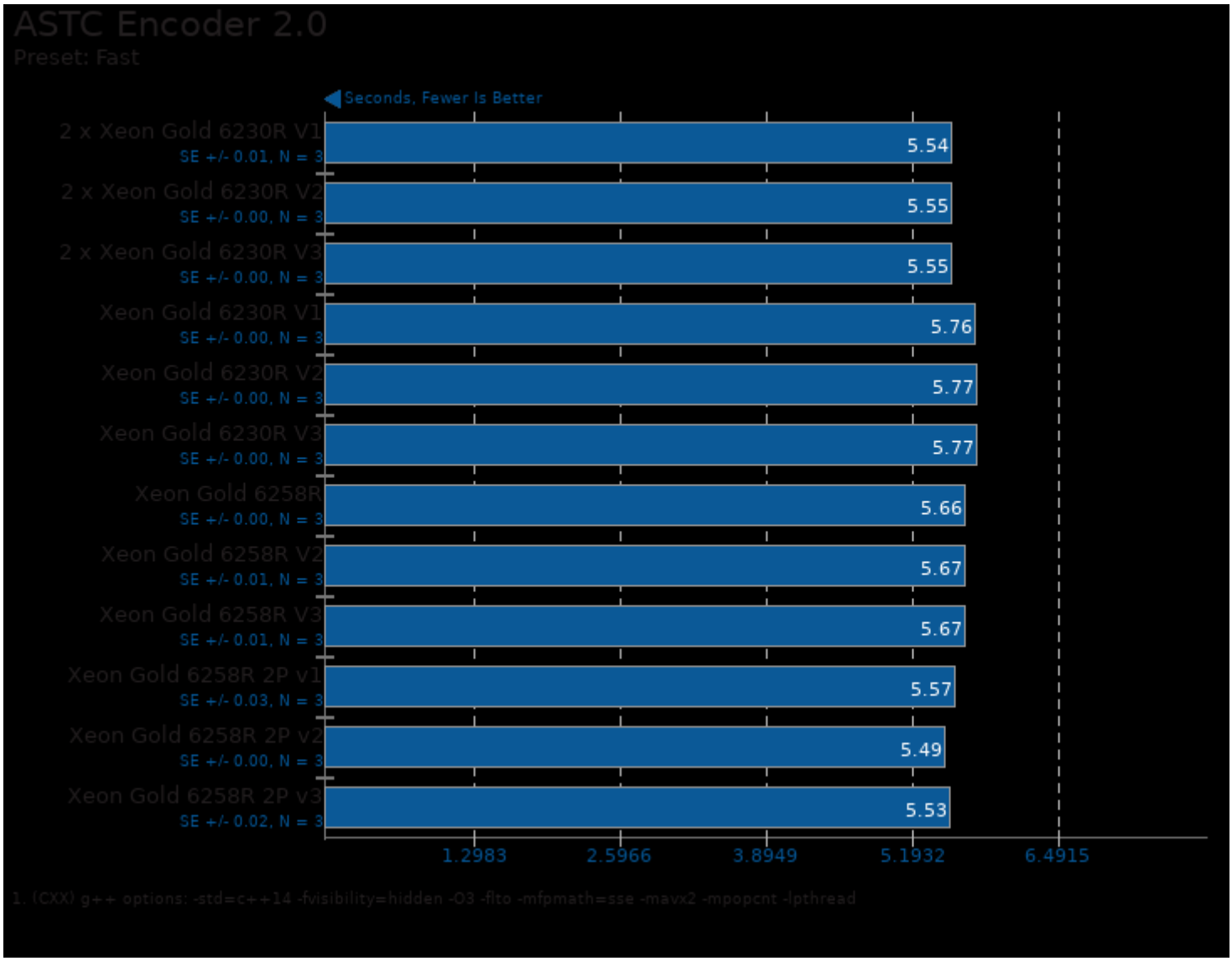
Processor: 2 x Intel Xeon Gold 6258R @ 4.00GHz (56 Cores / 112 Threads), Motherboard: GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 378GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: ASPEED, Network: 2 x Intel X722 for 1GbE + 2 x QLogic FastLinQ QL41000 10/25/40/50GbE

OS: Ubuntu 20.04, Kernel: 5.8.0-050800rc6daily20200721-generic (x86_64) 20200720, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

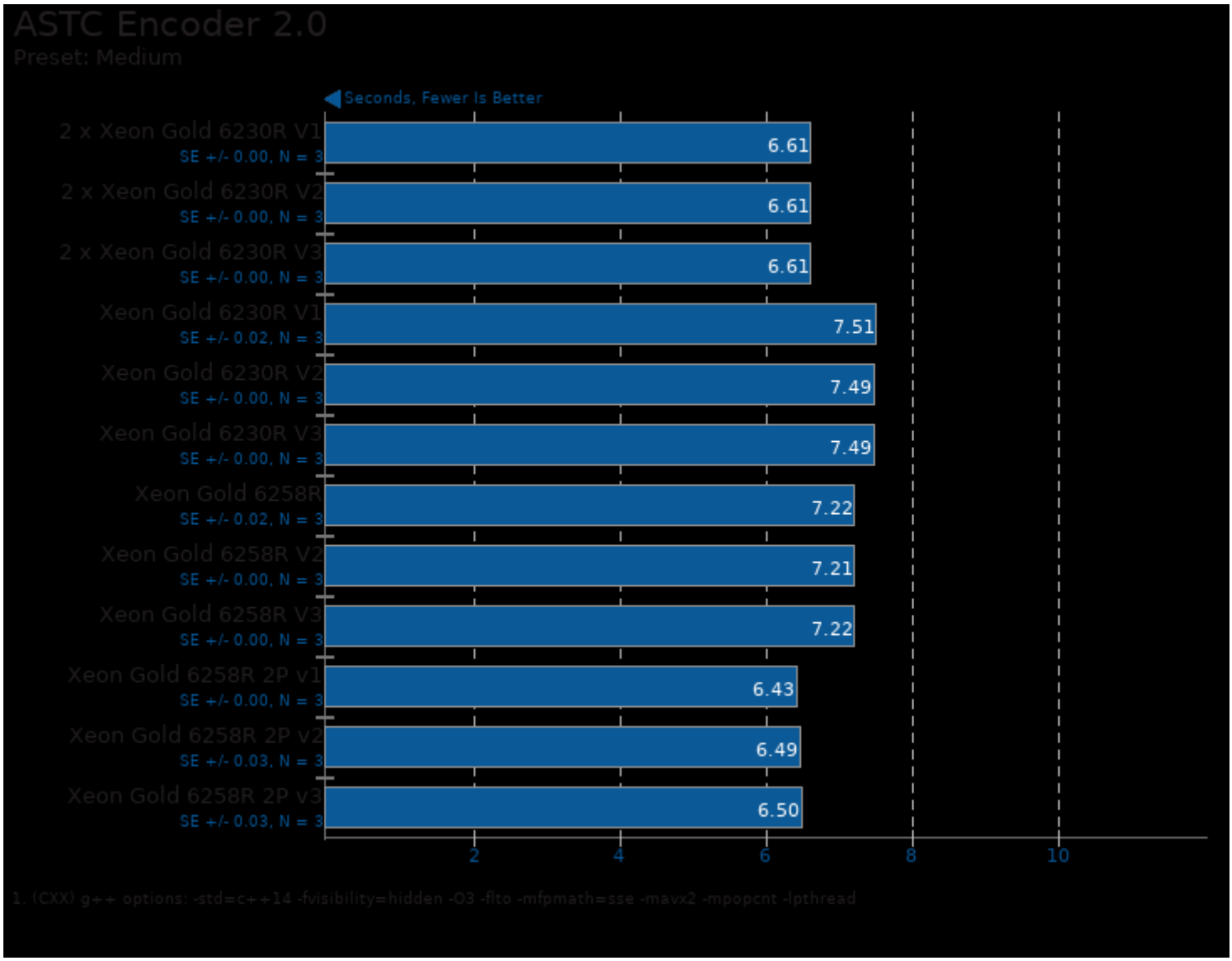
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --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: intel_pstate performance - CPU Microcode: 0x500002c
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	2 x Xeon Gold 6230R V1	2 x Xeon Gold 6230R V2	2 x Xeon Gold 6230R V3	Xeon Gold 6230R V1	Xeon Gold 6230R V2	Xeon Gold 6230R V3	Xeon Gold 6258R	Xeon Gold 6258R V2	Xeon Gold 6258R V3	Xeon Gold 6258R 2P v1	Xeon Gold 6258R 2P v2	Xeon Gold 6258R 2P v3
ASTC Encoder - Fast (sec)	5.54	5.55	5.55	5.76	**5.77**	**5.77**	5.66	5.67	5.67	5.57	**5.49**	5.53
Normalized	99.1%	98.92%	98.92%	95.31%	95.15%	95.15%	97%	96.83%	96.83%	98.56%	100%	99.28%
Standard Deviation	0.2%	0%	0.1%	0.1%	0%	0.1%	0.1%	0.2%	0.2%	0.8%	0.1%	0.7%
ASTC Encoder - Medium (sec)	6.61	6.61	6.61	**7.51**	7.49	7.49	7.22	7.21	7.22	**6.43**	6.49	6.50
Normalized	97.28%	97.28%	97.28%	85.62%	85.85%	85.85%	89.06%	89.18%	89.06%	100%	99.08%	98.92%
Standard Deviation	0%	0.1%	0.1%	0.4%	0%	0.1%	0.4%	0.1%	0%	0.1%	0.7%	0.7%
ASTC Encoder - Thorough (sec)	8.28	8.27	8.26	15.56	15.56	**15.57**	13.33	13.33	13.33	7.09	7.09	**7.08**
Normalized	85.51%	85.61%	85.71%	45.5%	45.5%	45.47%	53.11%	53.11%	53.11%	99.86%	99.86%	100%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0%	0%	0%	0.1%	0%	0.1%
ASTC Encoder - Exhaustive (sec)	62.48	62.46	62.42	**122.64**	122.54	122.62	103.45	103.43	103.43	52.24	**52.23**	52.24
Normalized	83.59%	83.62%	83.68%	42.59%	42.62%	42.6%	50.49%	50.5%	50.5%	99.98%	100%	99.98%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0%	0%	0%	0%	0%	0.1%	0%	0%

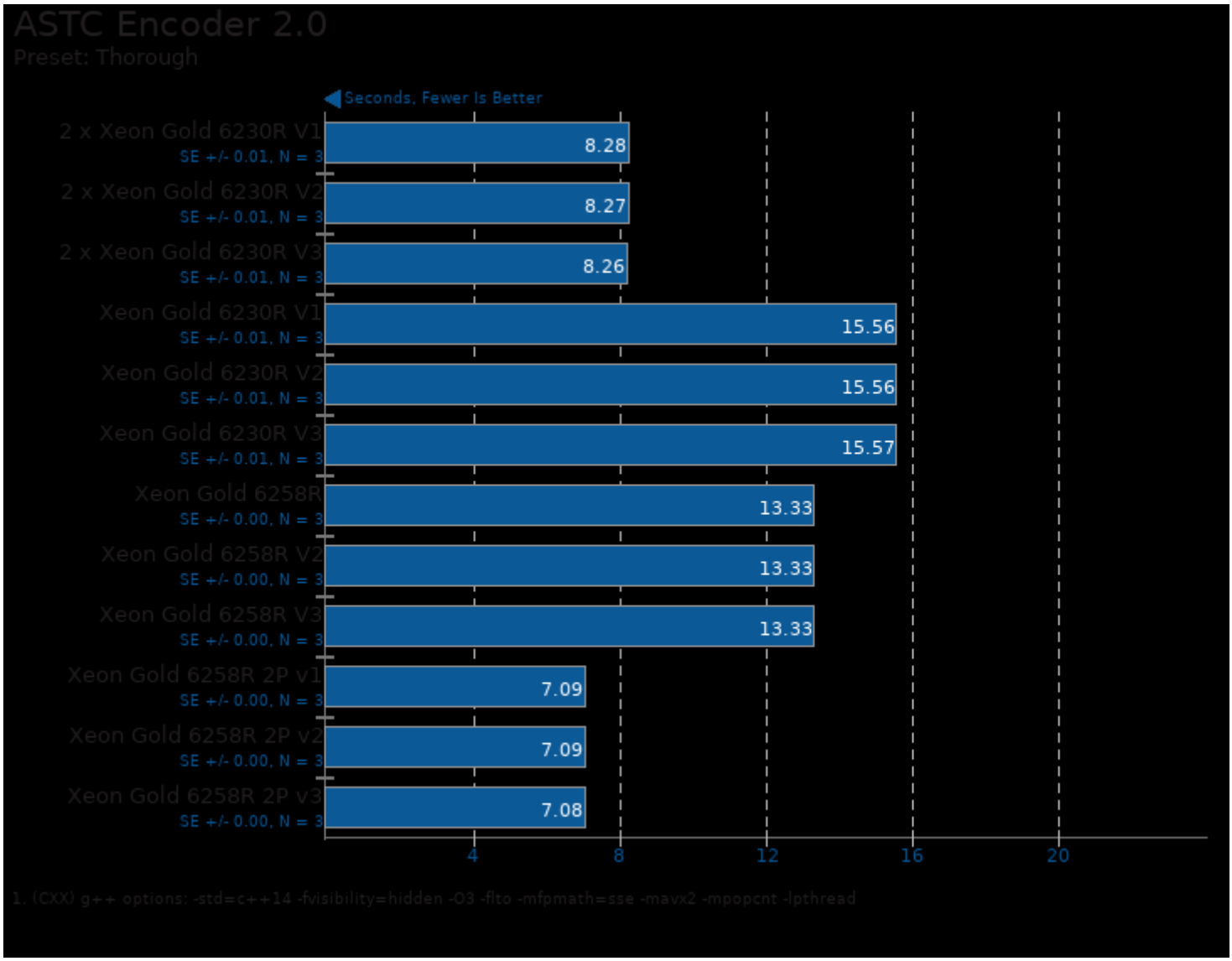
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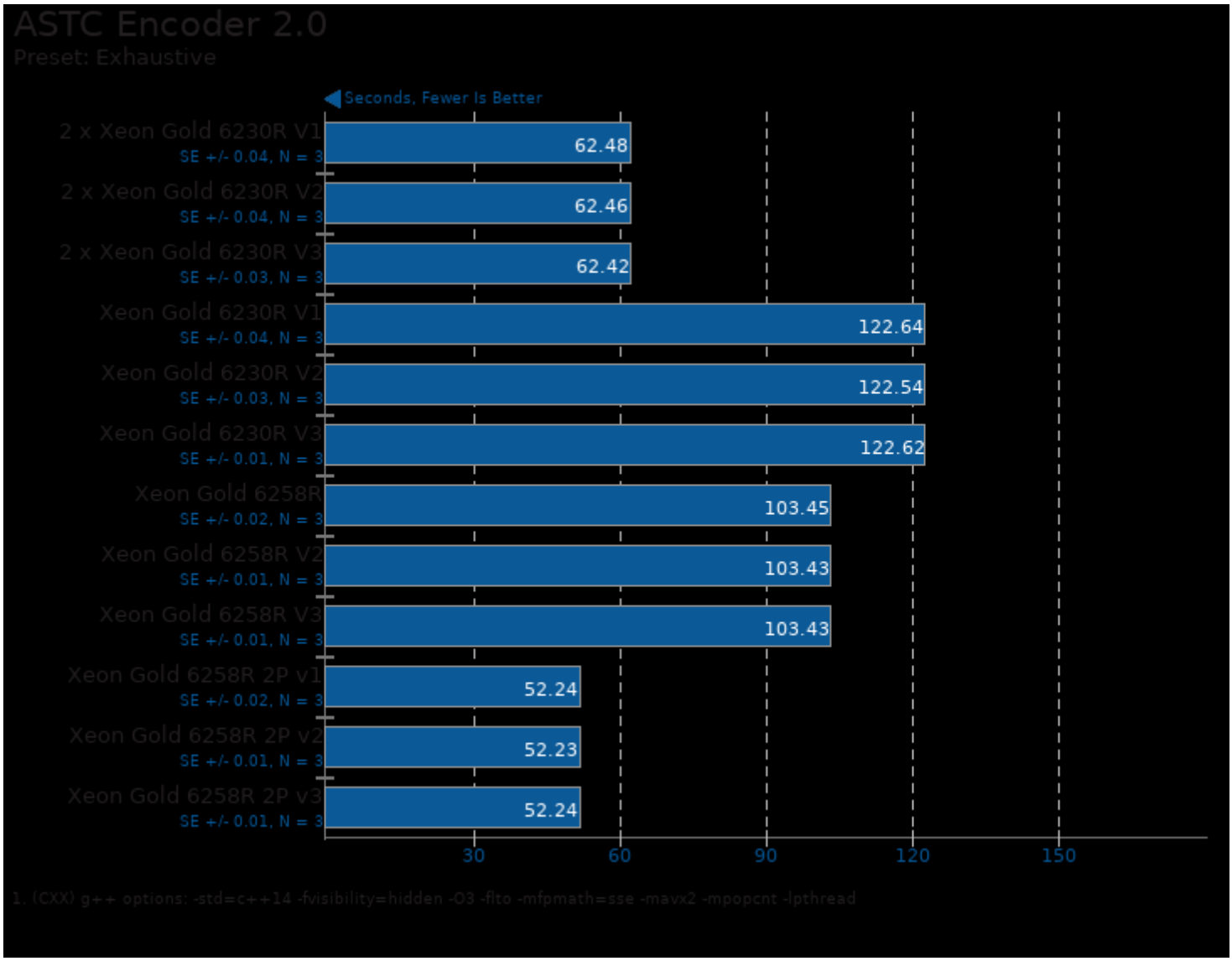
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