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Sandy Bridge Compiler Tests

Running pts/build-apache-1.4.0, pts/build-linux-kernel-1.2.0, pts/apache-1.3.0, pts/pgbench-1.2.0, pts/john-the-ripper-1.0.1, pts/byte-1.1.0, pts/c-ray-1.0.0, pts/povray-1.0.0, pts/himeno-1.0.0, pts/mafft-1.2.0, pts/mrbayes-1.2.0, pts/hmmer-1.1.0, pts/x264-1.2.0, pts/bullet-1.0.0, pts/compress-7zip-1.5.0, pts/npb-1.0.0, pts/encode-flac-1.2.0, pts/graphics-magick-1.4.1, pts/openssl-1.5.0, pts/gcrypt-1.0.0.

Automated Executive Summary

GCC 4.6.0 had the most wins, coming in first place for 27% of the tests.

Based on the geometric mean of all complete results, the fastest (GCC 4.5.2) was 1.321x the speed of the slowest (GCC 4.6.0 core2). GCC 4.4.5 was 0.986x the speed of GCC 4.5.2, GCC 4.6.0 was 0.964x the speed of GCC 4.4.5, GCC 4.6.0 corei7-avx was 0.847x the speed of GCC 4.6.0, GCC 4.6.0 corei7 was 0.982x the speed of GCC 4.6.0 corei7-avx, GCC 4.3.5 was 0.974x the speed of GCC 4.6.0 corei7, GCC 4.6.0 corei7-avx - AVX FP Math was 0.996x the speed of GCC 4.3.5, GCC 4.6.0 core2 was 0.987x the speed of GCC 4.6.0 corei7-avx - AVX FP Math.

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

GraphicsMagick (Operation: Sharpen) at 4.4x
Gcrypt Library (CAMELLIA256-ECB Cipher) at 4.066x
GraphicsMagick (Operation: Local Adaptive Thresholding) at 4x
Timed HMMer Search (Pfam Database Search) at 3.035x

GraphicsMagick (Operation: Resizing) at 2.717x
GraphicsMagick (Operation: HWB Color Space) at 2.621x
GraphicsMagick (Operation: Blur) at 2.525x
Timed MrBayes Analysis (Primate Phylogeny Analysis) at 2.511x
POV-Ray (Total Time) at 1.864x
Timed Apache Compilation (Time To Compile) at 1.734x.

Test Systems:

GCC 4.3.5

Processor: Intel Core i7-2820QM @ 2.30GHz (8 Cores), Motherboard: System76 Serval Professional, Chipset: Intel Sandy Bridge, Memory: 8192MB, Disk: 80GB INTEL SSDSA2M080, Graphics: NVIDIA GeForce GTX 485M 2048MB (575/1500MHz), Audio: Realtek ALC892

OS: Ubuntu 10.10, Kernel: 2.6.38-999-generic (x86_64), Desktop: GNOME 2.32.0, Display Server: X Server 1.9.0, Display Driver: NVIDIA 270.18, OpenGL: 4.1.0, Compiler: GCC 4.3.5 + Clang 2.8, File-System: ext4, Screen Resolution: 1920x1080

System Notes: Compiz was running on this system. Intel SpeedStep was enabled.

GCC 4.4.5

Processor: Intel Core i7-2820QM @ 2.30GHz (8 Cores), Motherboard: System76 Serval Professional, Chipset: Intel Sandy Bridge, Memory: 8192MB, Disk: 80GB INTEL SSDSA2M080, Graphics: NVIDIA GeForce GTX 485M 2048MB (575/1500MHz), Audio: Realtek ALC892

OS: Ubuntu 10.10, Kernel: 2.6.38-999-generic (x86_64), Desktop: GNOME 2.32.0, Display Server: X Server 1.9.0, Display Driver: NVIDIA 270.18, OpenGL: 4.1.0, Compiler: GCC 4.4.5 + Clang 2.8, File-System: ext4, Screen Resolution: 1920x1080

System Notes: Compiz was running on this system. Intel SpeedStep was enabled.

GCC 4.5.2

Processor: Intel Core i7-2820QM @ 2.30GHz (8 Cores), Motherboard: System76 Serval Professional, Chipset: Intel Sandy Bridge, Memory: 8192MB, Disk: 80GB INTEL SSDSA2M080, Graphics: NVIDIA GeForce GTX 485M 2048MB (575/1500MHz), Audio: Realtek ALC892

OS: Ubuntu 10.10, Kernel: 2.6.38-999-generic (x86_64), Desktop: GNOME 2.32.0, Display Server: X Server 1.9.0, Display Driver: NVIDIA 270.18, OpenGL: 4.1.0, Compiler: GCC 4.5.2, File-System: ext4, Screen Resolution: 1920x1080

System Notes: Compiz was running on this system. Intel SpeedStep was enabled.

GCC 4.6.0

GCC 4.6.0 core2

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GCC 4.6.0 corei7

GCC 4.6.0 corei7-avx

Processor: Intel Core i7-2820QM @ 2.30GHz (8 Cores), Motherboard: System76 Serval Professional, Chipset: Intel Sandy Bridge, Memory: 8192MB, Disk: 80GB INTEL SSDSA2M080, Graphics: NVIDIA GeForce GTX 485M 2048MB (575/1500MHz), Audio: Realtek ALC892

OS: Ubuntu 10.10, Kernel: 2.6.38-999-generic (x86_64), Desktop: GNOME 2.32.0, Display Server: X Server 1.9.0, Display Driver: NVIDIA 270.18, OpenGL: 4.1.0, Compiler: GCC 4.6.0, File-System: ext4, Screen Resolution: 1920x1080

System Notes: Compiz was running on this system. Intel SpeedStep was enabled.

GCC 4.6.0 corei7-avx - AVX FP Math

Processor: Intel Core i7-2820QM @ 2.30GHz (8 Cores), Motherboard: System76 Serval Professional, Chipset: Intel Sandy Bridge, Memory: 8192MB, Disk: 80GB INTEL SSDSA2M080, Graphics: NVIDIA GeForce GTX 485M 2048MB (575/1500MHz), Audio: Realtek ALC892

OS: Ubuntu 10.10, Kernel: 2.6.38-999-generic (x86_64), Desktop: GNOME 2.32.0, Display Server: X Server 1.9.0, Display Driver: NVIDIA 270.18, OpenGL: 4.1.0, Compiler: GCC 4.6.0 + Clang 2.8, File-System: ext4, Screen Resolution: 1920x1080

System Notes: Compiz was running on this system. Intel SpeedStep was enabled.

	GCC 4.3.5	GCC 4.4.5	GCC 4.5.2	GCC 4.6.0	GCC 4.6.0 core2	GCC 4.6.0 corei7	GCC 4.6.0 corei7-avx	GCC 4.6.0 corei7-avx - AVX FP Math
PostgreSQL pgbench - T.B.T.P.S (TPS)	1962	**2169**	2038	**1750**	1908	1807	1959	1922
Normalized	90.46%	100%	93.99%	80.69%	87.96%	83.32%	90.31%	88.62%
Standard Deviation	5.6%	11.3%	8.7%	2.3%	1.5%	2.3%	1.4%	0.5%
Apache Benchmark - S.W.P.S (Reqs/sec)	**22150**	21678	21592	21957	19779		**19500**	20269
Normalized	100%	97.87%	97.48%	99.13%	89.3%		88.04%	91.51%
Standard Deviation	4.4%	1.2%	2.9%	2.3%	2.1%		1.9%	3.3%
Timed Apache Compilation - Time To Compile (sec)	27.75	28.00	29.17	**36.46**	21.22	21.16	21.23	**21.03**
Normalized	75.78%	75.11%	72.09%	57.68%	99.1%	99.39%	99.06%	100%
Standard Deviation	0.1%	0.1%	0.1%	0.6%	0.5%	1%	0.5%	0.1%
John The Ripper - Traditional DES (Real C/S)	3852667	3855000	3852000	**3856000**	3849333	**3838333**	3855333	3848667
Normalized	99.91%	99.97%	99.9%	100%	99.83%	99.54%	99.98%	99.81%
Standard Deviation	0.1%	0%	0%	0.1%	0%	0.1%	0.1%	0.2%

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John The Ripper - Blowfish (Real C/S)	782	817	817	840	839	837	840	838
Normalized	93.1%	97.26%	97.26%	100%	99.88%	99.64%	100%	99.76%
Standard Deviation	0.2%	0%	0.1%	0%	0.1%	0.1%	0%	0.5%
BYTE Unix Benchmark - Dhrystone 2 (LPS)	23254465	23979243	23896552	23243455	23243830	23234286	23268380	22955510
Normalized	96.98%	100%	99.66%	96.93%	96.93%	96.89%	97.04%	95.73%
Standard Deviation	0.1%	0.3%	0.1%	0.1%	0%	0.1%	0%	0.9%
C-Ray - Total Time	64.24	70.36	71.86	71.64	71.75	71.84	71.47	54.63
Normalized	85.04%	77.64%	76.02%	76.26%	76.14%	76.04%	76.44%	100%
Standard Deviation	2.5%	2.2%	1.9%	2%	1.9%	1.8%	1.6%	2.8%
POV-Ray - Total Time (sec)	1025	772	766	750	560	557	550	552
Normalized	53.66%	71.24%	71.8%	73.33%	98.21%	98.74%	100%	99.64%
Himeno Benchmark - P.P.S (MFLOPS)	365.84	362.34	366.68	369.77	364.83	366.94	368.89	349.96
Normalized	98.94%	97.99%	99.16%	100%	98.66%	99.23%	99.76%	94.64%
Standard Deviation	0.5%	0.5%	0.2%	0.8%	0.8%	1.8%	0.7%	0.4%
Timed MAFFT Alignment - M.S.A (sec)	22.41	21.82	21.77	22.06	22.11	21.81	21.94	21.31
Normalized	95.09%	97.66%	97.89%	96.6%	96.38%	97.71%	97.13%	100%
Standard Deviation	0.2%	0.1%	0.2%	1%	0.2%	0.3%	0.1%	0.1%
Timed MrBayes Analysis - P.P.A (sec)	19.98	20.14	18.68	18.87	19.14	8.02	8.02	19.21
Normalized	40.14%	39.82%	42.93%	42.5%	41.9%	100%	100%	41.75%
Standard Deviation	0.2%	0.1%	0.2%	0.3%	0.2%	0.1%	0%	0.2%
Timed HMMer Search - P.D.S (sec)	14.01	13.74	13.79	13.59	41.24	40.80	40.21	40.61
Normalized	97%	98.91%	98.55%	100%	32.95%	33.31%	33.8%	33.46%
Standard Deviation	2.1%	2%	1.8%	1.8%	1.9%	3.1%	3.2%	2%
x264 - H.2.V.E (FPS)	87.39	88.98	87.91	89.52	89.38	89.14	89.09	89.95
Normalized	97.15%	98.92%	97.73%	99.52%	99.37%	99.1%	99.04%	100%
Standard Deviation	1%	0.2%	0.8%	0.4%	0.4%	1.4%	1.6%	0.8%
7-Zip Compression - C.S.T (MIPS)	14994	15401	15714	15450	15576	15806	15454	15393
Normalized	94.86%	97.44%	99.42%	97.75%	98.54%	100%	97.77%	97.39%
Standard Deviation	4.1%	3.5%	0.7%	2.2%	1.5%	3.1%	3.3%	1.1%
FLAC Audio Encoding - WAV To FLAC (sec)	7.13	7.05	7.04	6.68	6.51	6.61	6.54	6.59
Normalized	91.3%	92.34%	92.47%	97.46%	100%	98.49%	99.54%	98.79%
Standard Deviation	0.4%	0.2%	0.1%	0.2%	0.1%	0.3%	0.2%	0.3%
GraphicsMagick - HWB Color Space (Iterations/min)	103	129	141	152	58	62	77	58
Normalized	67.76%	84.87%	92.76%	100%	38.16%	40.79%	50.66%	38.16%
Standard Deviation	1.1%	0.4%	0%	0%	1%	1.9%	3%	1.7%
GraphicsMagick - Blur (Iterations/min)	40	95	101	76	66	65	69	64
Normalized	39.6%	94.06%	100%	75.25%	65.35%	64.36%	68.32%	63.37%
Standard Deviation	0%	0%	0.6%	0.8%	2.3%	2.7%	0.8%	3.5%
GraphicsMagick - L.A.T (Iterations/min)	16	61	64	53	24	25	25	25
Normalized	25%	95.31%	100%	82.81%	37.5%	39.06%	39.06%	39.06%

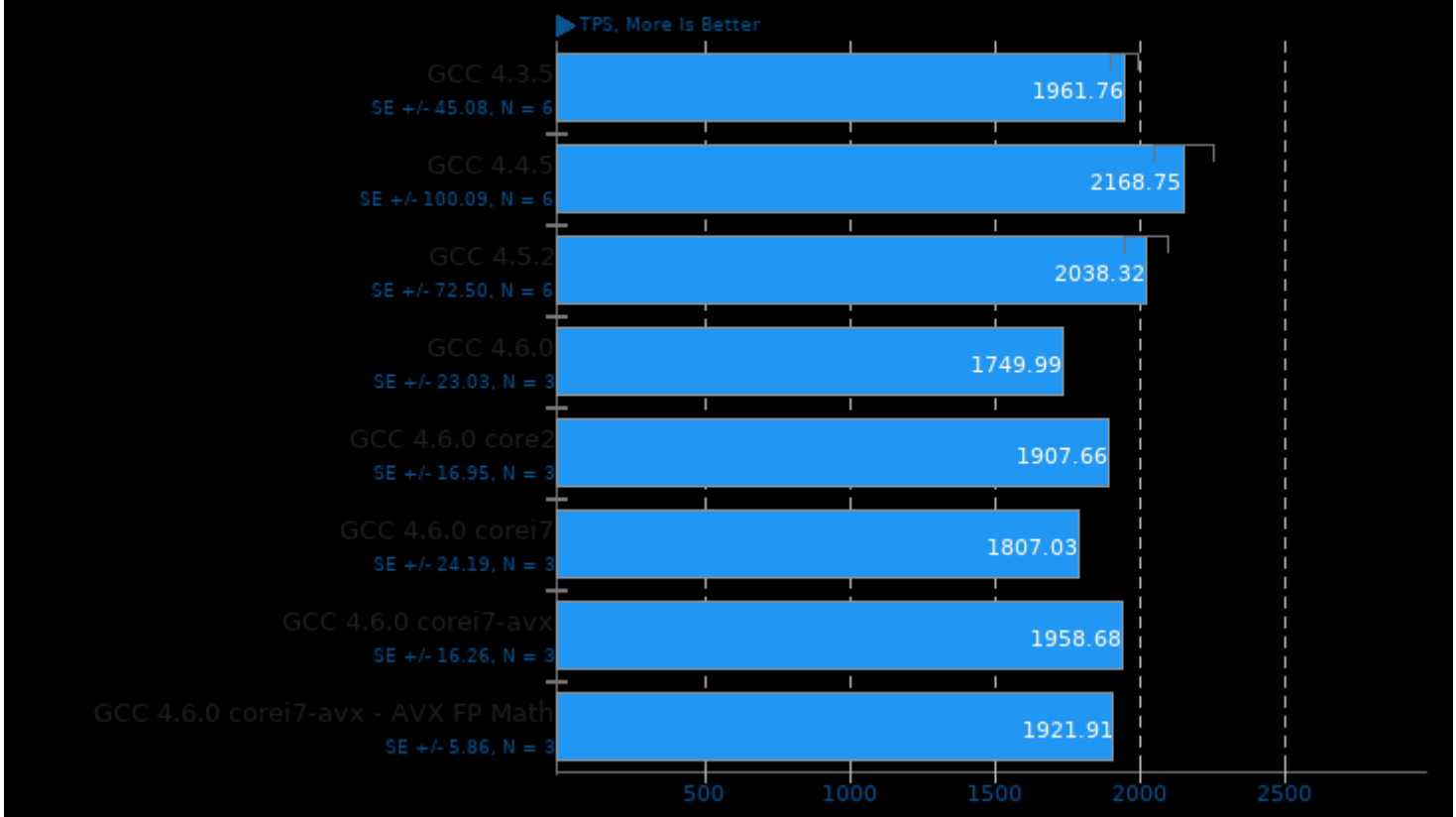
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Standard Deviation	0%	0.9%	0%	1.1%	2.4%	2.3%	0%	2.3%
GraphicsMagick - Resizing	56	116	**125**	94	**46**	**46**	**46**	**46**
Normalized	44.8%	92.8%	100%	75.2%	36.8%	36.8%	36.8%	36.8%
Standard Deviation	0%	0%	0.5%	3.2%	1.2%	2.5%	1.2%	1.2%
GraphicsMagick - Sharpen	**15**	64	**66**	55	30	30	30	30
Normalized	22.73%	96.97%	100%	83.33%	45.45%	45.45%	45.45%	45.45%
Standard Deviation	0%	0%	0%	0%	1.9%	0%	1.9%	1.9%
OpenSSL - R.4.b.P (Signs/sec)	79.80	80.03	**80.20**	79.88	79.18	79.55	79.83	**79.15**
Normalized	99.5%	99.79%	100%	99.6%	98.73%	99.19%	99.54%	98.69%
Standard Deviation	0.7%	0.5%	0.5%	0.6%	0.6%	0.6%	0.8%	0.8%
Gcrypt Library - C.E.C (us)	3017	2643	2617	**2330**	9283	9413	**9473**	9337
Normalized	77.23%	88.16%	89.03%	100%	25.1%	24.75%	24.6%	24.95%
Standard Deviation	0.7%	2.1%	0.6%	2.3%	0.5%	2.1%	3.1%	2.3%

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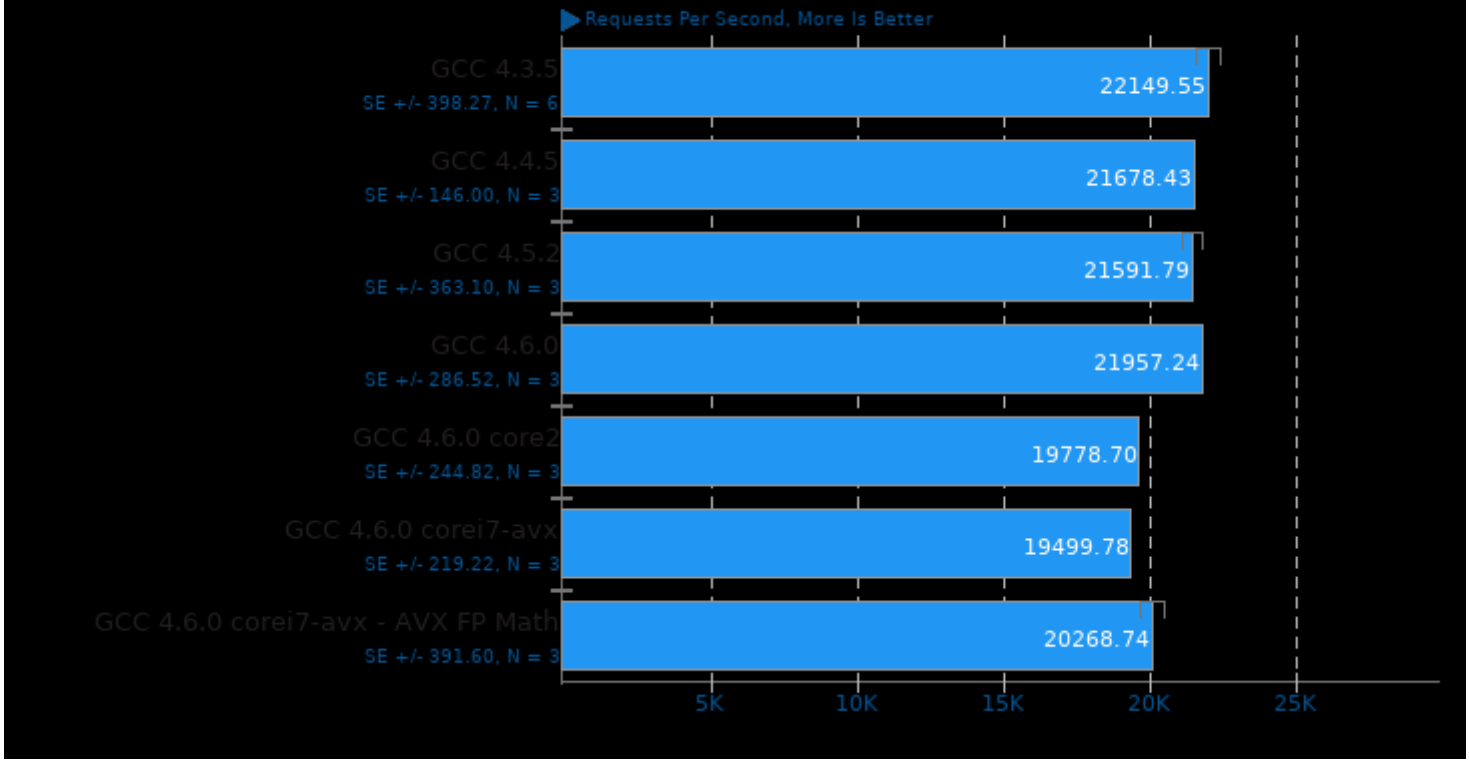
PostgreSQL pgbench 9.0.1

TPC-B Transactions Per Second

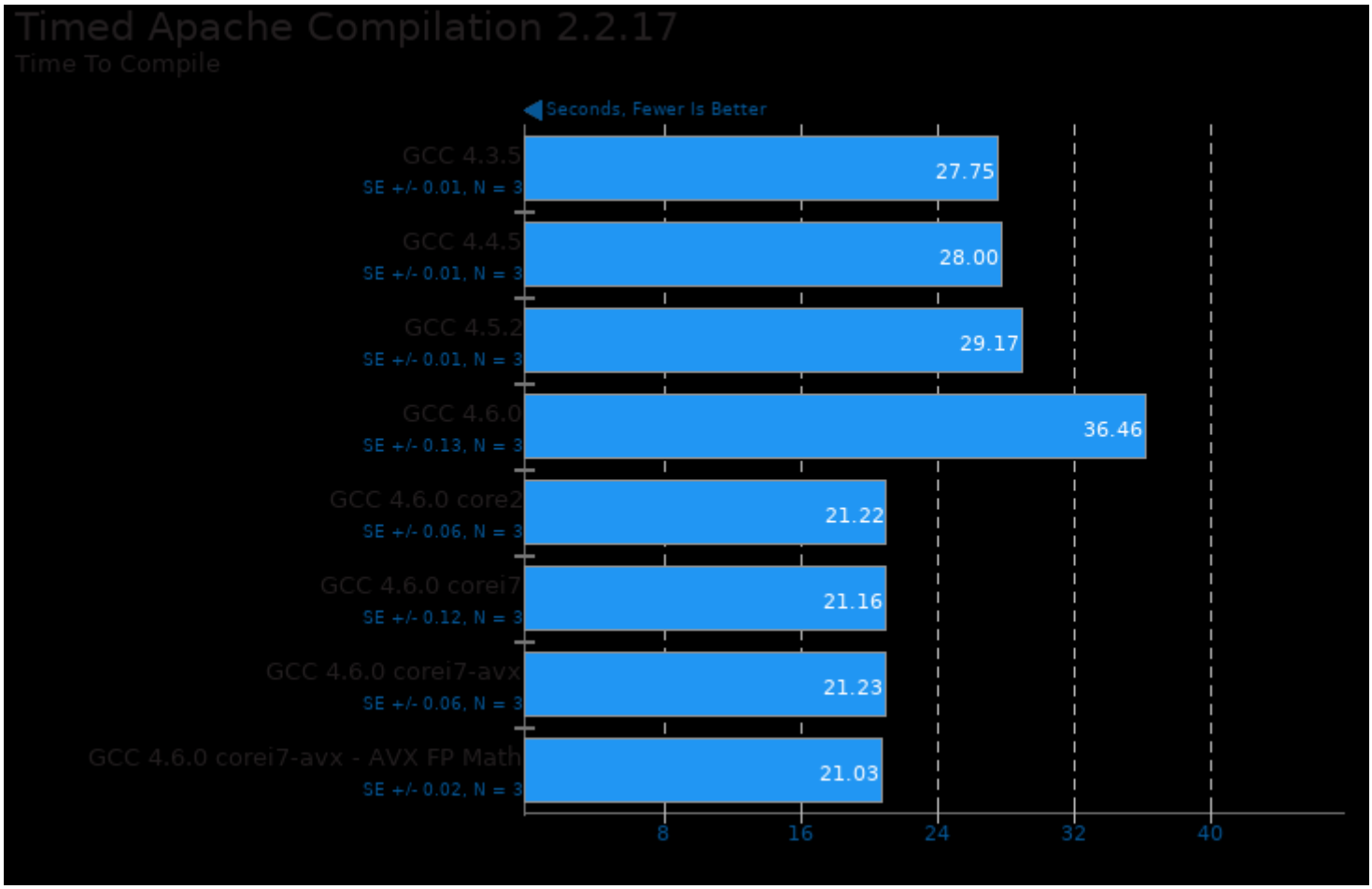


Apache Benchmark 2.2.17

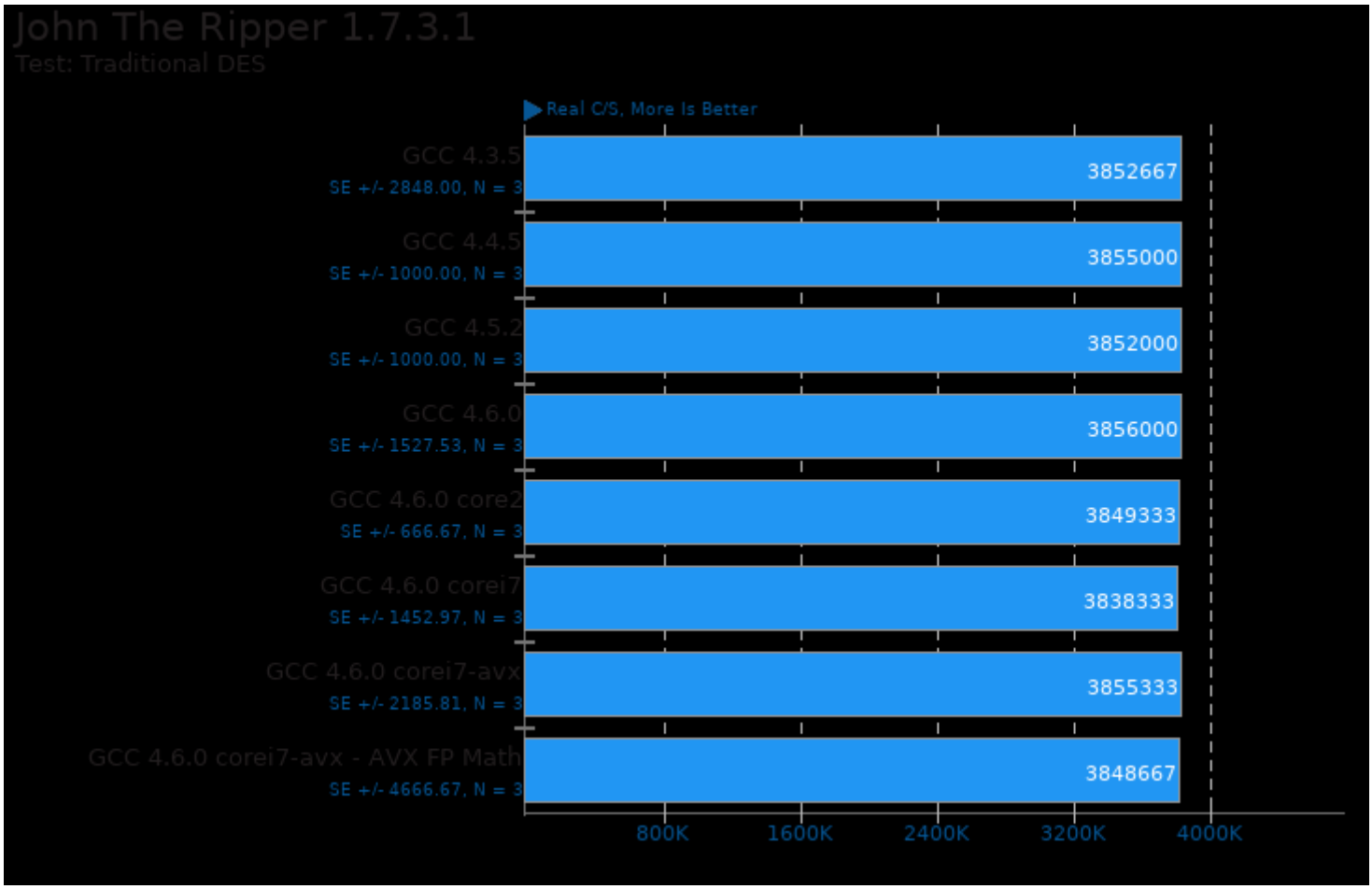
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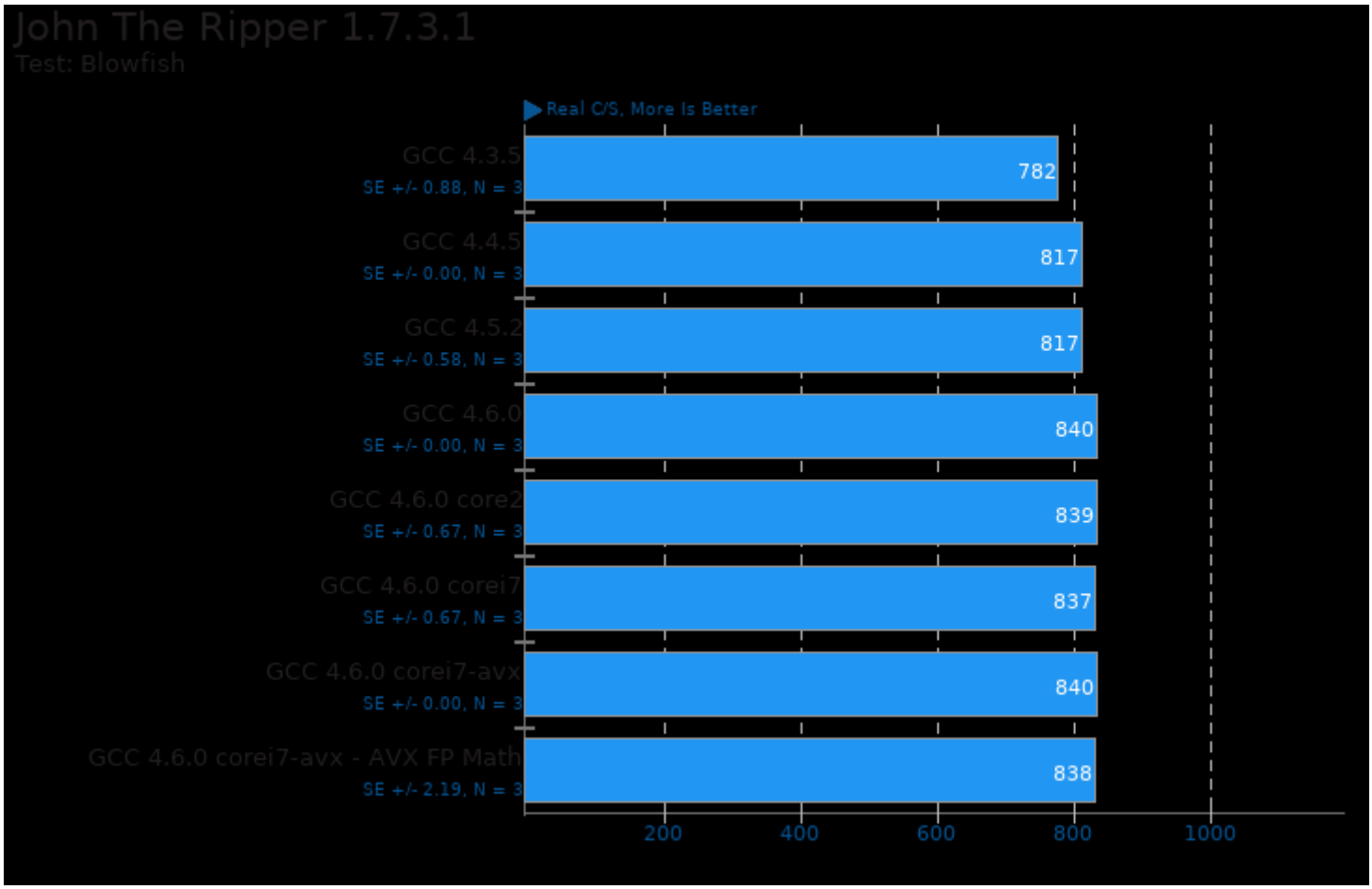
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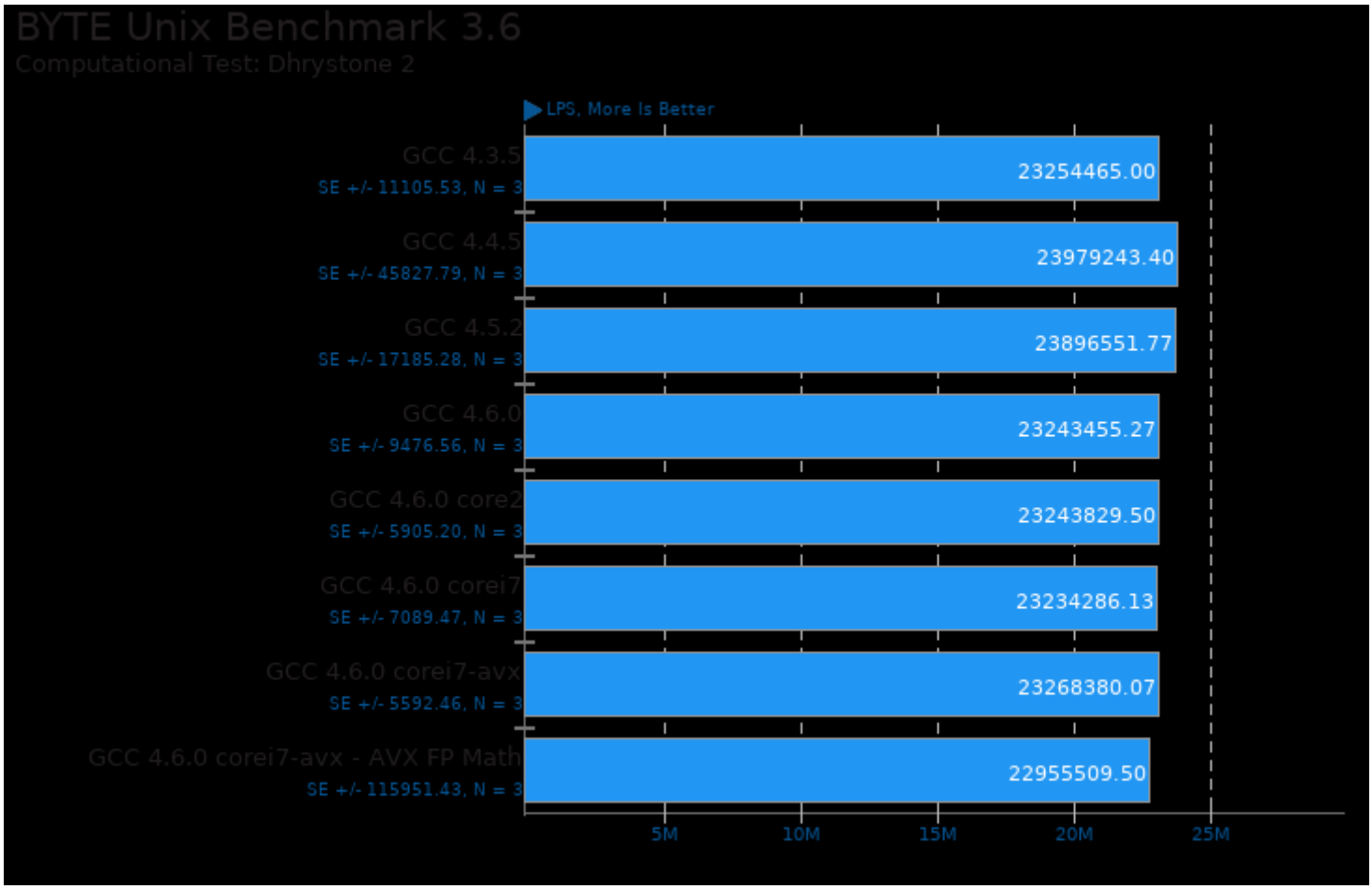
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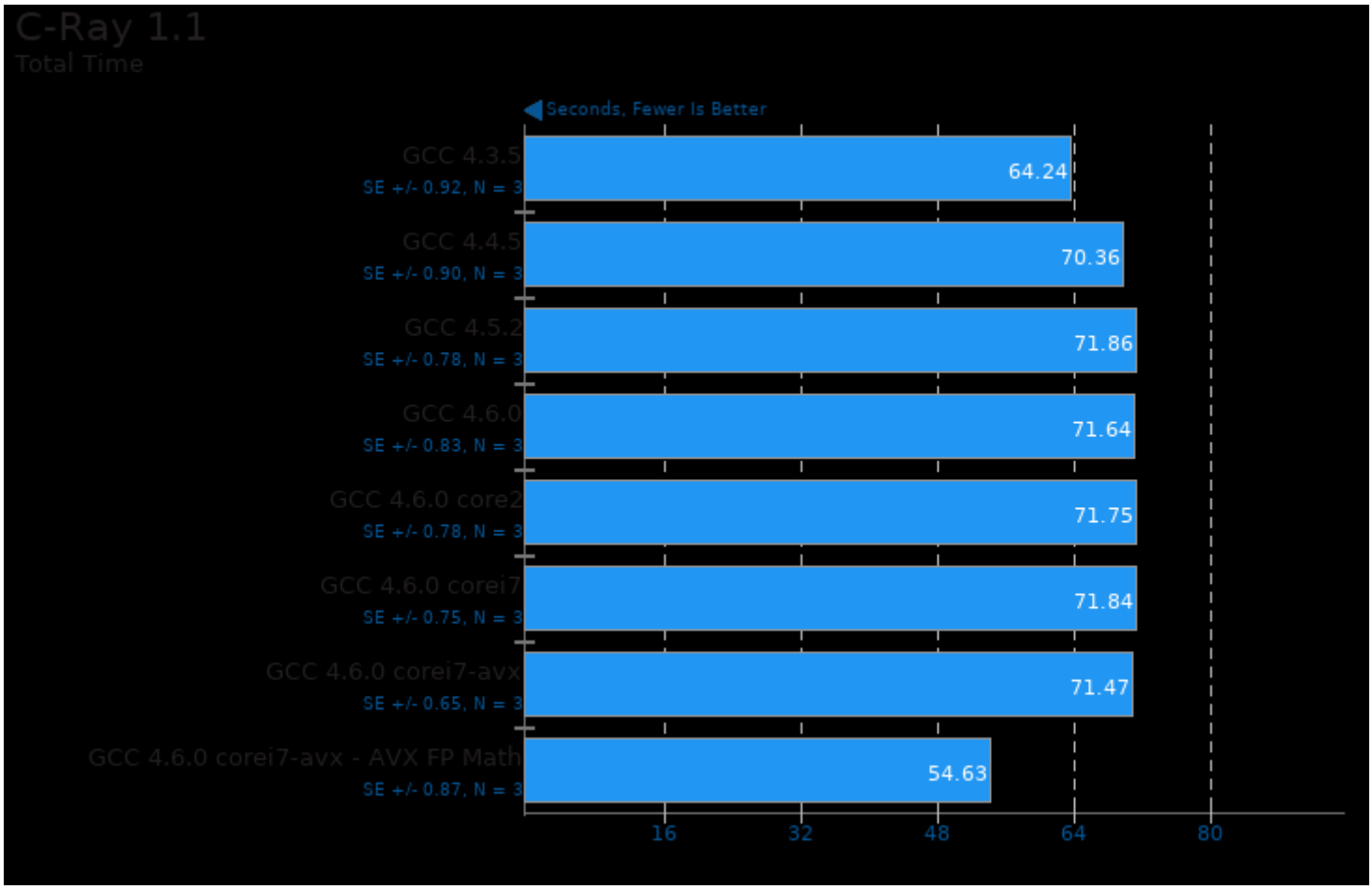
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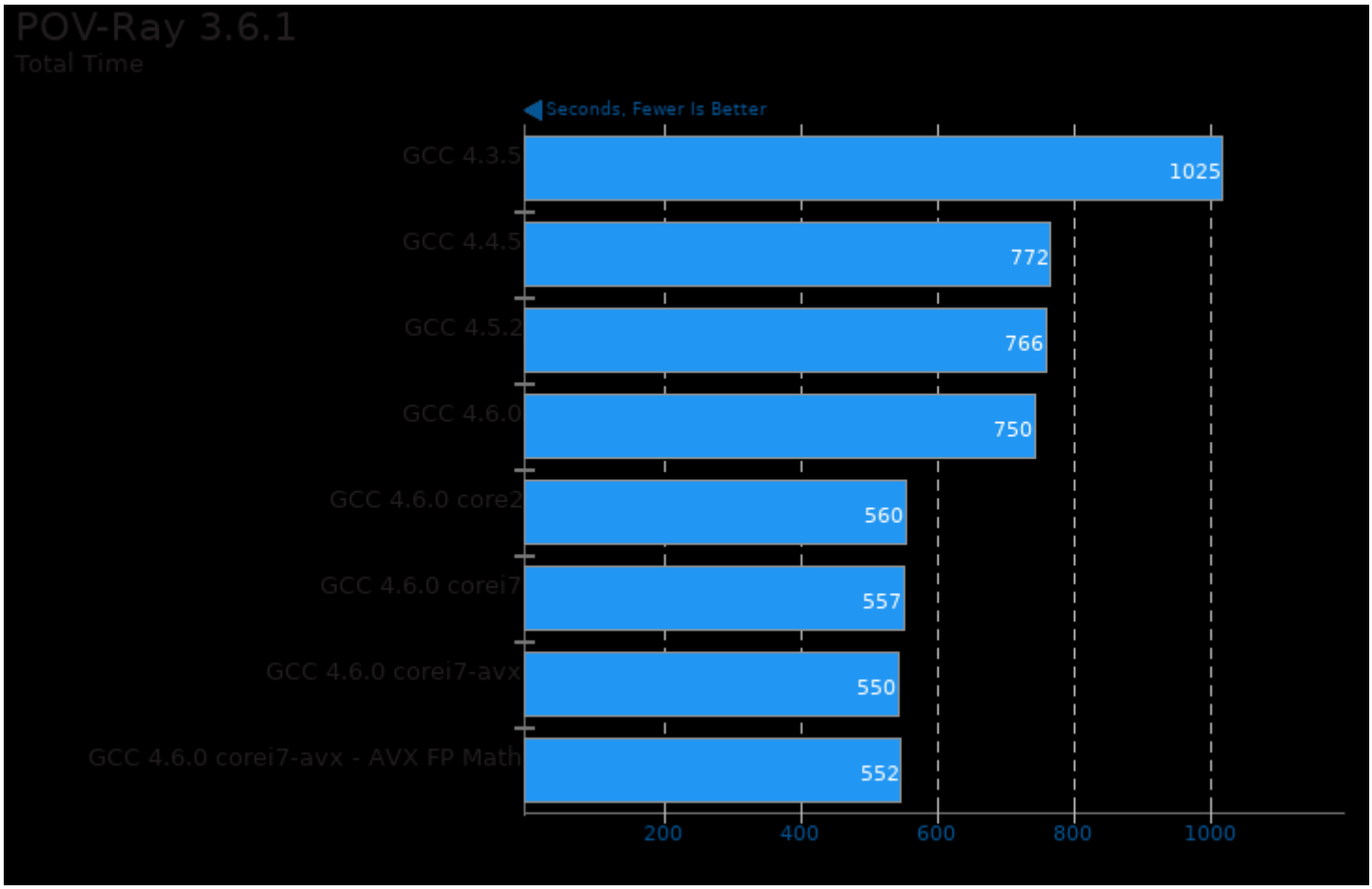
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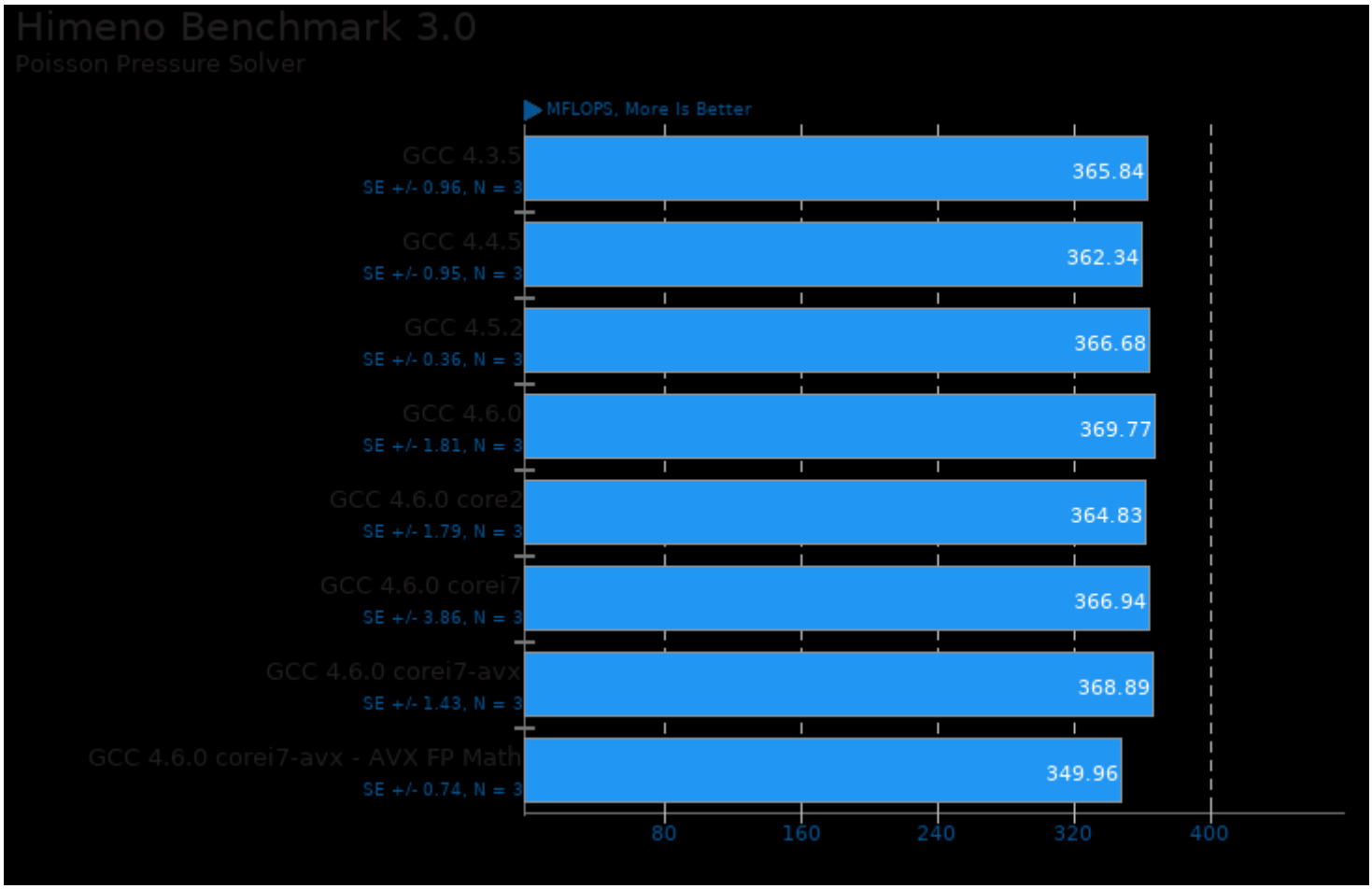
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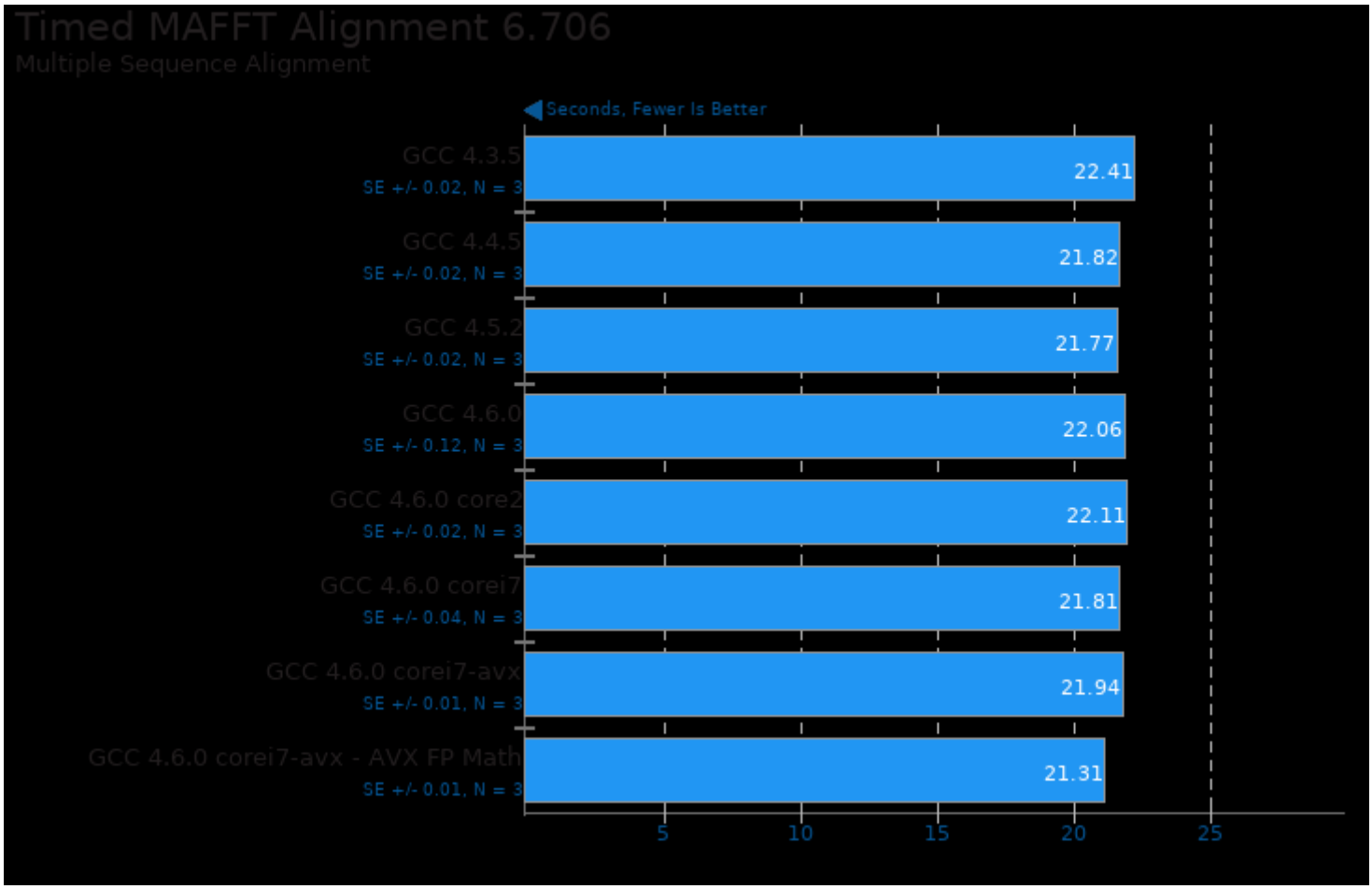
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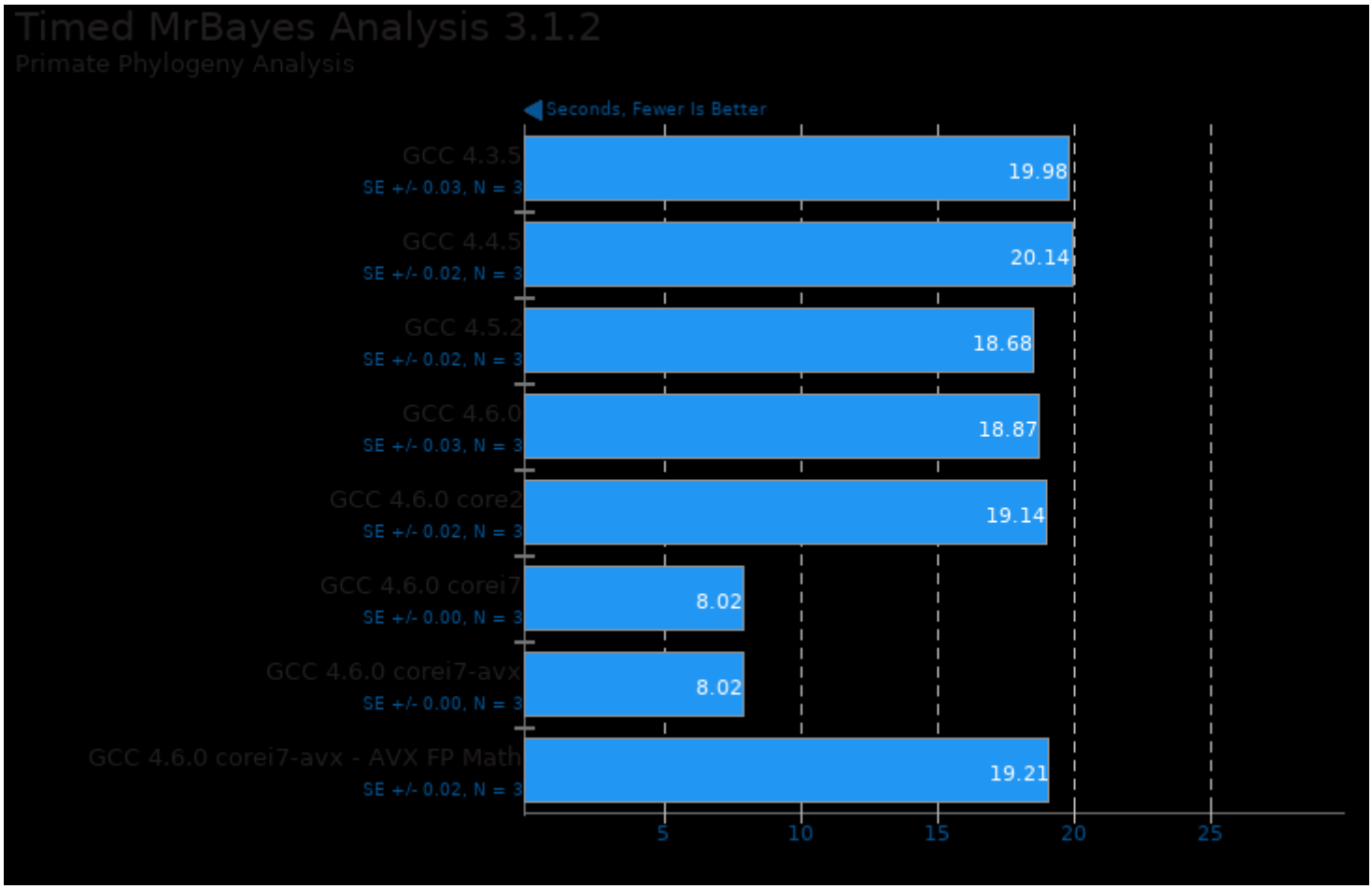
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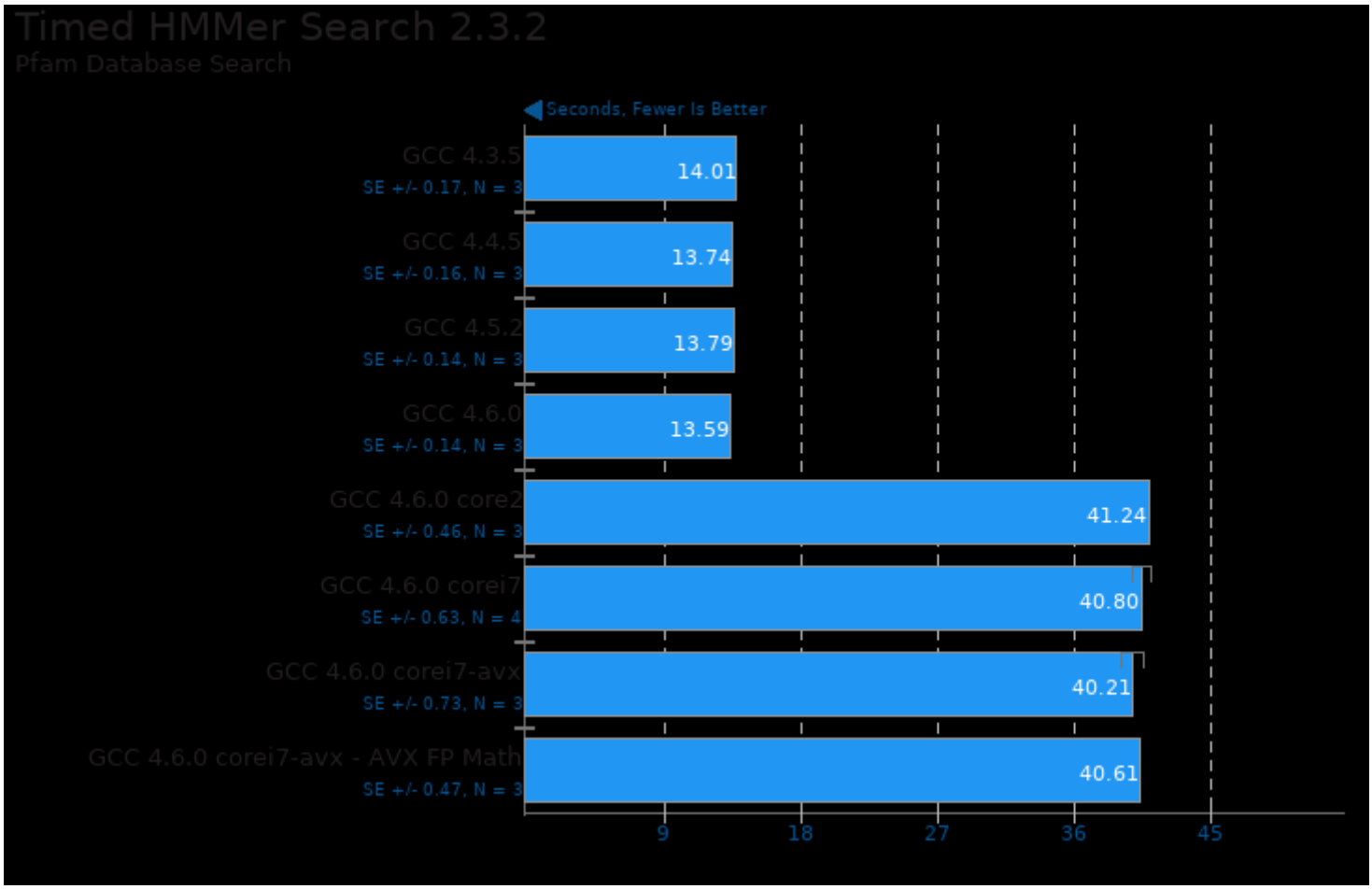
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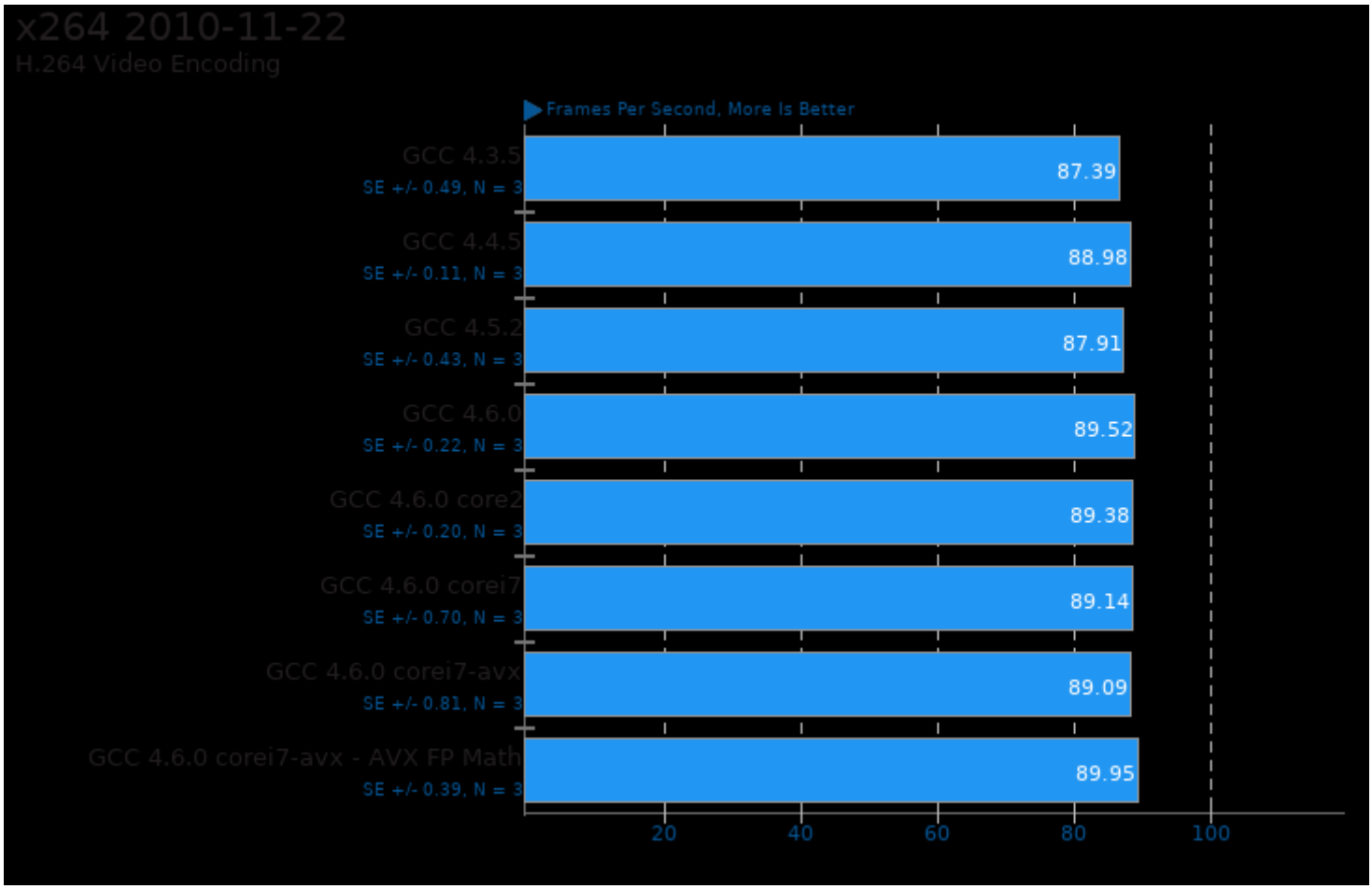
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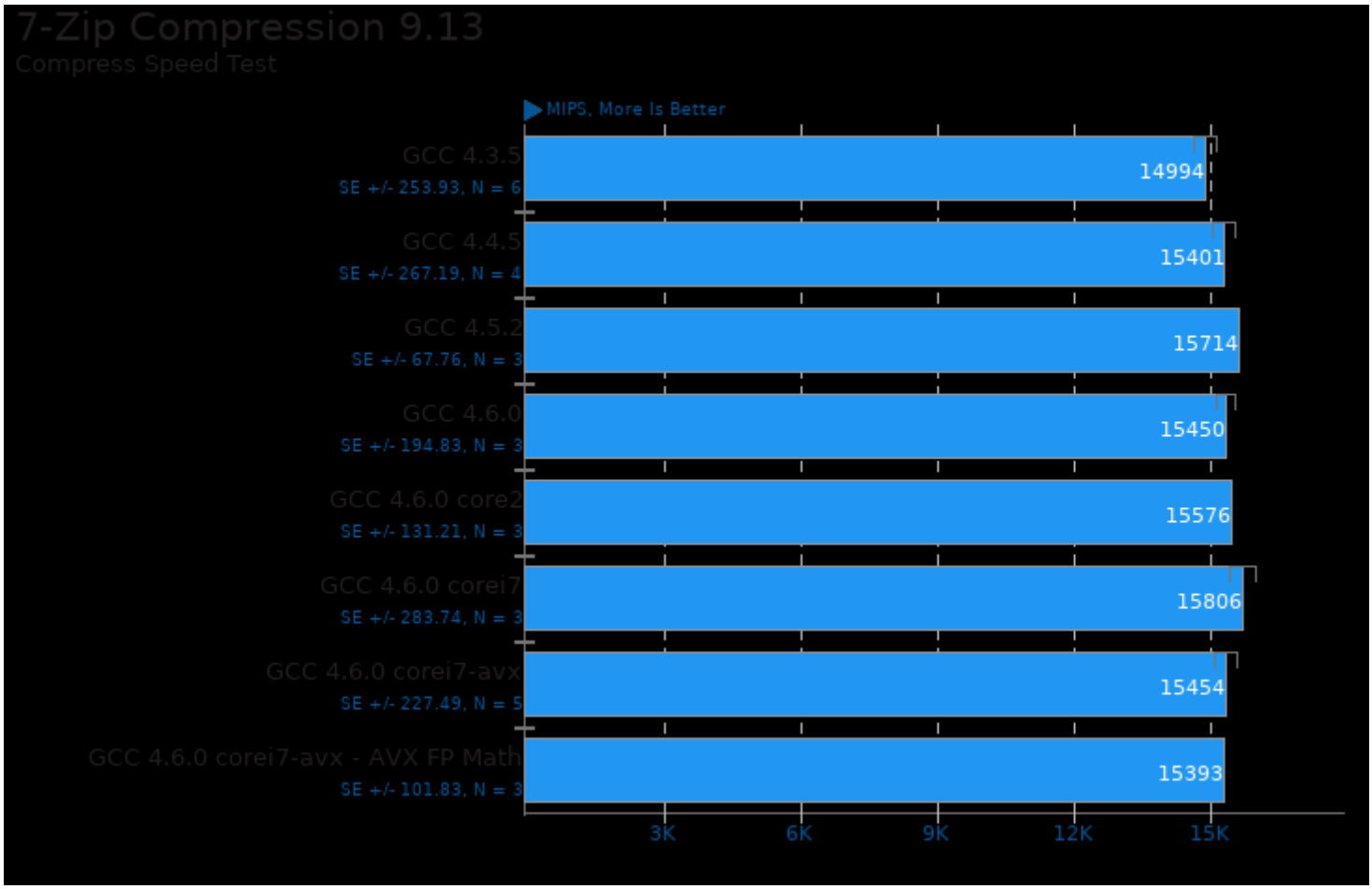
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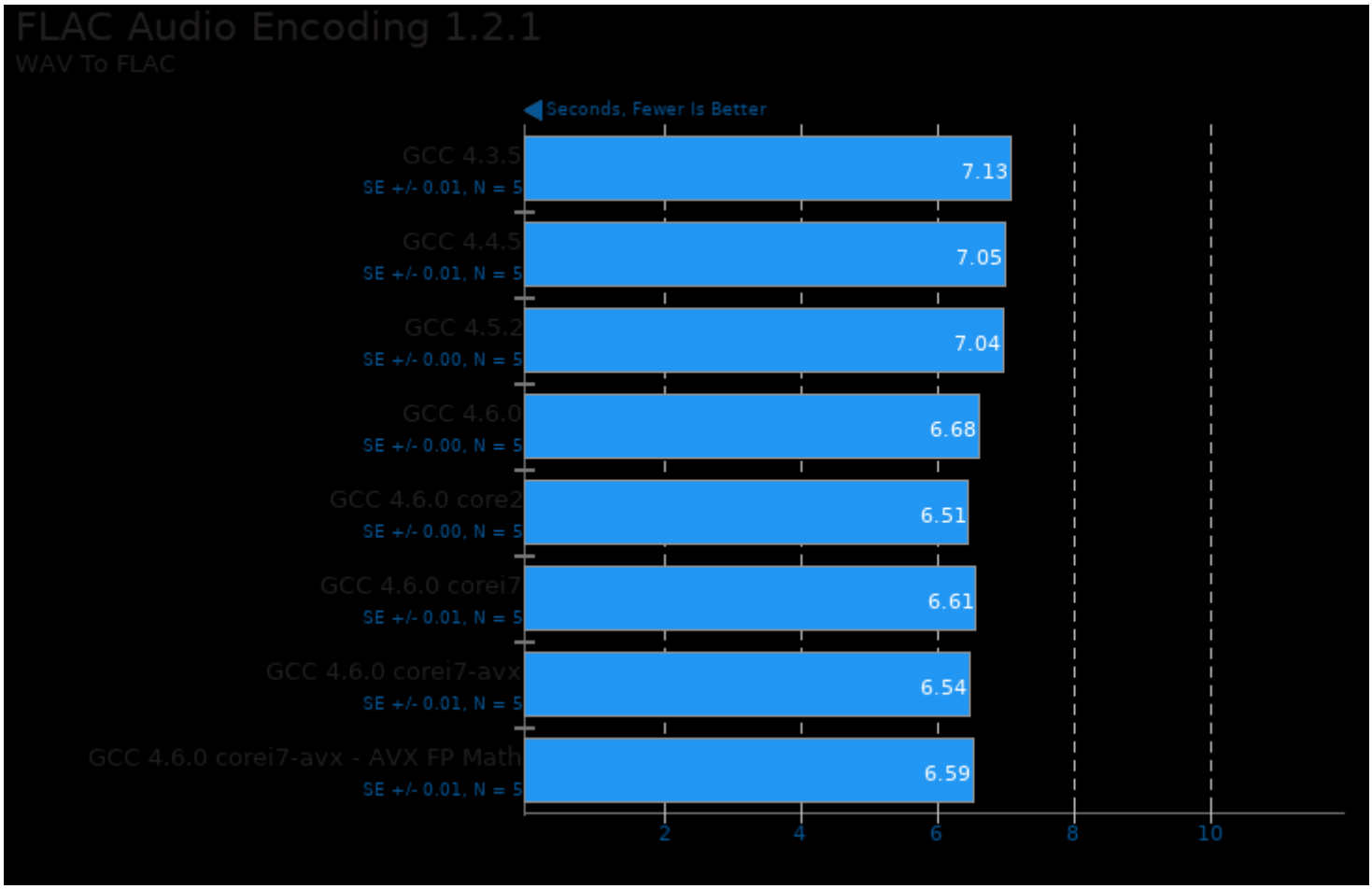
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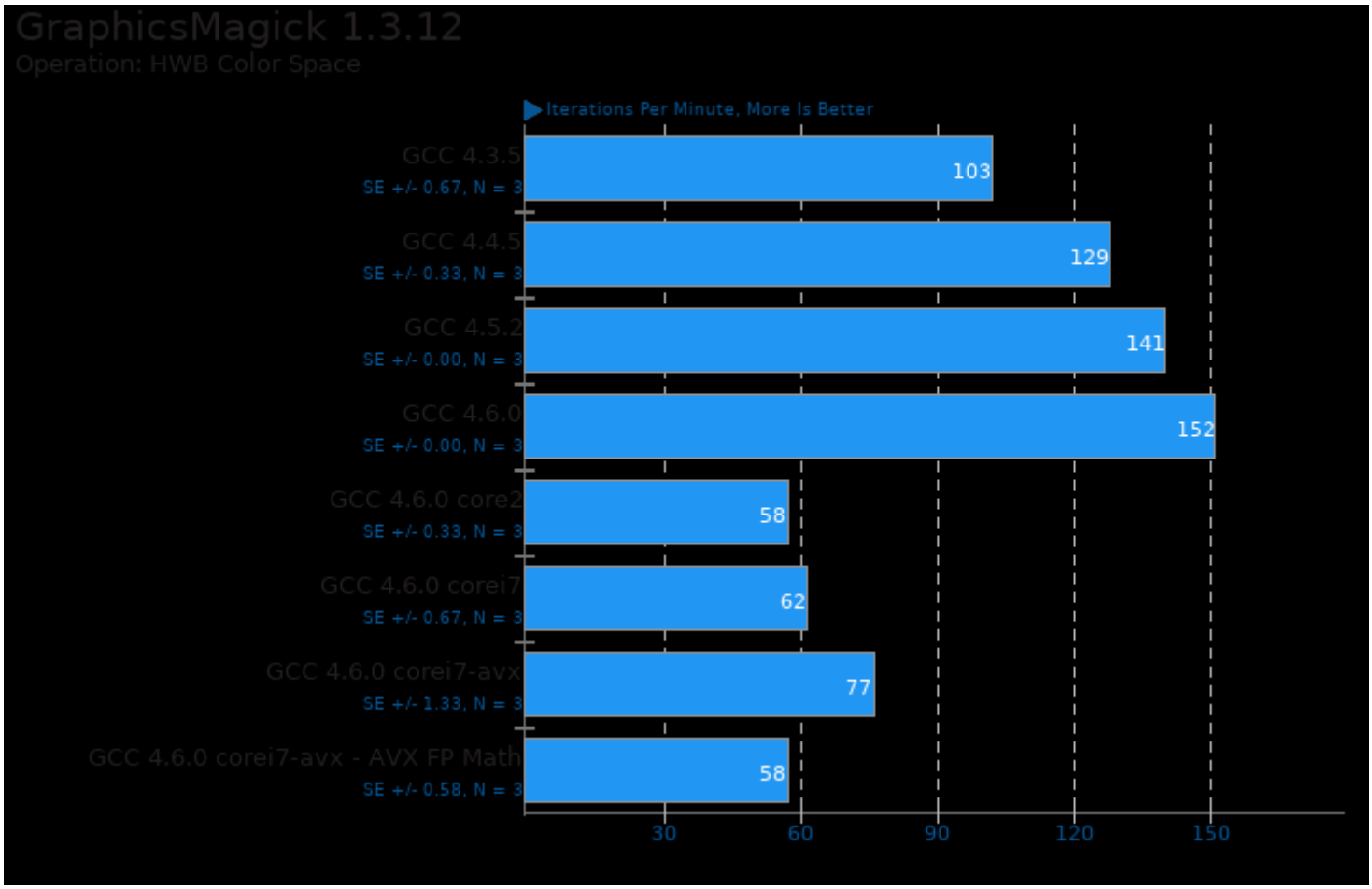
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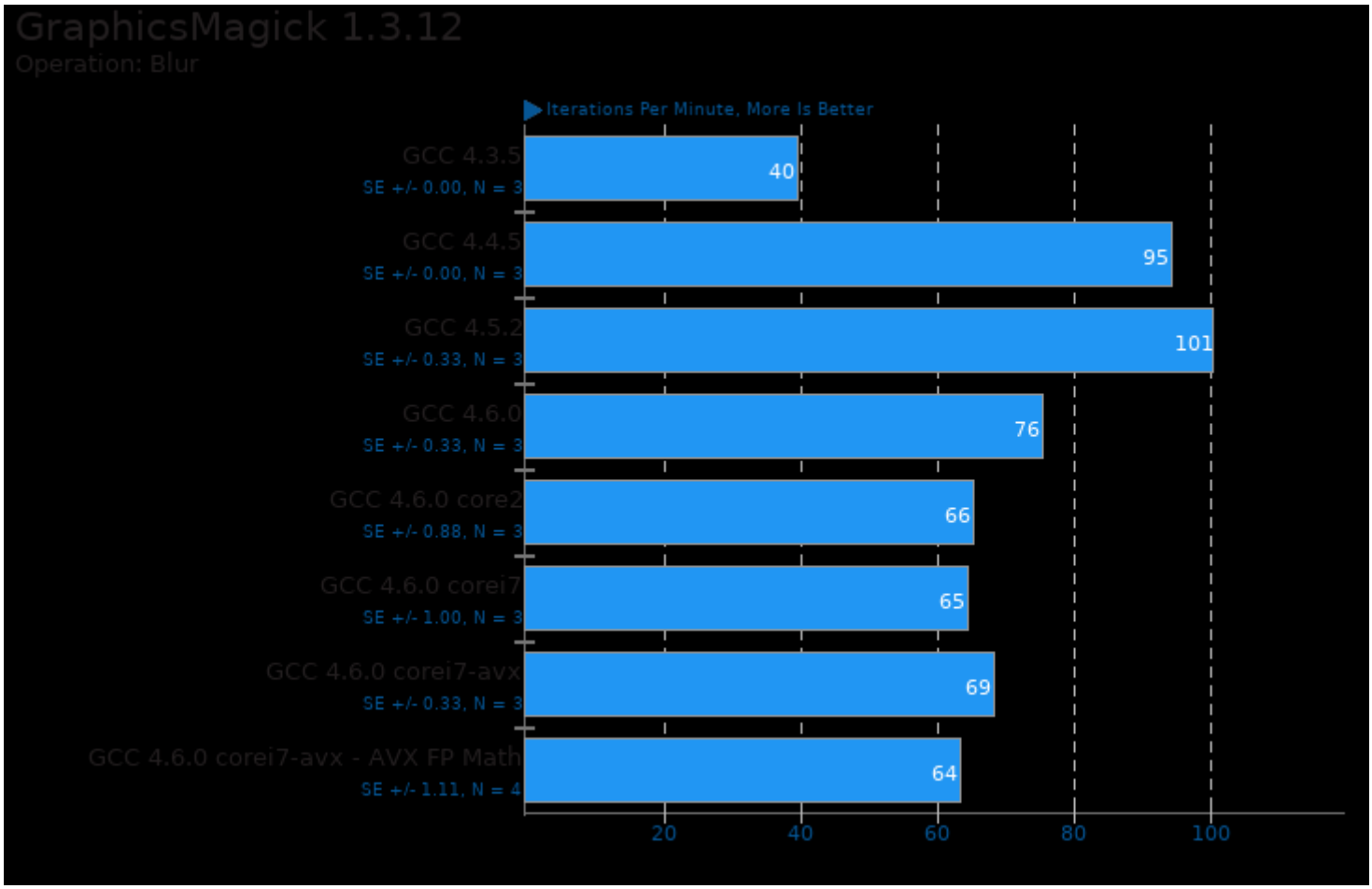
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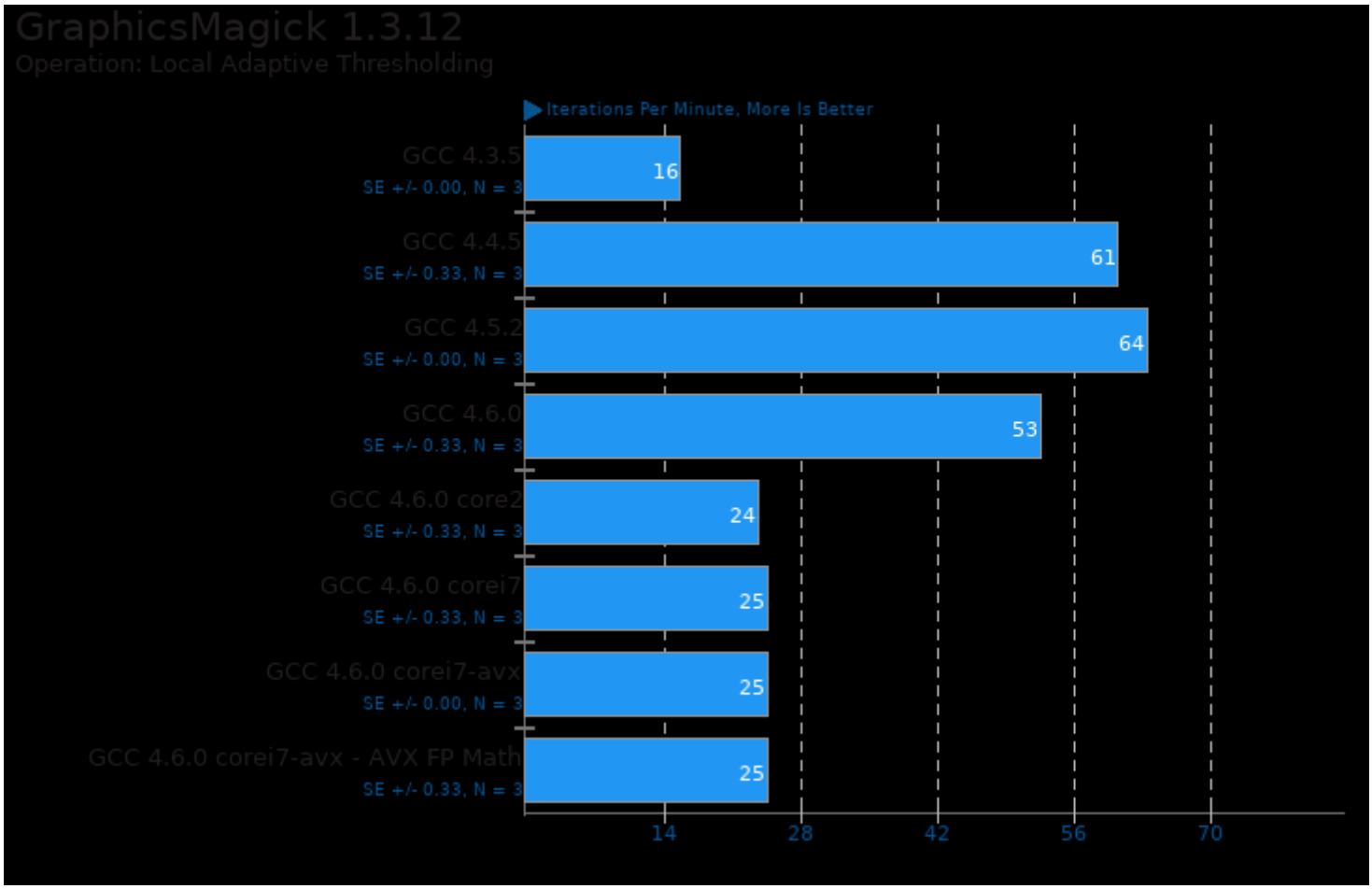
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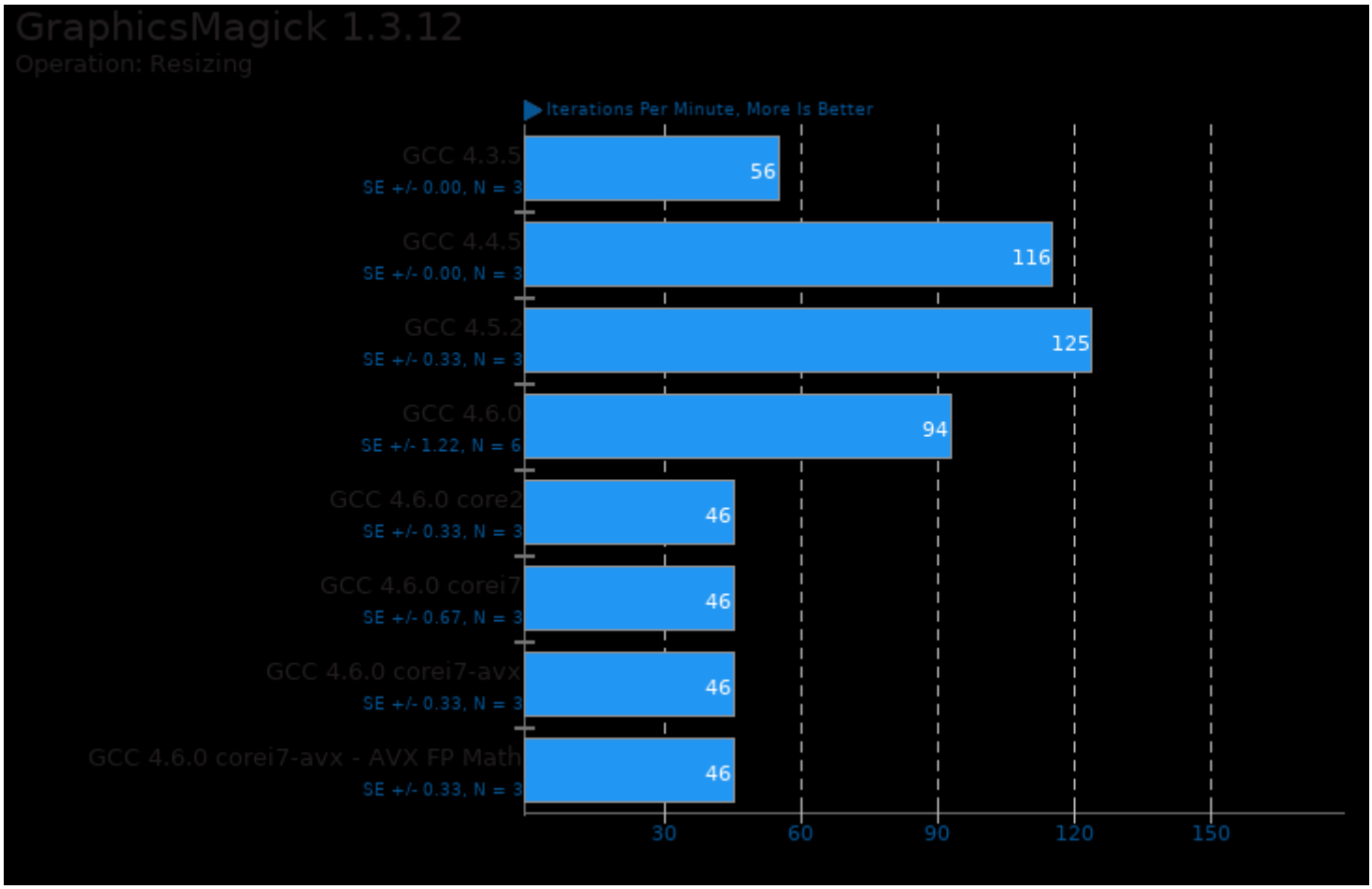
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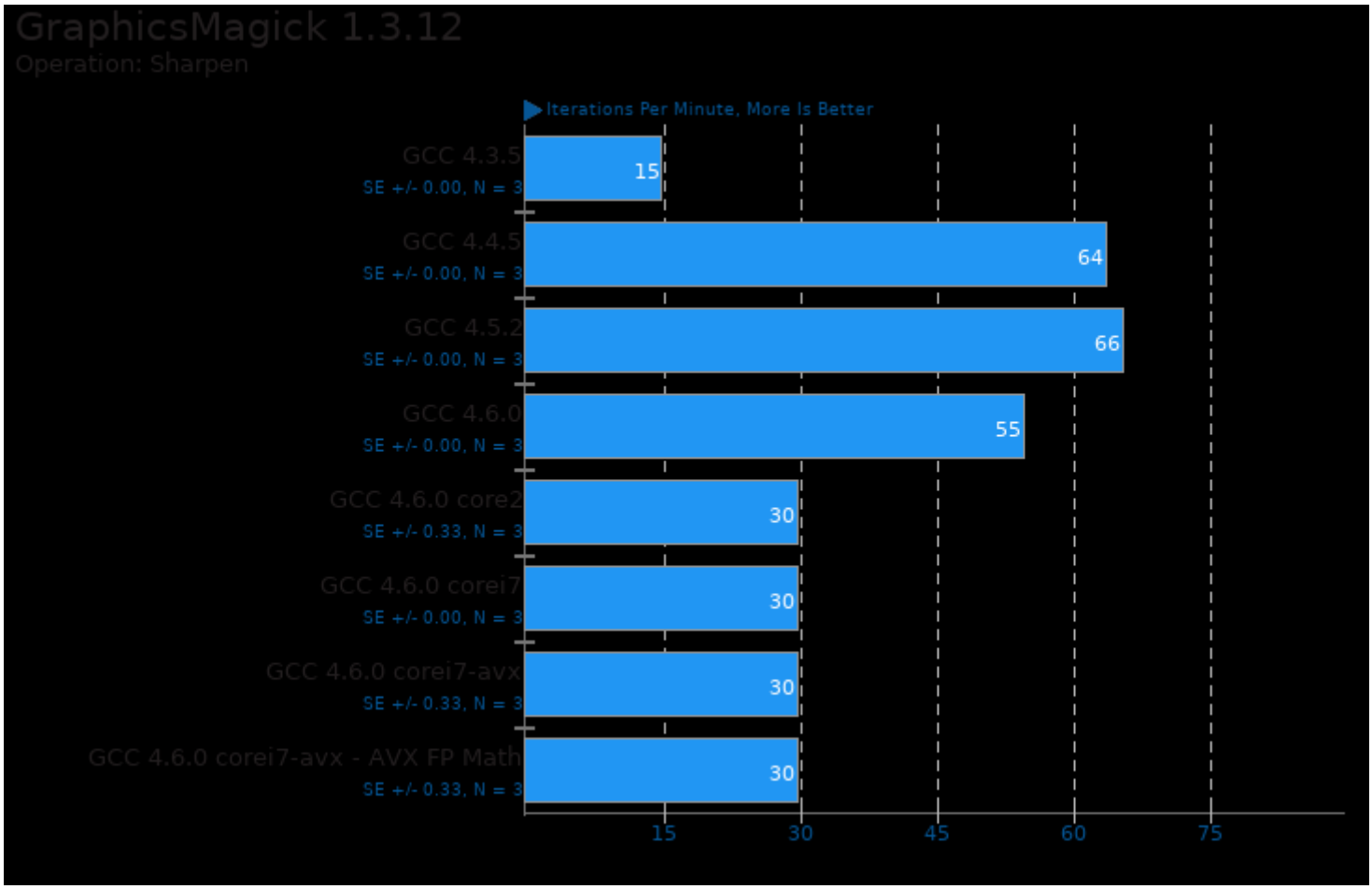
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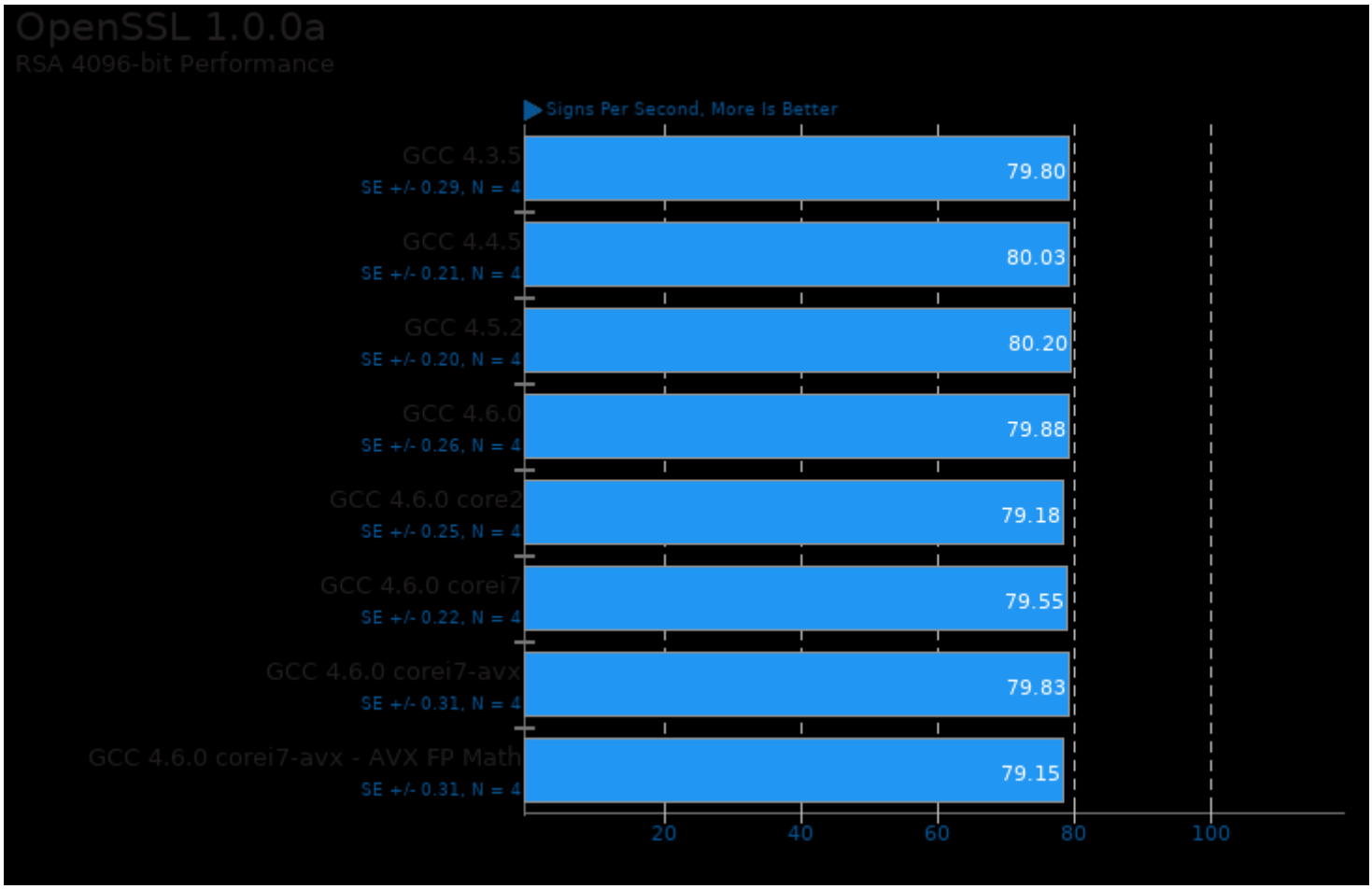
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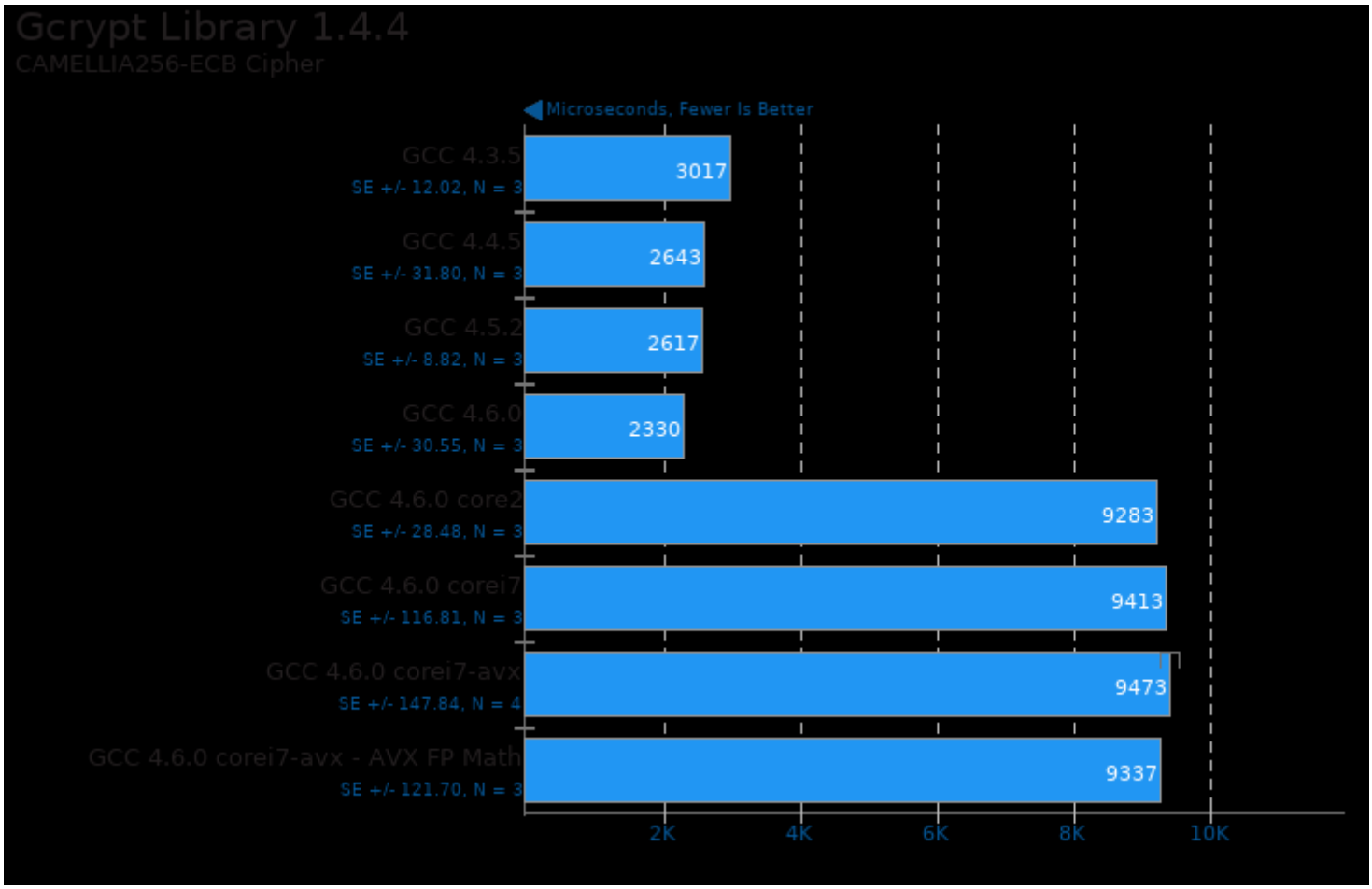
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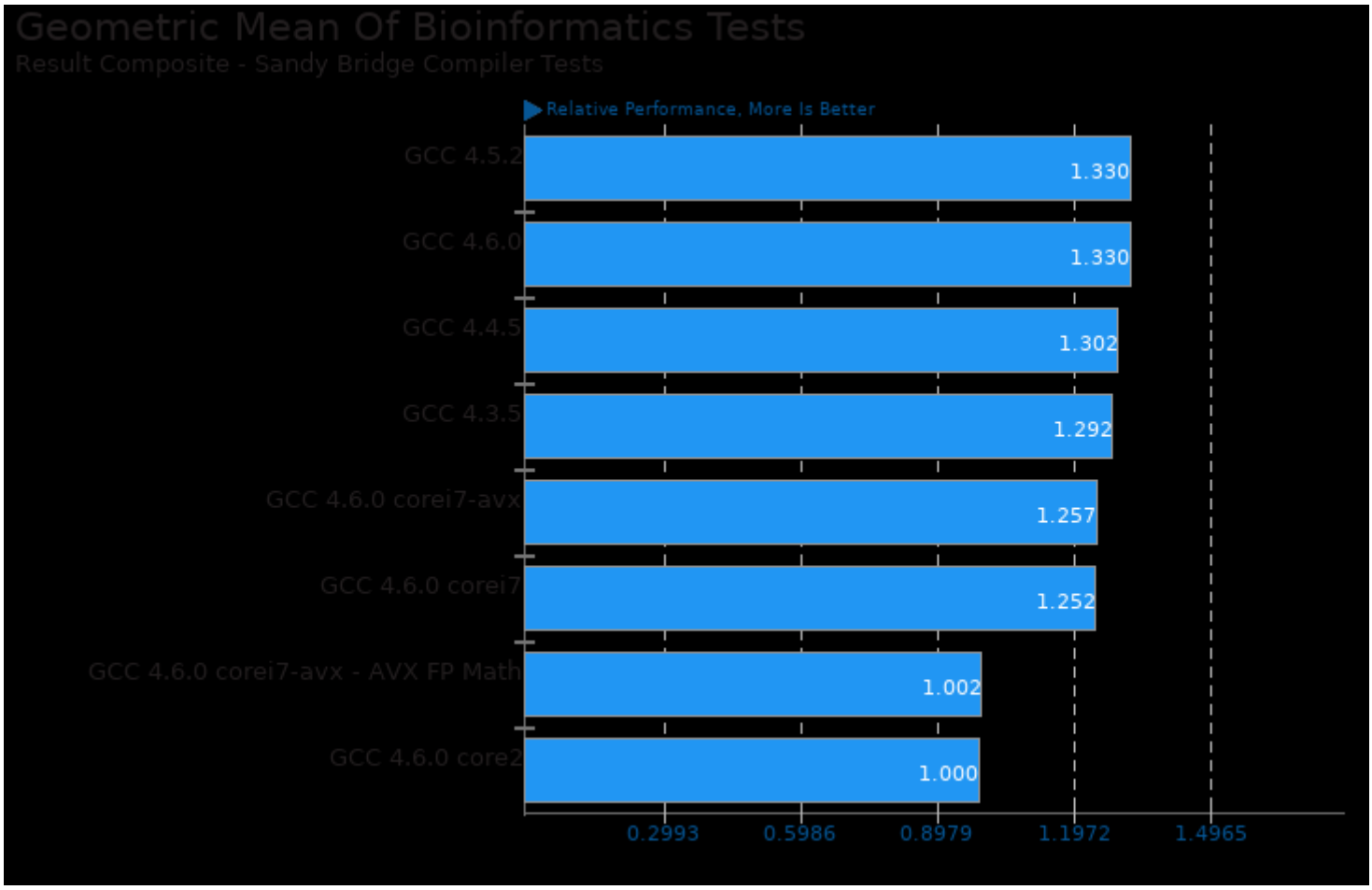


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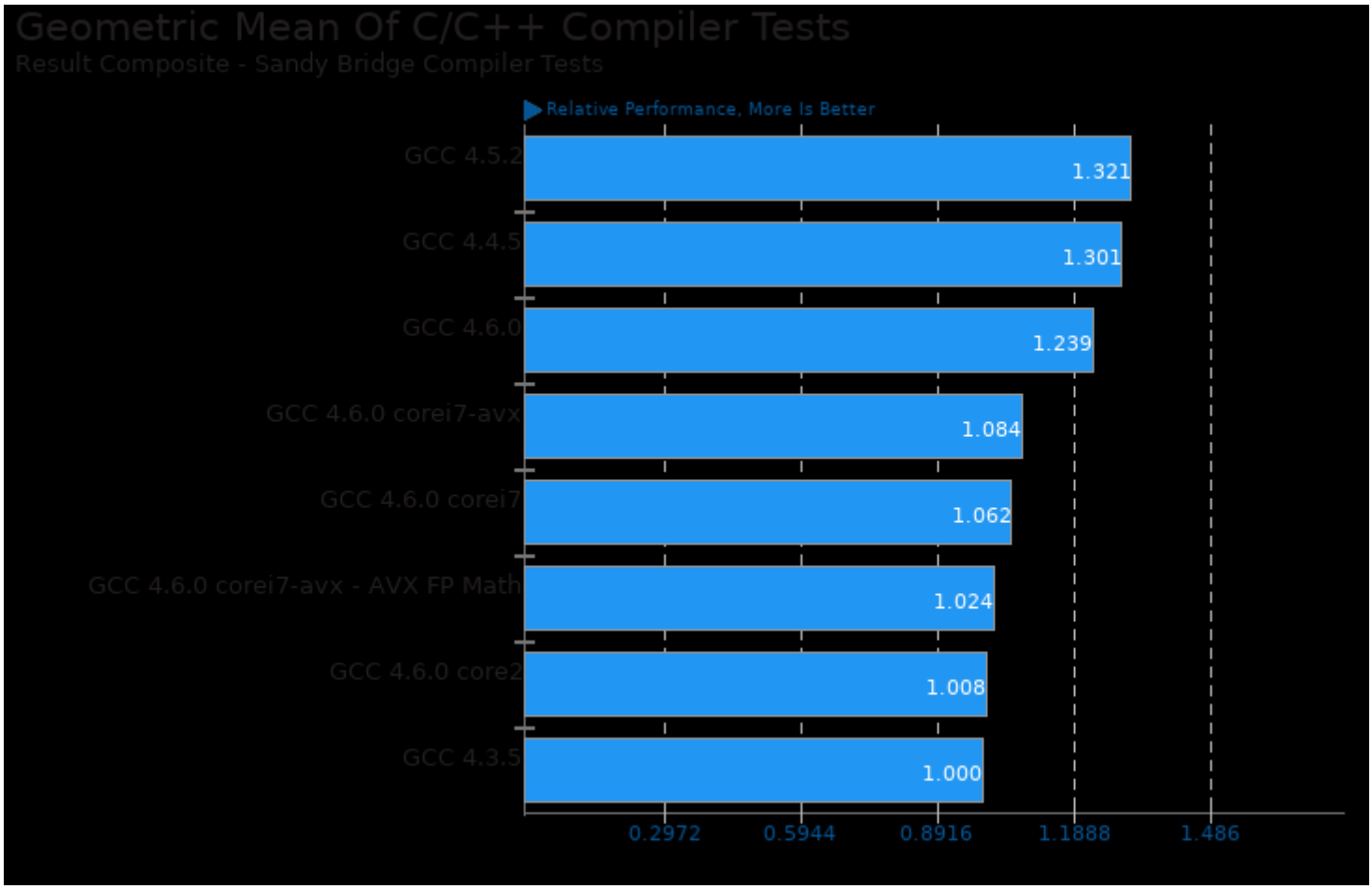
Sandy Bridge Compiler Tests

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



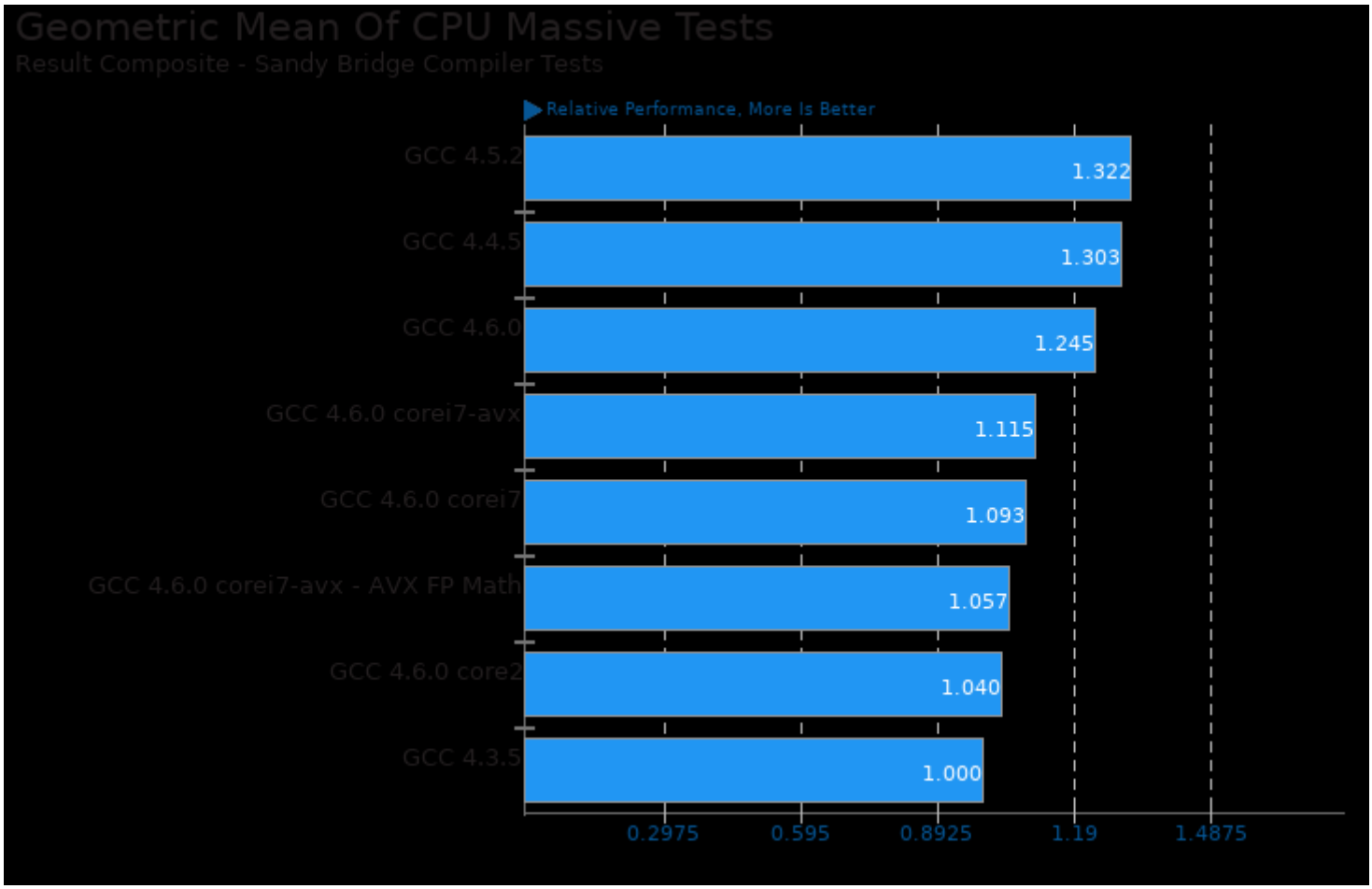
Geometric mean based upon tests: pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

Sandy Bridge Compiler Tests



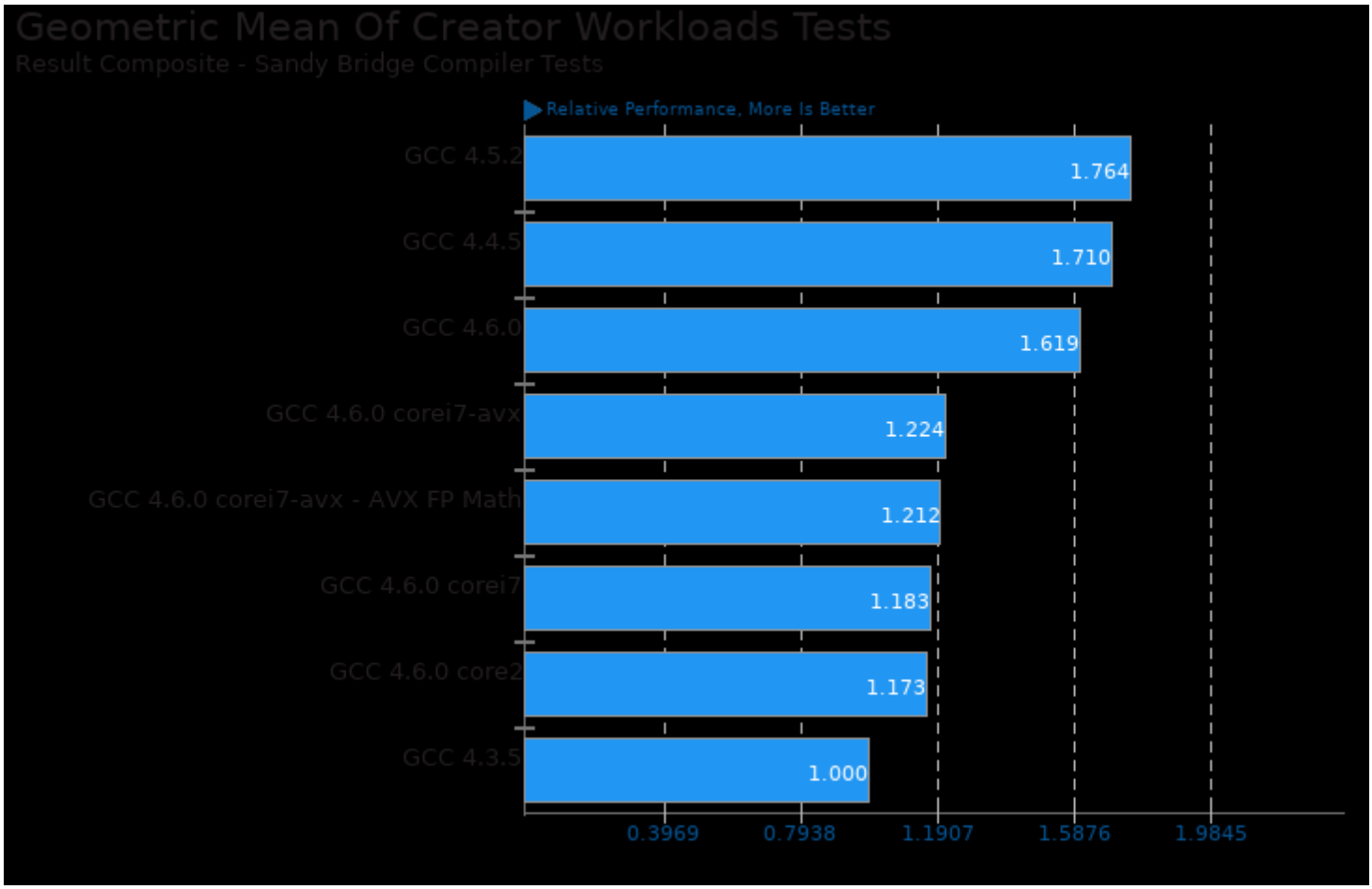
Geometric mean based upon tests: pts/mafft, pts/graphics-magick, pts/himeno, pts/hmmer, pts/c-ray, pts/compress-7zip, pts/encode-flac, pts/pgbench, pts/apache, pts/mrbayes, pts/john-the-ripper, pts/x264, pts/openssl and pts/build-apache

Sandy Bridge Compiler Tests



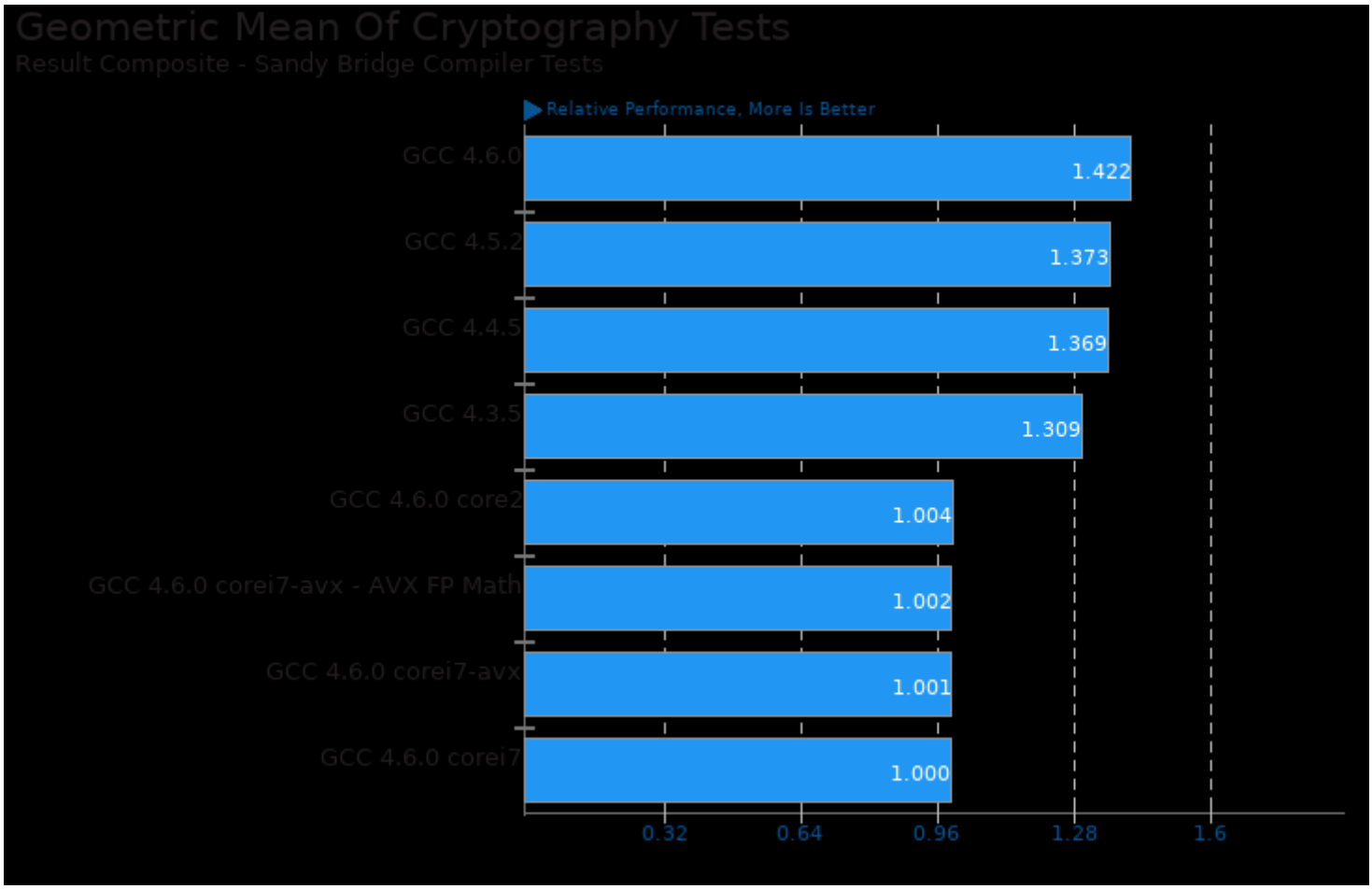
Geometric mean based upon tests: pts/apache, pts/build-apache, pts/c-ray, pts/compress-7zip, pts/x264, pts/encode-flac, pts/graphics-magick, pts/himeno, pts/hmmer, pts/john-the-ripper, pts/openssl, pts/mafft, pts/mrbayes, pts/pgbench and pts/povray

Sandy Bridge Compiler Tests



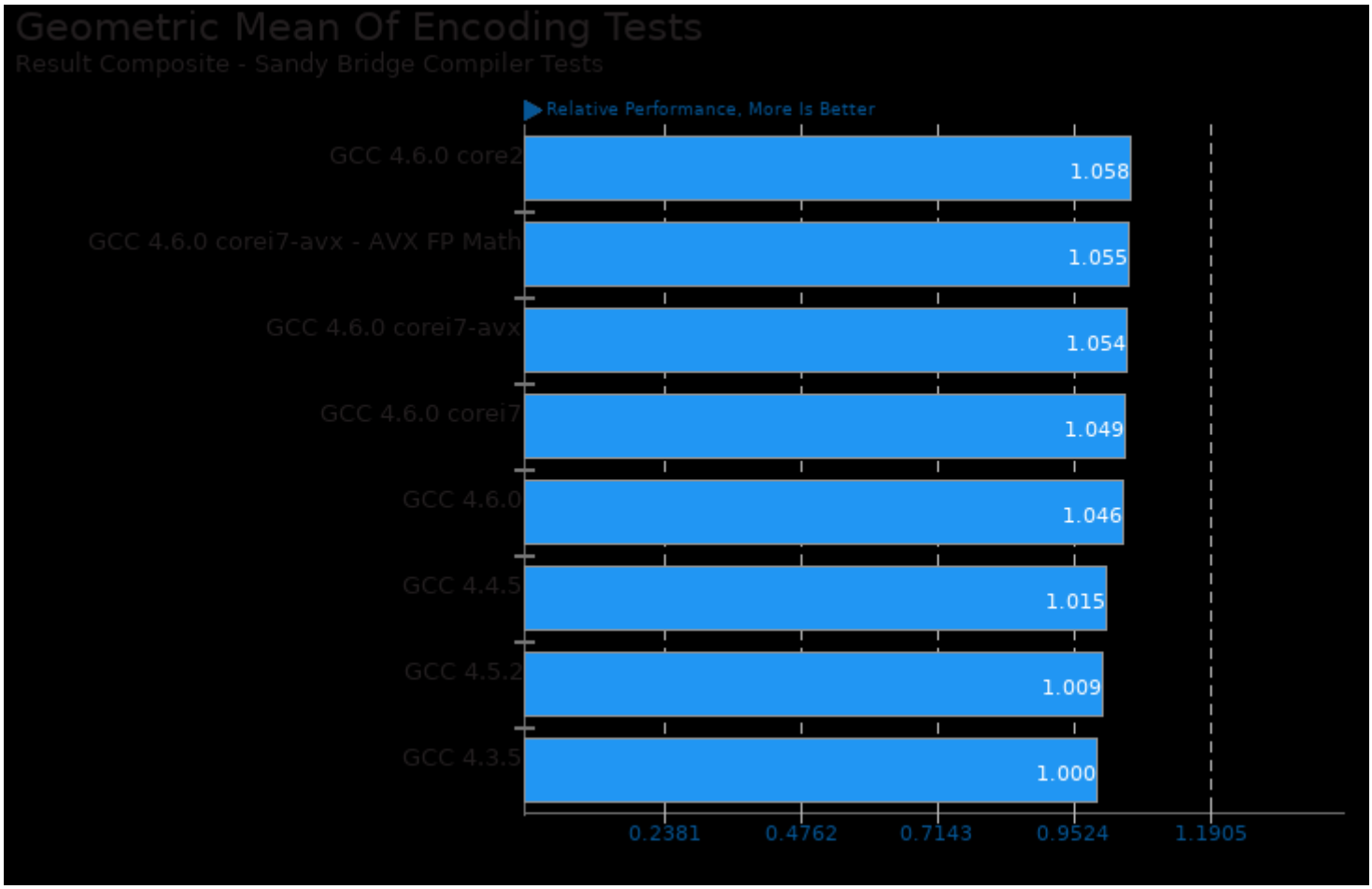
Geometric mean based upon tests: pts/c-ray, pts/povray, pts/x264, pts/encode-flac and pts/graphics-magick

Sandy Bridge Compiler Tests



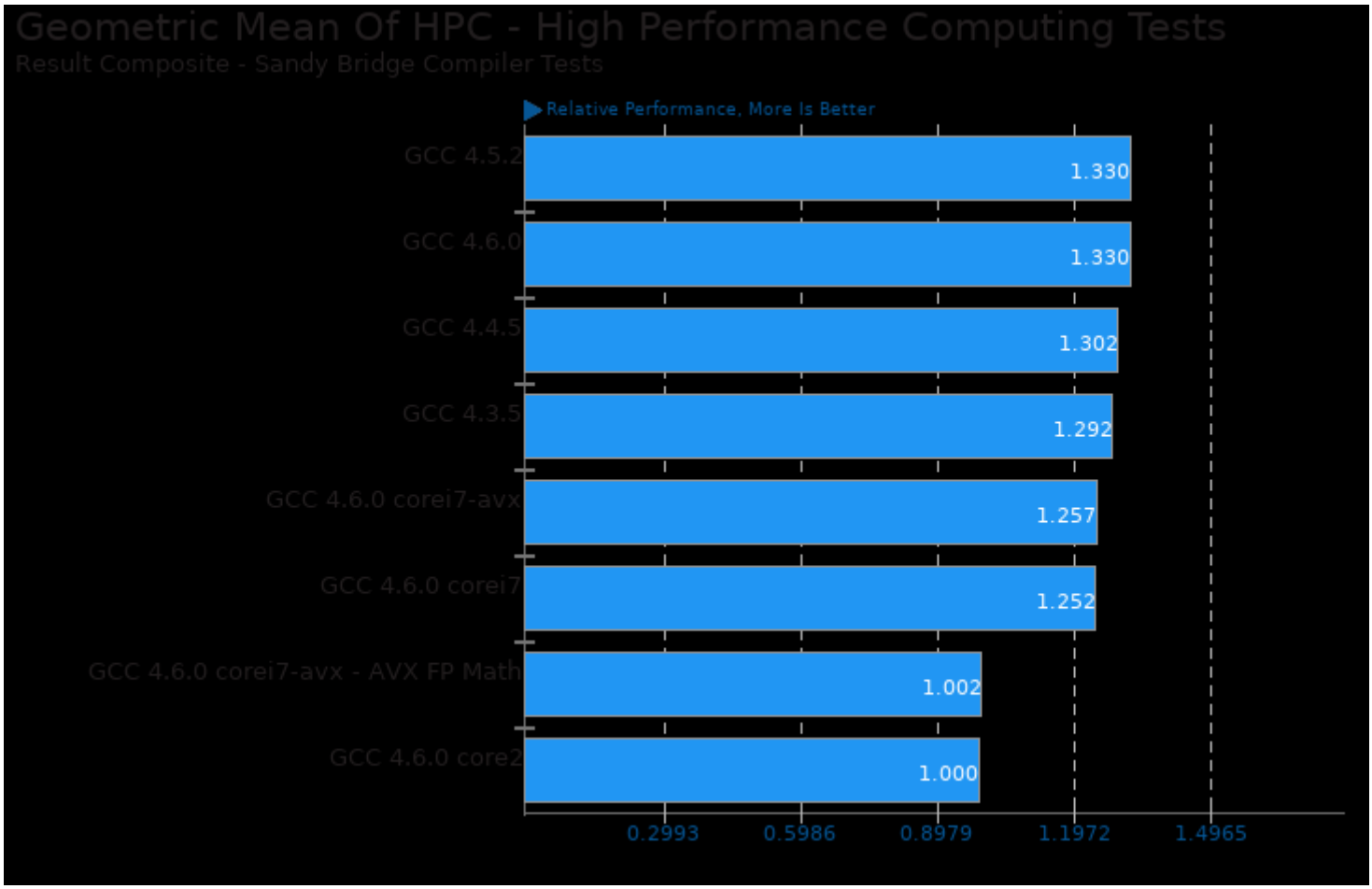
Geometric mean based upon tests: pts/openssl, pts/gcrypt and pts/john-the-ripper

Sandy Bridge Compiler Tests



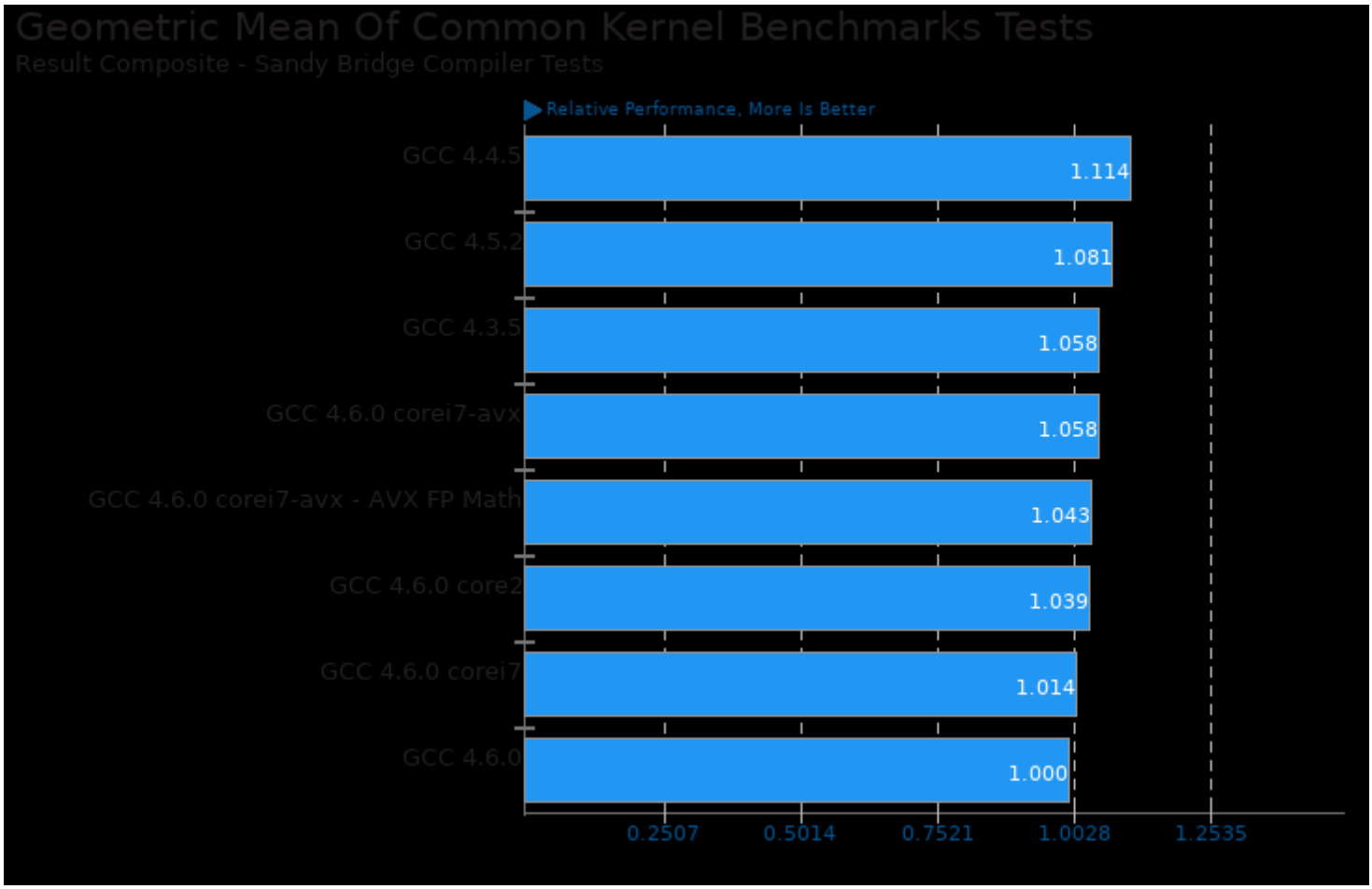
Geometric mean based upon tests: pts/encode-flac and pts/x264

Sandy Bridge Compiler Tests



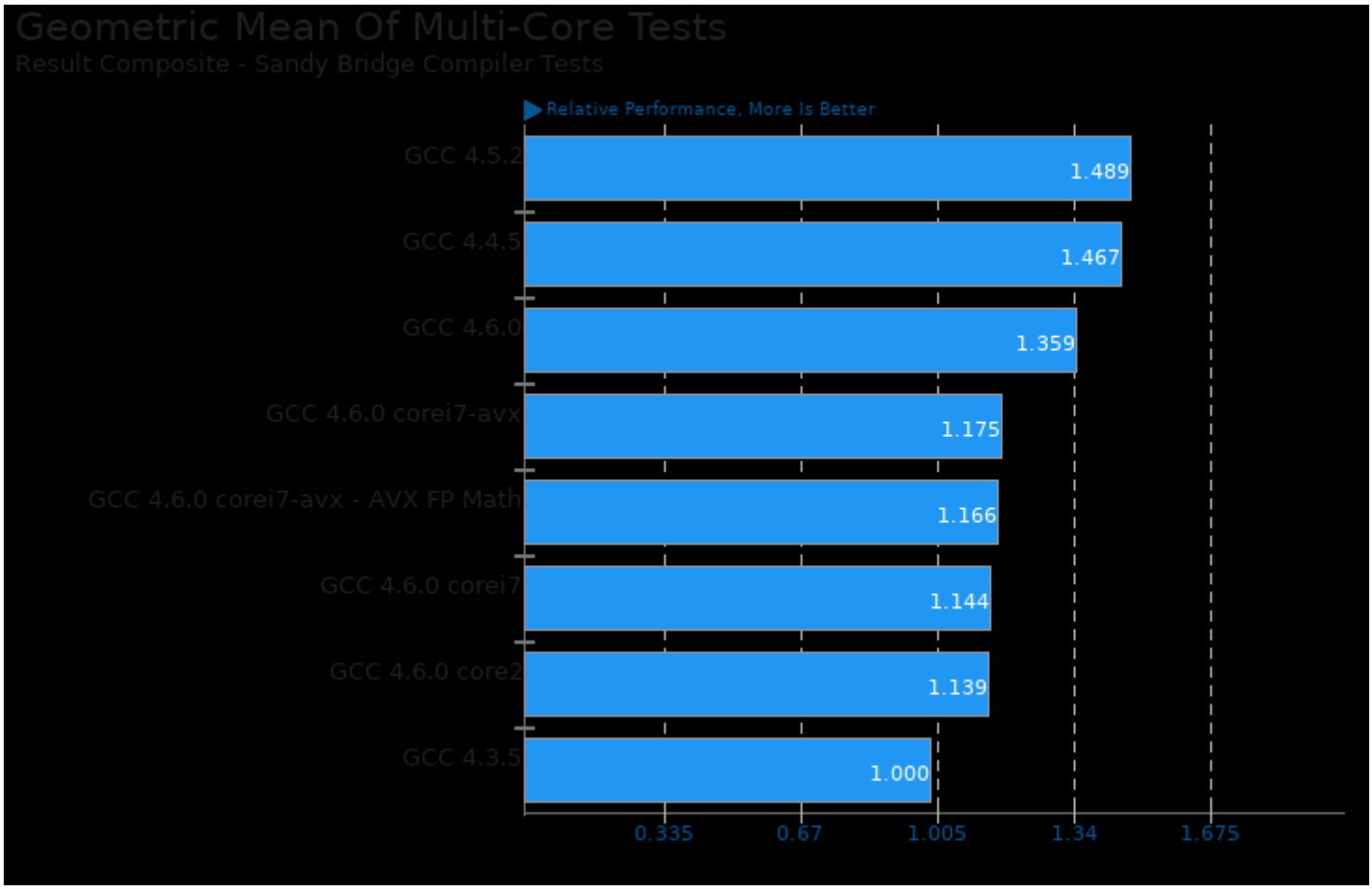
Geometric mean based upon tests: pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

Sandy Bridge Compiler Tests



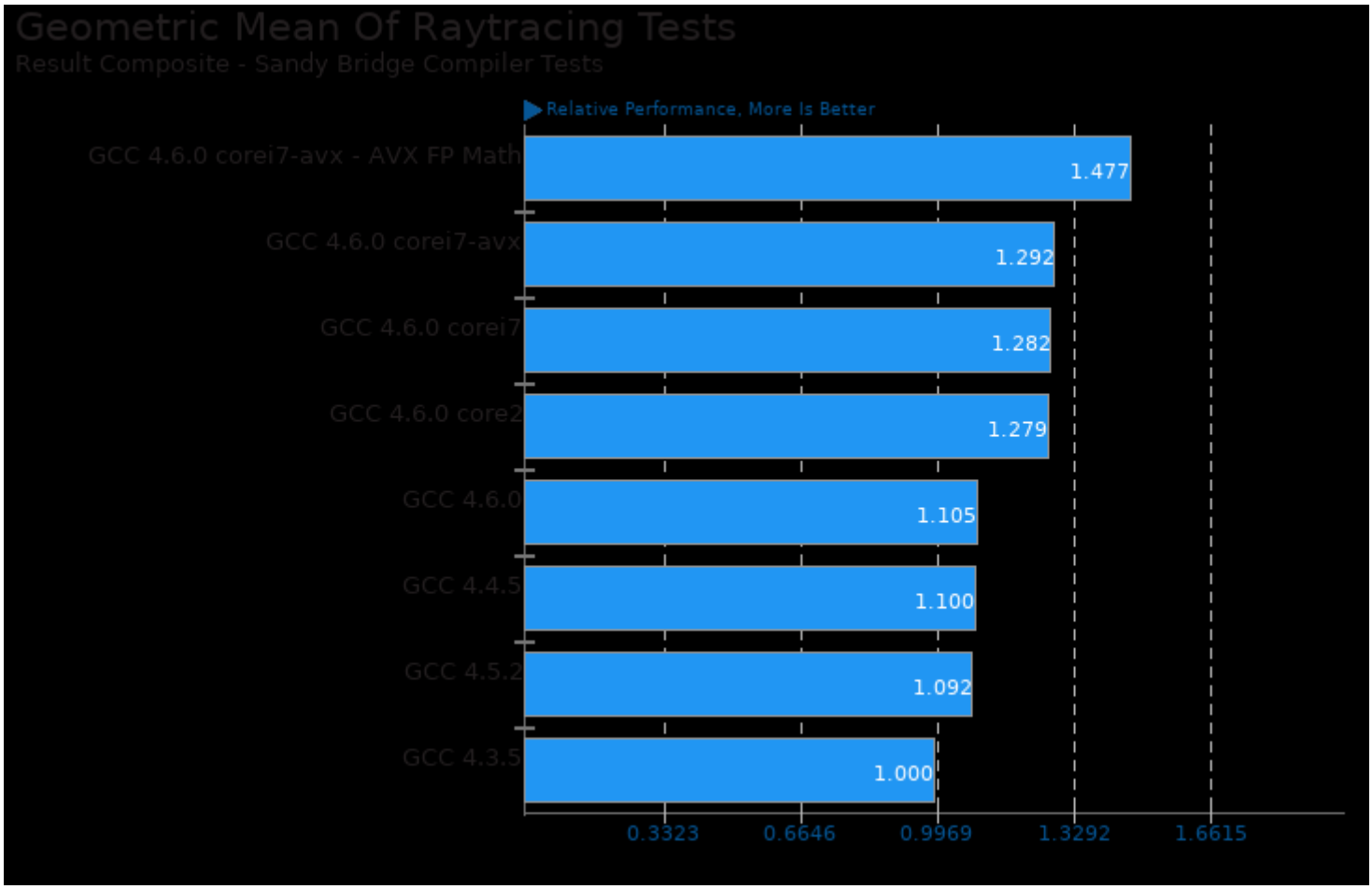
Geometric mean based upon tests: pts/apache, pts/pgbench and pts/openssl

Sandy Bridge Compiler Tests



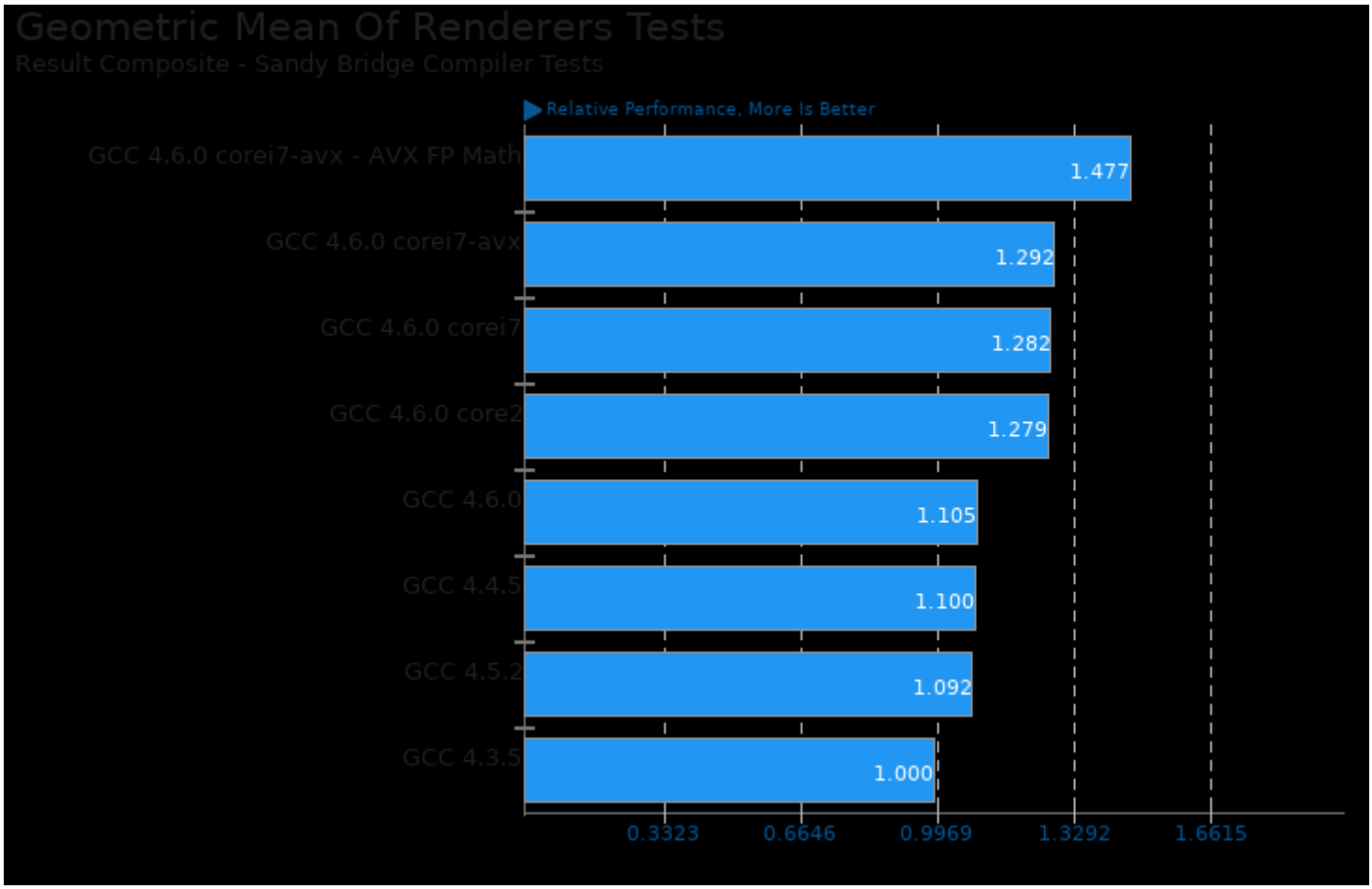
Geometric mean based upon tests: pts/c-ray, pts/povray, pts/x264, pts/john-the-ripper, pts/graphics-magick, pts/compress-7zip, pts/build-apache and pts/pgbench

Sandy Bridge Compiler Tests



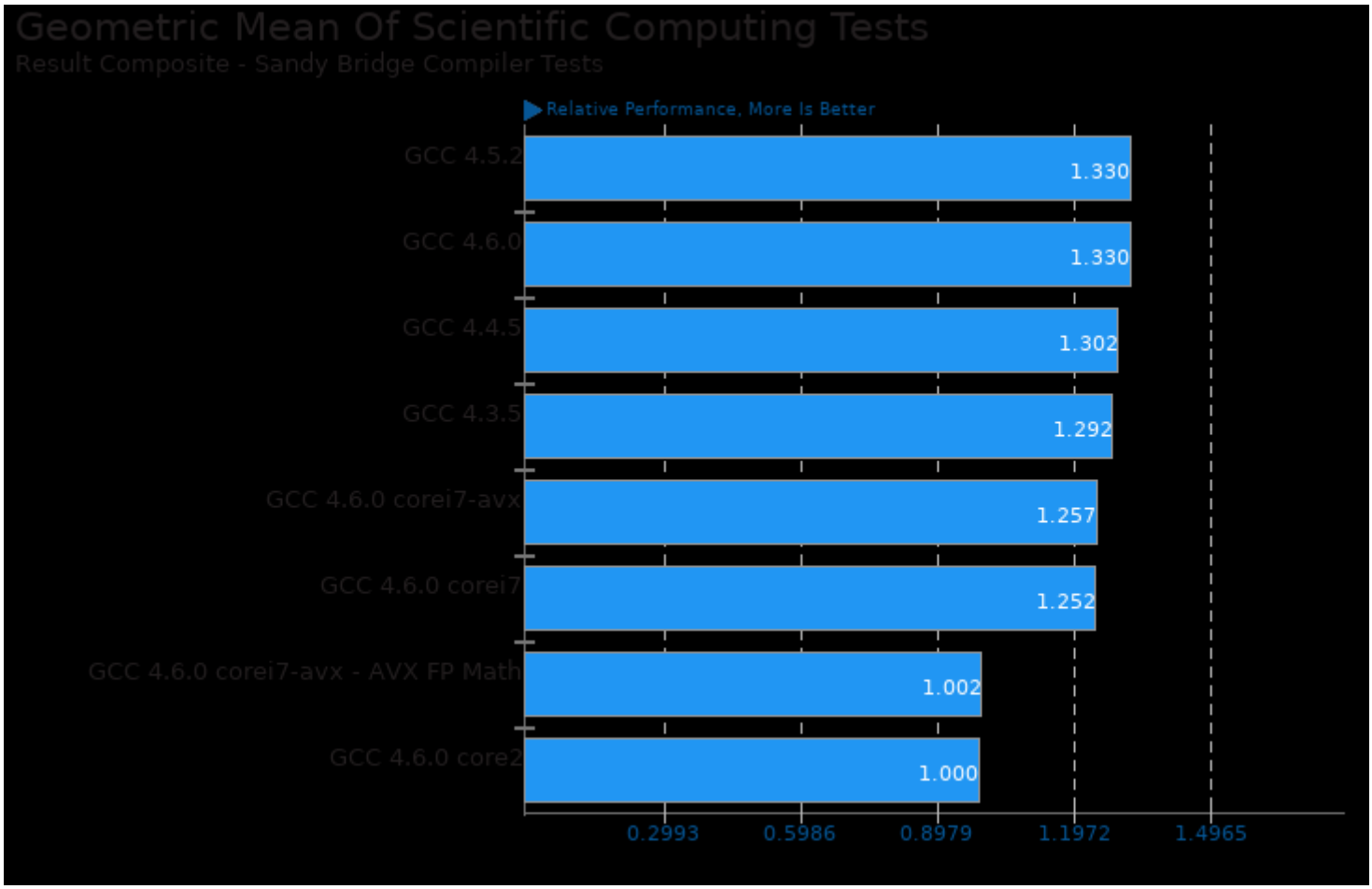
Geometric mean based upon tests: pts/c-ray and pts/povray

Sandy Bridge Compiler Tests



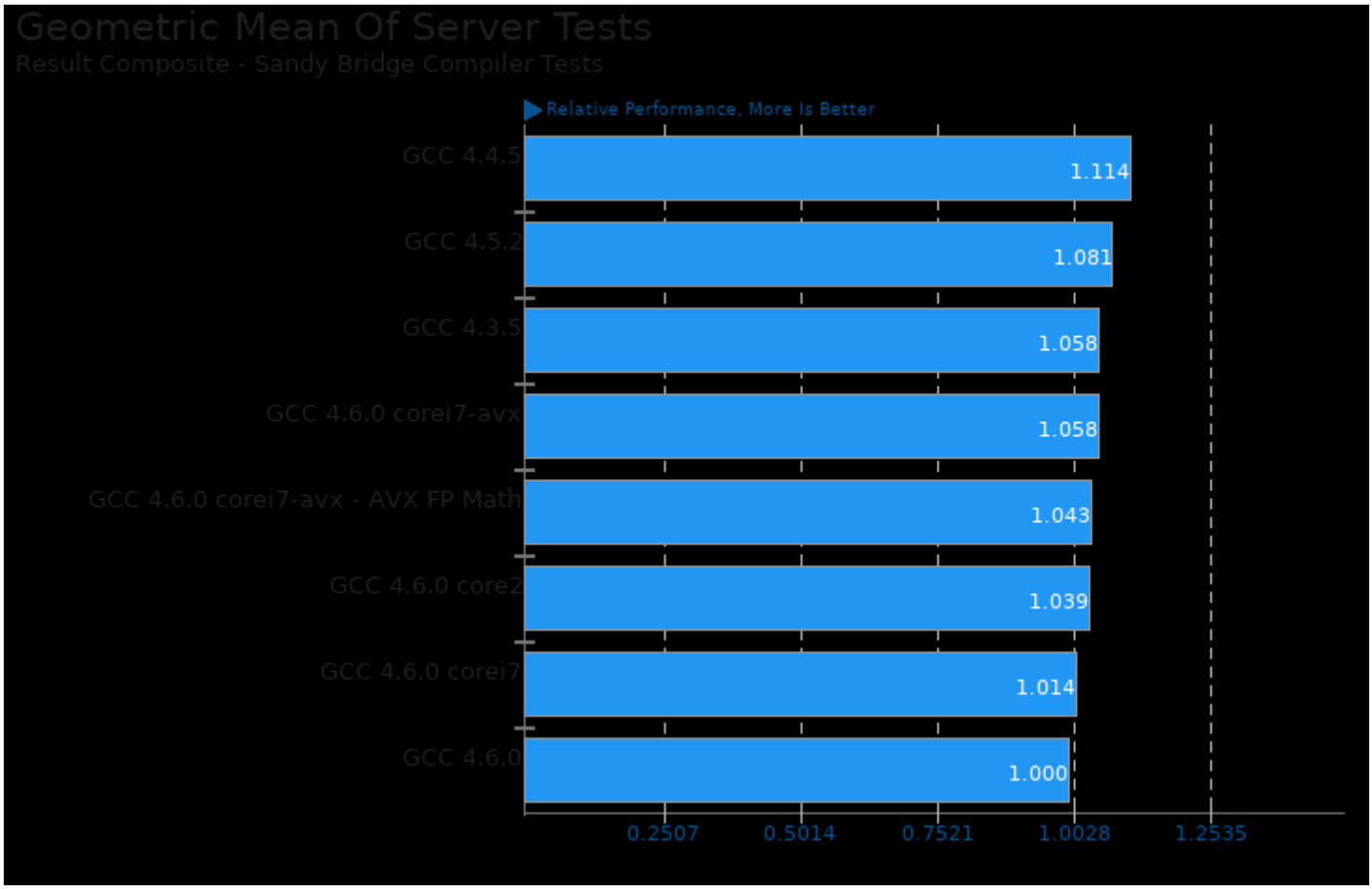
Geometric mean based upon tests: pts/c-ray and pts/povray

Sandy Bridge Compiler Tests



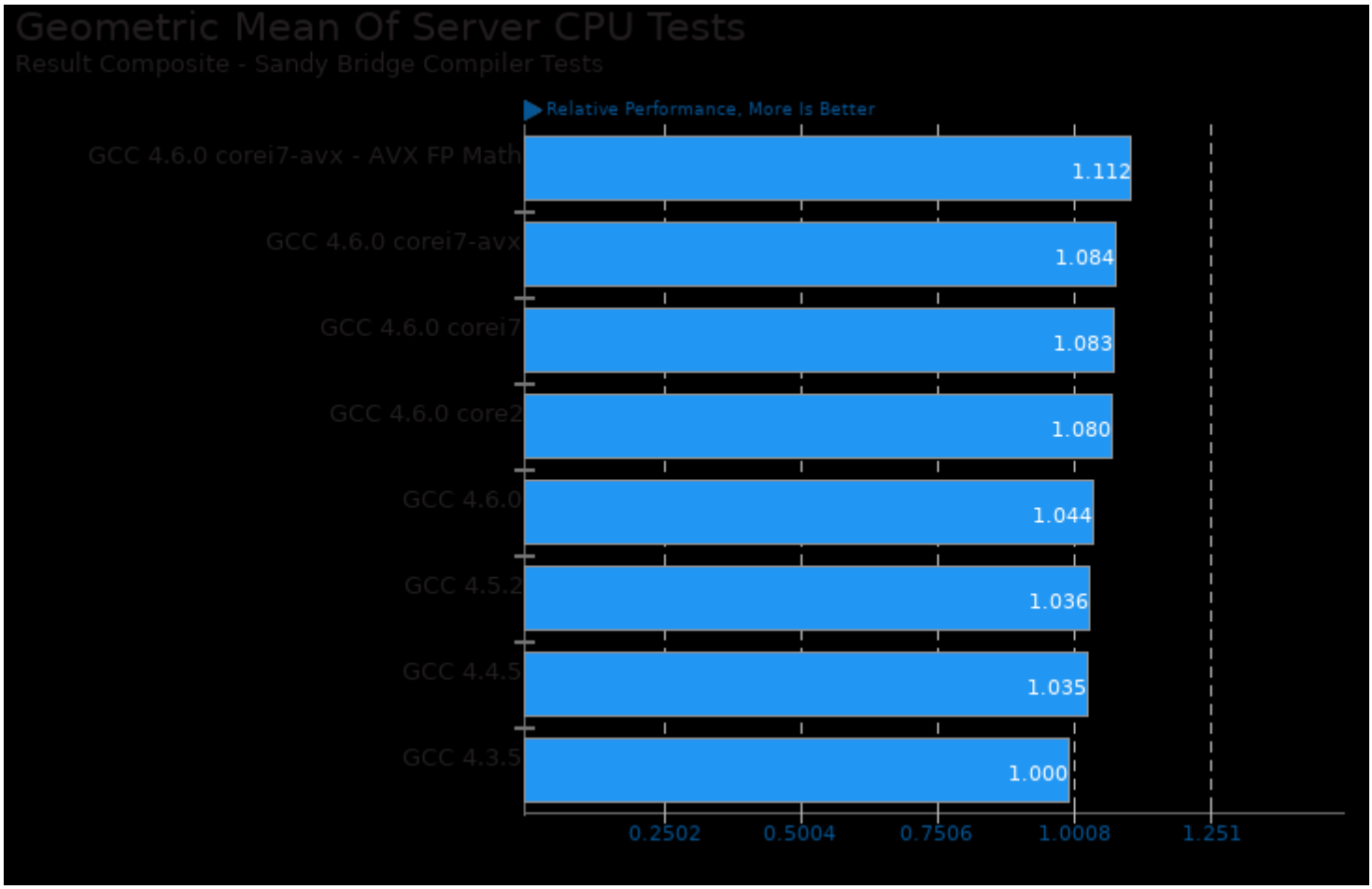
Geometric mean based upon tests: pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

Sandy Bridge Compiler Tests



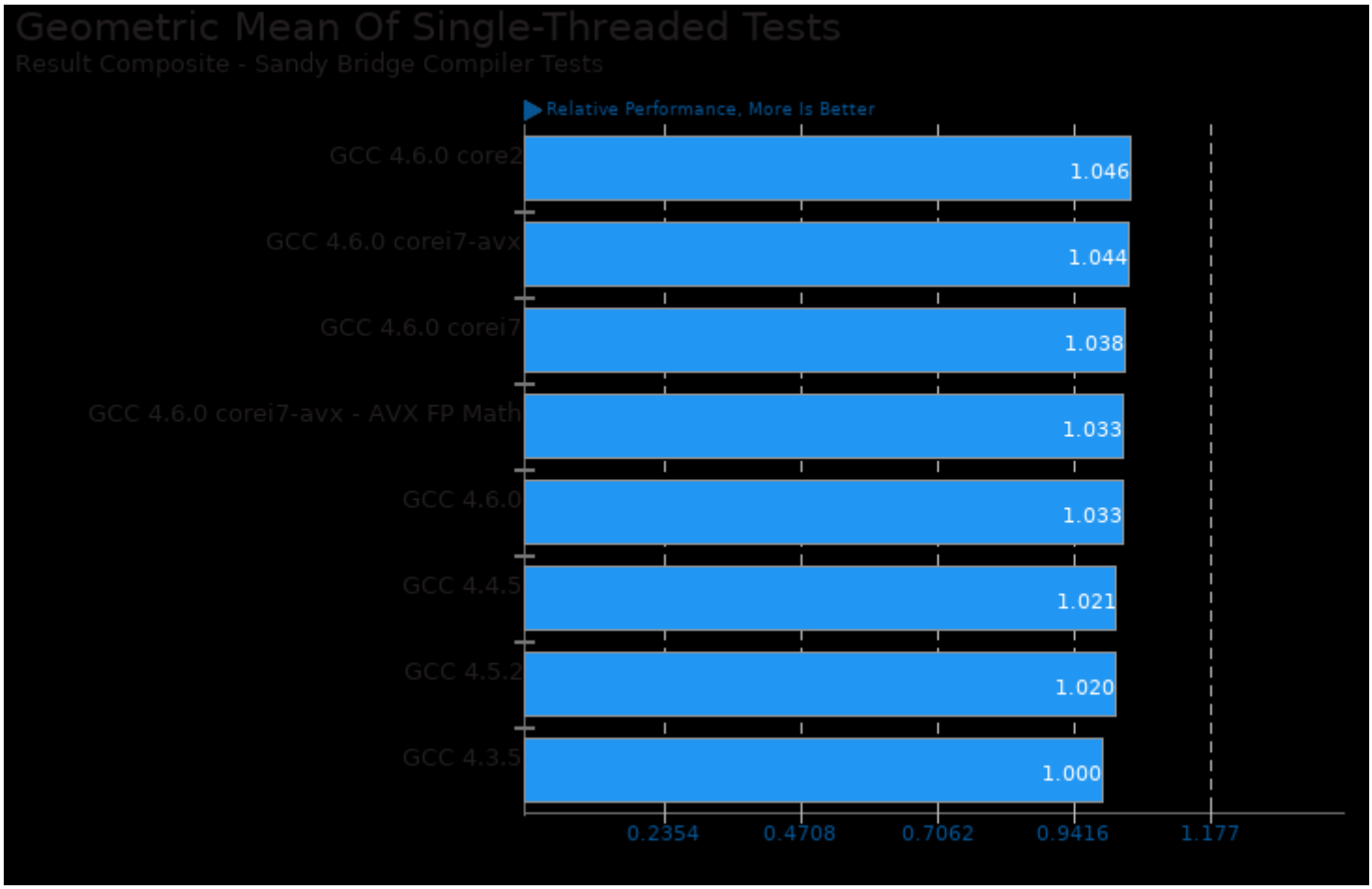
Geometric mean based upon tests: pts/apache, pts/pgbench and pts/openssl

Sandy Bridge Compiler Tests



Geometric mean based upon tests: pts/john-the-ripper, pts/x264, pts/himeno, pts/compress-7zip, pts/c-ray, pts/povray and pts/openssl

Sandy Bridge Compiler Tests



Geometric mean based upon tests: pts/byte and pts/encode-flac

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 19:34.