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bulldozer

AMD FX -8150 Eight-Core testing with a ASUS SABERTOOTH 990FX and NVIDIA GeForce 8800 GT 512MB on Gentoo Base release 2.1 via the Phoronix Test Suite.

Automated Executive Summary

bulldozer had the most wins, coming in first place for 93% of the tests.

Based on the geometric mean of all complete results, the fastest (bulldozer) was 2.04x the speed of the slowest (Unity 3D). PhenomII x2-550/HD6950 was 0.499x the speed of bulldozer and Unity 3D was 0.983x the speed of PhenomII x2-550/HD6950.

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

PostgreSQL pgbench (TPC-B Transactions Per Second) at 4.559x
C-Ray (Total Time) at 4.309x
7-Zip Compression (Compress Speed Test) at 3.926x
Smallpt (Global Illumination Renderer; 100 Samples) at 3.769x
NAS Parallel Benchmarks (Test / Class: LU.A) at 3.687x
Parallel BZIP2 Compression (256MB File Compression) at 3.631x
NAS Parallel Benchmarks (Test / Class: EP.B) at 3.427x
TTSIOD 3D Renderer (Phong Rendering With Soft-Shadow Mapping) at 3.138x

NAS Parallel Benchmarks (Test / Class: UA.A) at 2.986x
FFmpeg (AVI To NTSC VCD) at 2.555x.

Test Systems:

bulldozer

Processor: AMD FX -8150 Eight-Core @ 3.61GHz (8 Cores), Motherboard: ASUS SABERTOOTH 990FX, Memory: 4096MB, Disk: 300GB Western Digital WDC WD3000GLFS-0 + 500GB MAXTOR STM350032, Graphics: NVIDIA GeForce 8800 GT 512MB (660/950MHz), Network: Realtek RTL8111/8168B

OS: Gentoo Base release 2.1, Kernel: 3.0.6-gentoo (x86_64), Desktop: KDE 4.7.2, Display Server: X Server 1.10.4, Display Driver: NVIDIA 285.05.09, OpenGL: 3.3.0 NVIDIA 285.05.09, Compiler: GCC 4.5.3, File-System: ext4, Screen Resolution: 1680x1050

Unity 3D

PhenomII x2-550/HD6950

Processor: AMD Phenom II X2 550 @ 3.10GHz (2 Cores), Motherboard: DFI LP DK 790GX v1.0, Chipset: AMD RS780 + SB7x0/SB8x0/SB9x0, Memory: 4096MB, Disk: 1000GB SAMSUNG HD103SJ + 1000GB Seagate ST31000528AS + 2000GB SAMSUNG HD203WI, Graphics: AMD Radeon HD 6900 2048MB (880/1300MHz), Monitor: DELL 2007FP

OS: Ubuntu 11.10, Kernel: 3.0.0-12-generic (x86_64), Desktop: Unity 4.22.0, Display Server: X Server 1.10.4, Display Driver: fglrx 8.89.4 Catalyst 11.9, OpenGL: 4.1.11079, Compiler: GCC 4.6.1, File-System: ext4, Screen Resolution: 1600x1200

System Notes: AMD CnQ was enabled.

	bulldozer	Unity 3D	PhenomII x2-550/HD6950
World of Padman - 1680 x 1050 (FPS)	**431.10**	**71.65**	148.50
Normalized	100%	16.62%	34.45%
Standard Deviation	0.7%	7.2%	1.8%
ET: Quake Wars Demo - 1680 x 1050 (FPS)	**71.75**	**99.60**	
Normalized	72.04%	100%	
Standard Deviation	40.8%	92.4%	
GraphicsMagick - HWB Color Space (Iterations/min)	**141**	**92**	94
Normalized	100%	65.25%	66.67%
Standard Deviation	0.8%	3.1%	0%

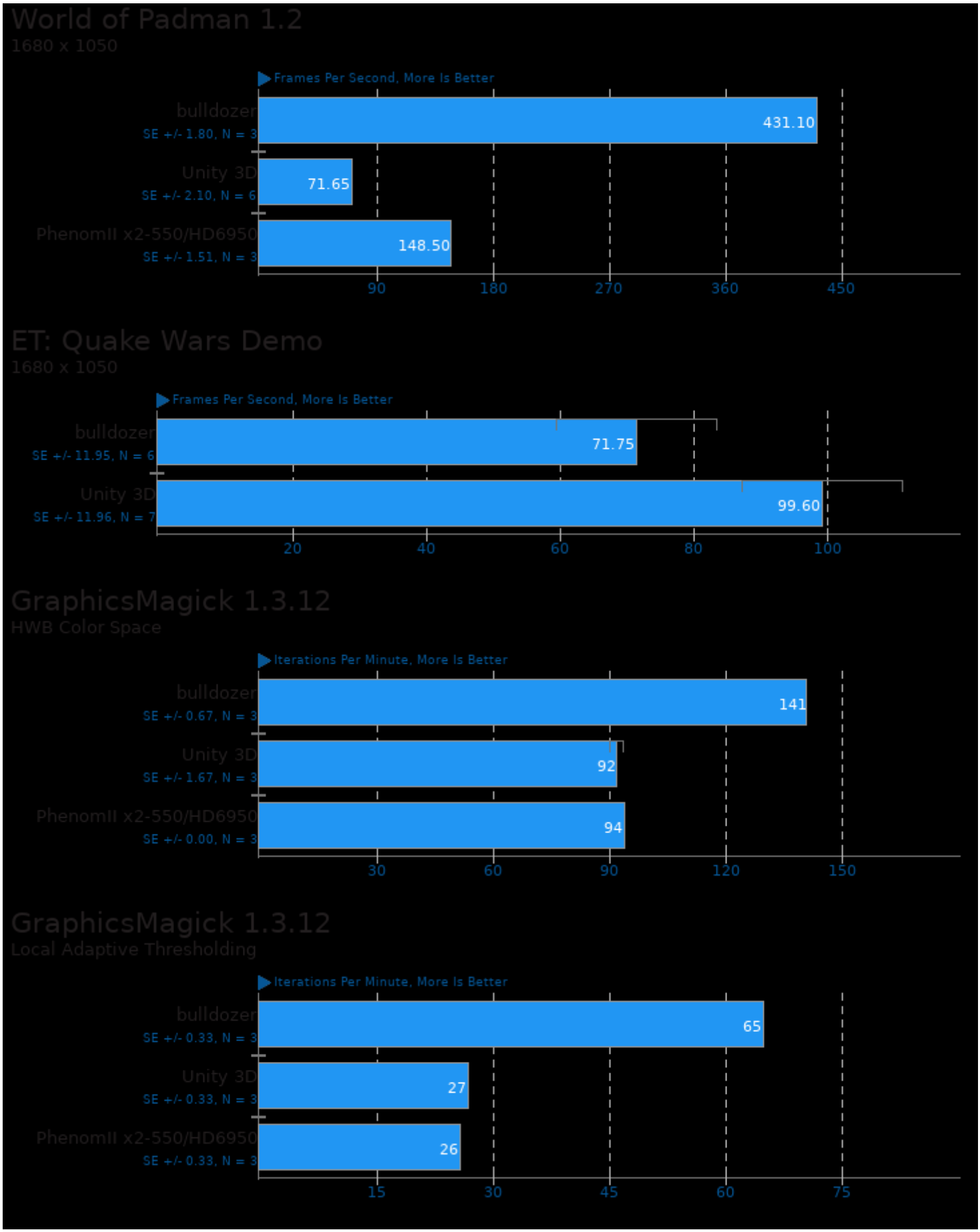
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GraphicsMagick - L.A.T (Iterations/min)	**65**	27	**26**
Normalized	100%	41.54%	40%
Standard Deviation	0.9%	2.2%	2.2%
GraphicsMagick - Resizing (Iterations/min)	**120**	75	**74**
Normalized	100%	62.5%	61.67%
Standard Deviation	0%	0.8%	0%
GraphicsMagick - Sharpen (Iterations/min)	**61**	**29**	**29**
Normalized	100%	47.54%	47.54%
Standard Deviation	0%	0%	0%
John The Ripper - Traditional DES (Real C/S)	**3918000**	**2278333**	2294333
Normalized	100%	58.15%	58.56%
Standard Deviation	0.8%	0.5%	0.1%
John The Ripper - Blowfish (Real C/S)	**954**	**927**	**927**
Normalized	100%	97.17%	97.17%
Standard Deviation	0.2%	0.1%	0%
TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)	**116.06**	40.19	**36.99**
Normalized	100%	34.63%	31.87%
Standard Deviation	0.9%	1.1%	0.2%
Parallel BZIP2 Compression - 2.F.C (sec)	**8.72**	**31.66**	31.38
Normalized	100%	27.54%	27.79%
Standard Deviation	1.3%	0.2%	0.3%
7-Zip Compression - C.S.T (MIPS)	**18209**	4749	**4638**
Normalized	100%	26.08%	25.47%
Standard Deviation	0.3%	0.9%	1.1%
LAME MP3 Encoding - WAV To MP3 (sec)	**26.74**	31.44	**31.46**
Normalized	100%	85.05%	85%
Standard Deviation	0.6%	0.4%	0.3%
FLAC Audio Encoding - WAV To FLAC (sec)	**8.25**	**8.76**	8.74
Normalized	100%	94.18%	94.39%
Standard Deviation	0.2%	0.4%	0.1%
FFmpeg - AVI To NTSC VCD (sec)	**9.98**	**25.50**	24.96
Normalized	100%	39.14%	39.98%
Standard Deviation	1.2%	3.3%	0.4%
OpenSSL - R.4.b.P (Signs/sec)	**68.68**	58.40	**58.30**
Normalized	100%	85.03%	84.89%
Standard Deviation	0.9%	0.1%	0%
Gcrypt Library - C.E.C (us)	2807		
Standard Deviation	1%		
Himeno Benchmark - P.P.S (MFLOPS)	**237.28**	**170.32**	171.77
Normalized	100%	71.78%	72.39%
Standard Deviation	0.2%	0.3%	0.1%
PostgreSQL pgbench - T.B.T.P.S (TPS)	**370.12**	82.18	**81.19**
Normalized	100%	22.2%	21.94%
Standard Deviation	0.1%	0.8%	0.9%
Apache Benchmark - S.W.P.S (Reqs/sec)	17850	**17920**	**17583**
Normalized	99.61%	100%	98.12%
Standard Deviation	0.5%	0.8%	0.8%
C-Ray - Total Time (sec)	**51.07**	219.67	**220.05**
Normalized	100%	23.25%	23.21%
Standard Deviation	0.1%	0.1%	0%
Smallpt - G.I.R.1.S (sec)	**104**	**392**	**392**
Normalized	100%	26.53%	26.53%
Standard Deviation	0.6%	0.1%	0%
Tachyon - Total Time (sec)	21.11		
Standard Deviation	0.6%		

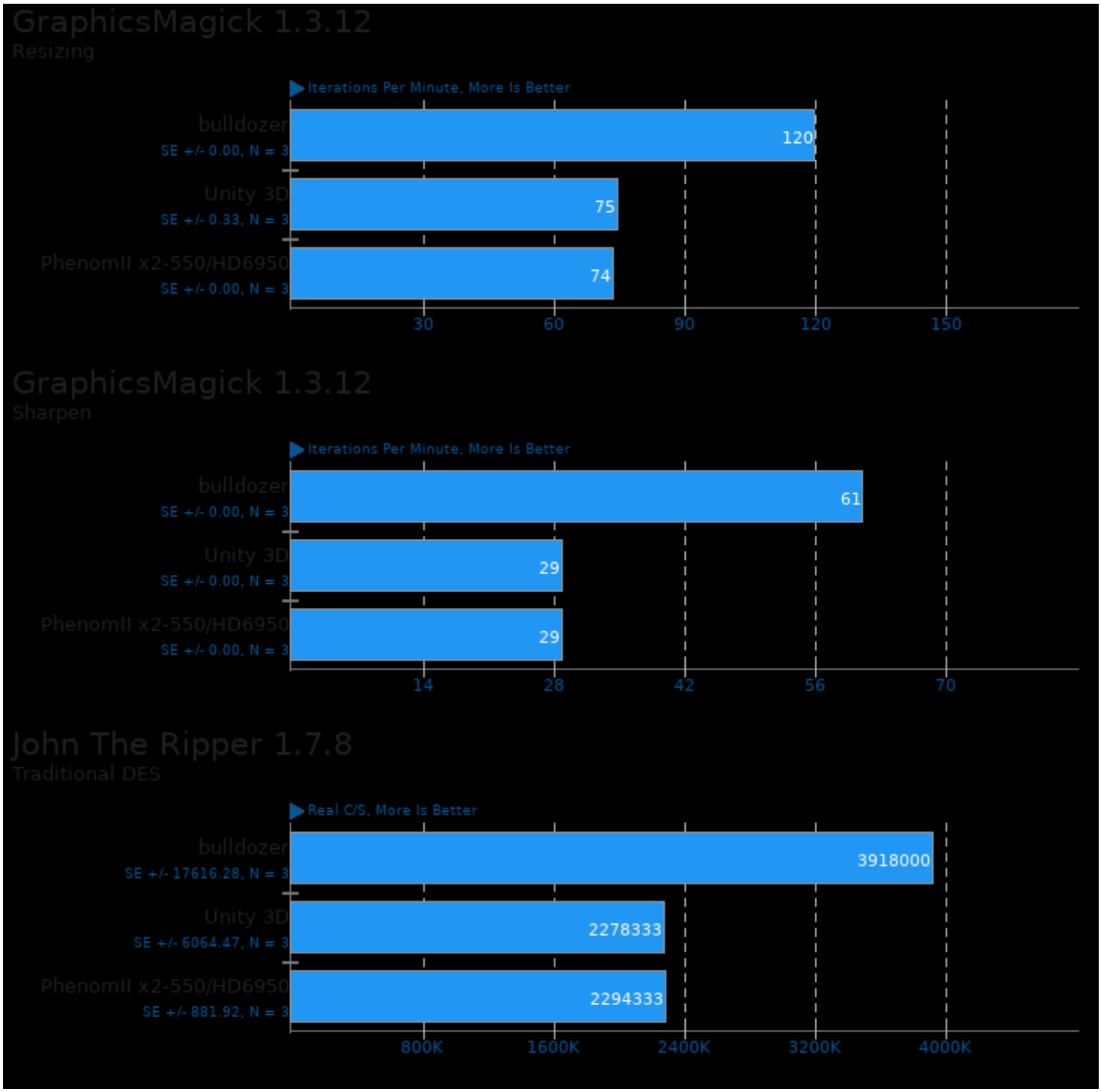
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Crafty - Elapsed Time (sec)	426.11		
Standard Deviation	0.8%		
TSCP - A.C.P (Nodes/s)	**322772**	**262250**	262450
Normalized	100%	81.25%	81.31%
Standard Deviation	0.1%	0%	0.1%
Timed MAFFT Alignment - M.S.A (sec)	**26.37**	**31.20**	**31.20**
Normalized	100%	84.52%	84.52%
Standard Deviation	0.2%	0.2%	0.2%
NAS Parallel Benchmarks - EP.B (Mop/s)	**151.52**	44.28	**44.21**
Normalized	100%	29.22%	29.18%
Standard Deviation	2%	0%	0.1%
NAS Parallel Benchmarks - IS.C (Mop/s)	**111.59**	84.02	**83.97**
Normalized	100%	75.29%	75.25%
Standard Deviation	0%	0%	0.1%
NAS Parallel Benchmarks - LU.A (Mop/s)	**11771**	3219	**3192**
Normalized	100%	27.34%	27.12%
Standard Deviation	0.7%	0.1%	0.4%
NAS Parallel Benchmarks - MG.B (Mop/s)	**5672**	2471	**2444**
Normalized	100%	43.57%	43.09%
Standard Deviation	0.5%	0.4%	0.2%
NAS Parallel Benchmarks - UA.A (Mop/s)	**39.95**	13.47	**13.38**
Normalized	100%	33.72%	33.49%
Standard Deviation	1.2%	0.2%	0.1%
Stream - Copy (MB/s)	**12128**	7518	**7448**
Normalized	100%	61.99%	61.41%
Standard Deviation	0.5%	0.2%	0.1%
Stream - Scale (MB/s)	**11667**	7428	**7372**
Normalized	100%	63.67%	63.19%
Standard Deviation	0.9%	0.2%	0.2%
Stream - Add (MB/s)	**11774**	7846	**7723**
Normalized	100%	66.64%	65.6%
Standard Deviation	0.1%	0.2%	0.1%
Stream - Triad (MB/s)	**12190**	7962	**7833**
Normalized	100%	65.31%	64.26%
Standard Deviation	0.2%	0.2%	0.2%

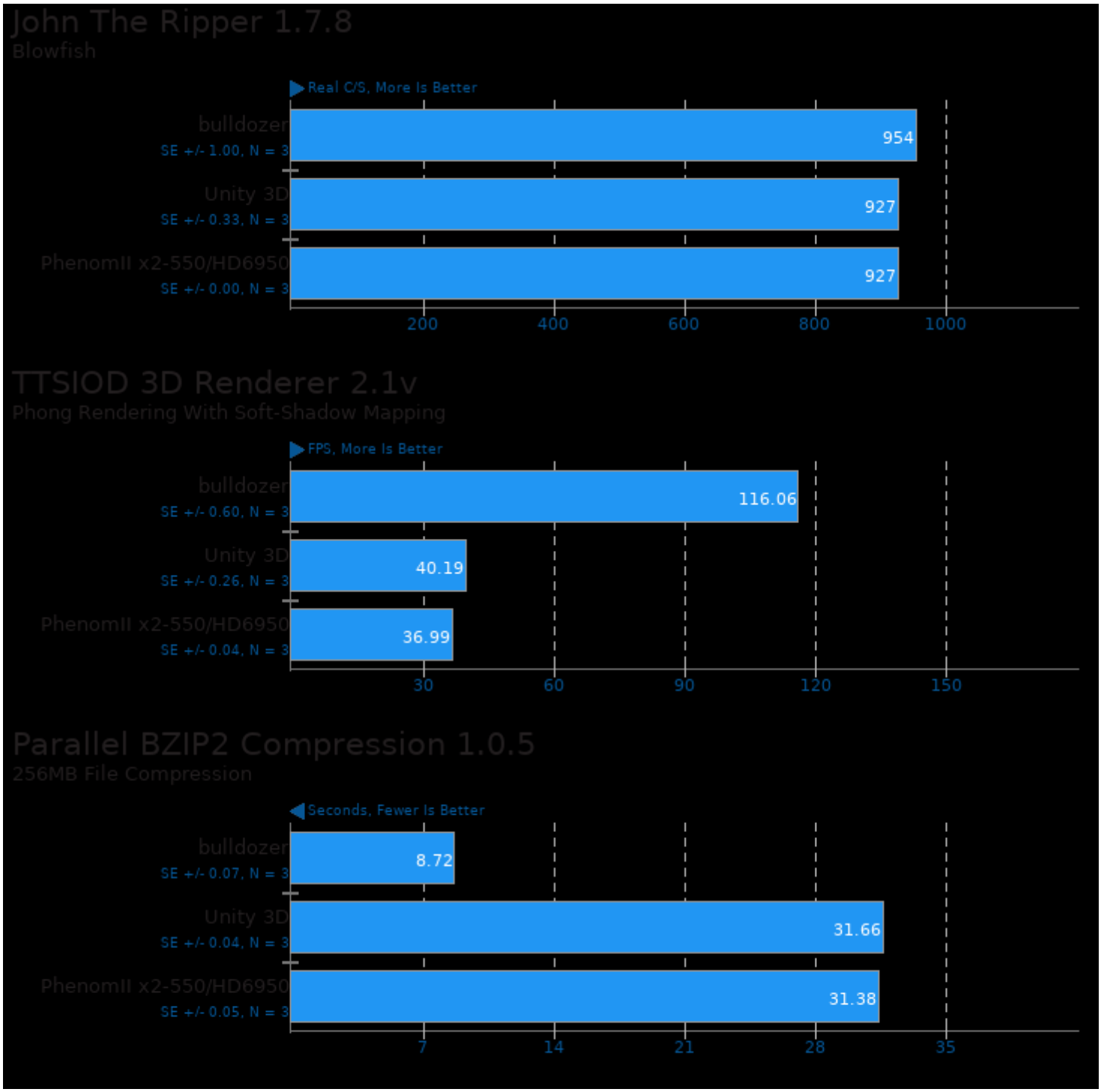
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World of Padman 1.2
1680 x 1050
Frames Per Second, More Is Better
bulldozer
SE +/- 1.80, N = 3
431.10
Unity 3D
SE +/- 2.10, N = 6
71.65
PhenomII x2-550/HD6950
SE +/- 1.51, N = 3
148.50
90
180
270
360
450
ET: Quake Wars Demo
1680 x 1050
Frames Per Second, More Is Better
bulldozer
SE +/- 11.95, N = 6
71.75
Unity 3D
SE +/- 11.96, N = 7
99.60
20
40
60
80
100
GraphicsMagick 1.3.12
HWB Color Space
Iterations Per Minute, More Is Better
bulldozer
SE +/- 0.67, N = 3
141
Unity 3D
SE +/- 1.67, N = 3
92
PhenomII x2-550/HD6950
SE +/- 0.00, N = 3
94
30
60
90
120
150
GraphicsMagick 1.3.12
Local Adaptive Thresholding
Iterations Per Minute, More Is Better
bulldozer
SE +/- 0.33, N = 3
65
Unity 3D
SE +/- 0.33, N = 3
27
PhenomII x2-550/HD6950
SE +/- 0.33, N = 3
26
15
30
45
60
75

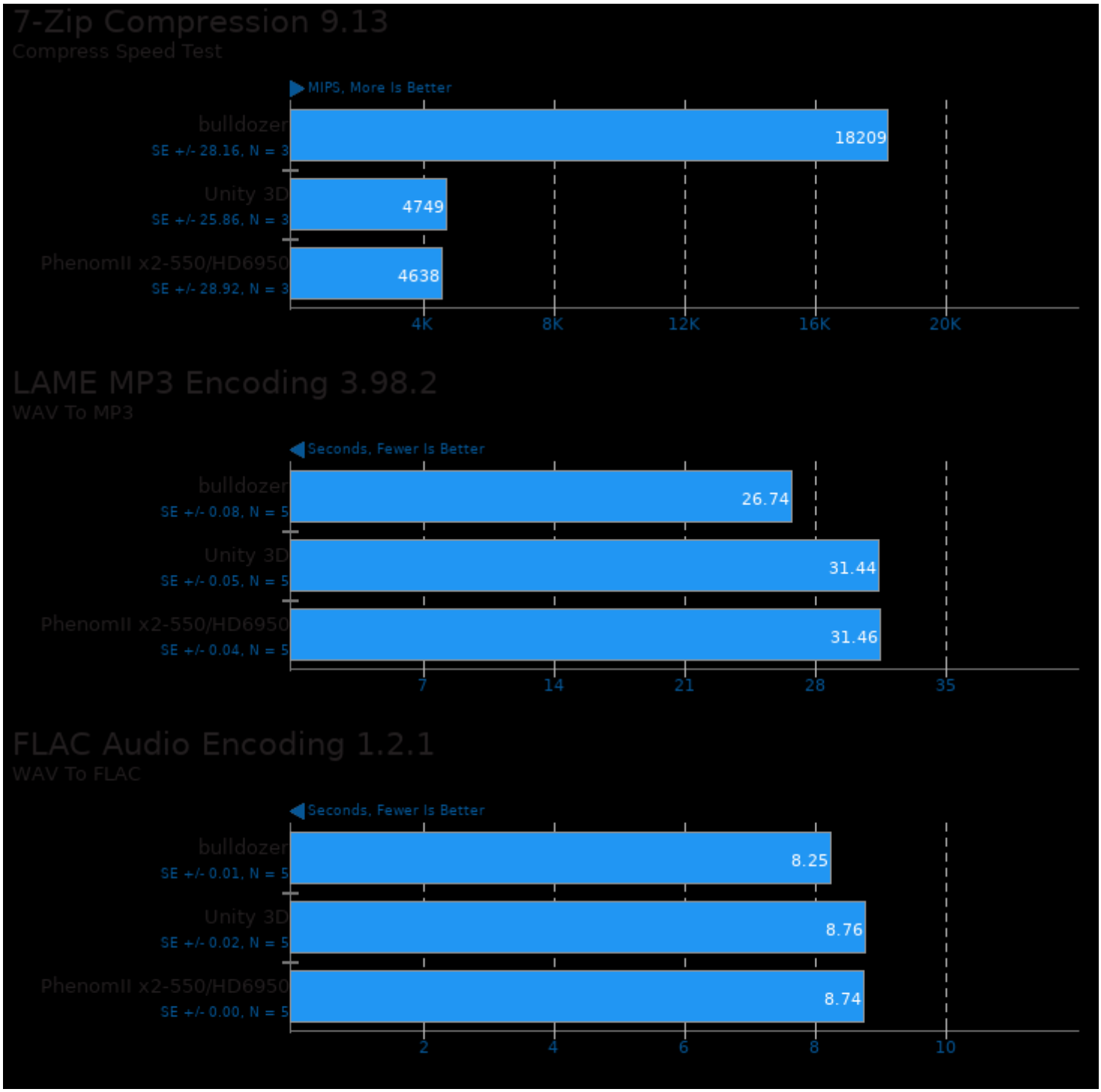
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GraphicsMagick 1.3.12
Resizing
Iterations Per Minute, More Is Better
bulldozer
SE +/- 0.00, N = 3
120
Unity 3D
SE +/- 0.33, N = 3
75
PhenomII x2-550/HD6950
SE +/- 0.00, N = 3
74
30
60
90
120
150
GraphicsMagick 1.3.12
Sharpen
Iterations Per Minute, More Is Better
bulldozer
SE +/- 0.00, N = 3
61
Unity 3D
SE +/- 0.00, N = 3
29
PhenomII x2-550/HD6950
SE +/- 0.00, N = 3
29
14
28
42
56
70
John The Ripper 1.7.8
Traditional DES
Real C/S, More Is Better
bulldozer
SE +/- 17616.28, N = 3
3918000
Unity 3D
SE +/- 6064.47, N = 3
2278333
PhenomII x2-550/HD6950
SE +/- 881.92, N = 3
2294333
800K
1600K
2400K
3200K
4000K

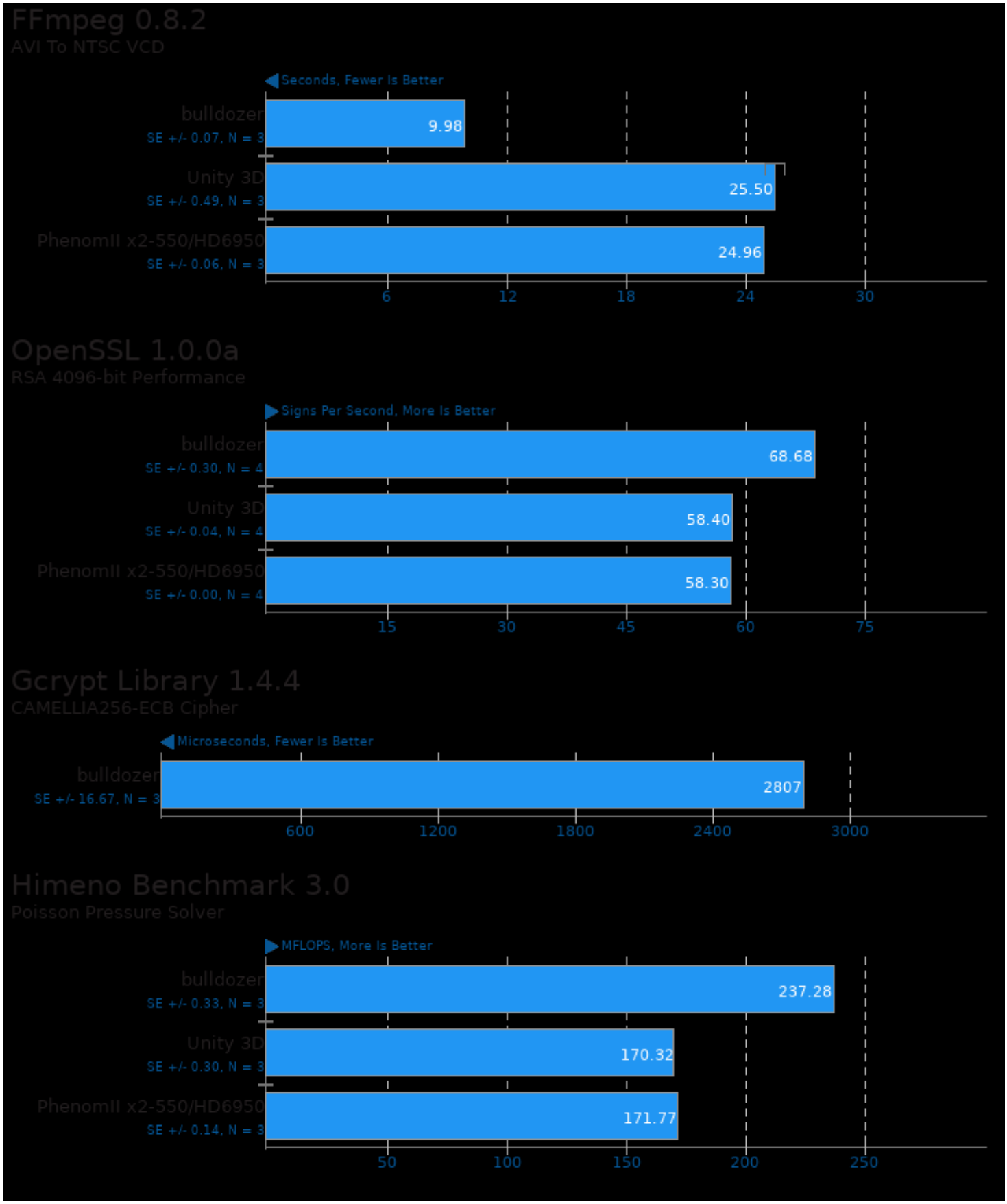
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John The Ripper 1.7.8
Blowfish
Real C/S, More Is Better
bulldozer
SE +/- 1.00, N = 3
954
Unity 3D
SE +/- 0.33, N = 3
927
PhenomII x2-550/HD6950
SE +/- 0.00, N = 3
927
200
400
600
800
1000
TTSIOD 3D Renderer 2.1v
Phong Rendering With Soft-Shadow Mapping
FPS, More Is Better
bulldozer
SE +/- 0.60, N = 3
116.06
Unity 3D
SE +/- 0.26, N = 3
40.19
PhenomII x2-550/HD6950
SE +/- 0.04, N = 3
36.99
30
60
90
120
150
Parallel BZIP2 Compression 1.0.5
256MB File Compression
Seconds, Fewer Is Better
bulldozer
SE +/- 0.07, N = 3
8.72
Unity 3D
SE +/- 0.04, N = 3
31.66
PhenomII x2-550/HD6950
SE +/- 0.05, N = 3
31.38
7
14
21
28
35

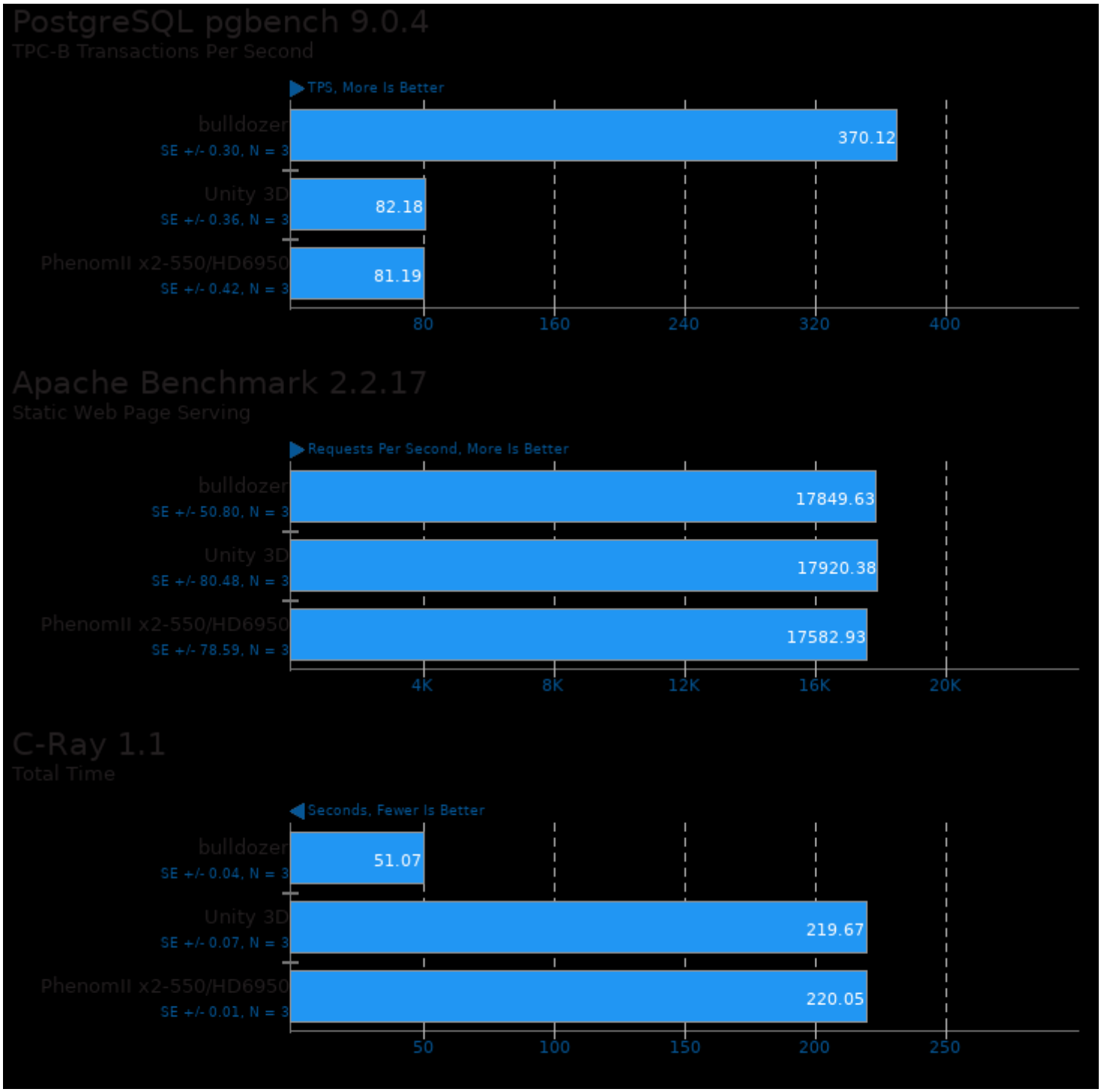
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7-Zip Compression 9.13
Compress Speed Test
MIPS, More Is Better
bulldozer
SE +/- 28.16, N = 3
18209
Unity 3D
SE +/- 25.86, N = 3
4749
PhenomII x2-550/HD6950
SE +/- 28.92, N = 3
4638
4K
8K
12K
16K
20K
LAME MP3 Encoding 3.98.2
WAV To MP3
Seconds, Fewer Is Better
bulldozer
SE +/- 0.08, N = 5
26.74
Unity 3D
SE +/- 0.05, N = 5
31.44
PhenomII x2-550/HD6950
SE +/- 0.04, N = 5
31.46
7
14
21
28
35
FLAC Audio Encoding 1.2.1
WAV To FLAC
Seconds, Fewer Is Better
bulldozer
SE +/- 0.01, N = 5
8.25
Unity 3D
SE +/- 0.02, N = 5
8.76
PhenomII x2-550/HD6950
SE +/- 0.00, N = 5
8.74
2
4
6
8
10

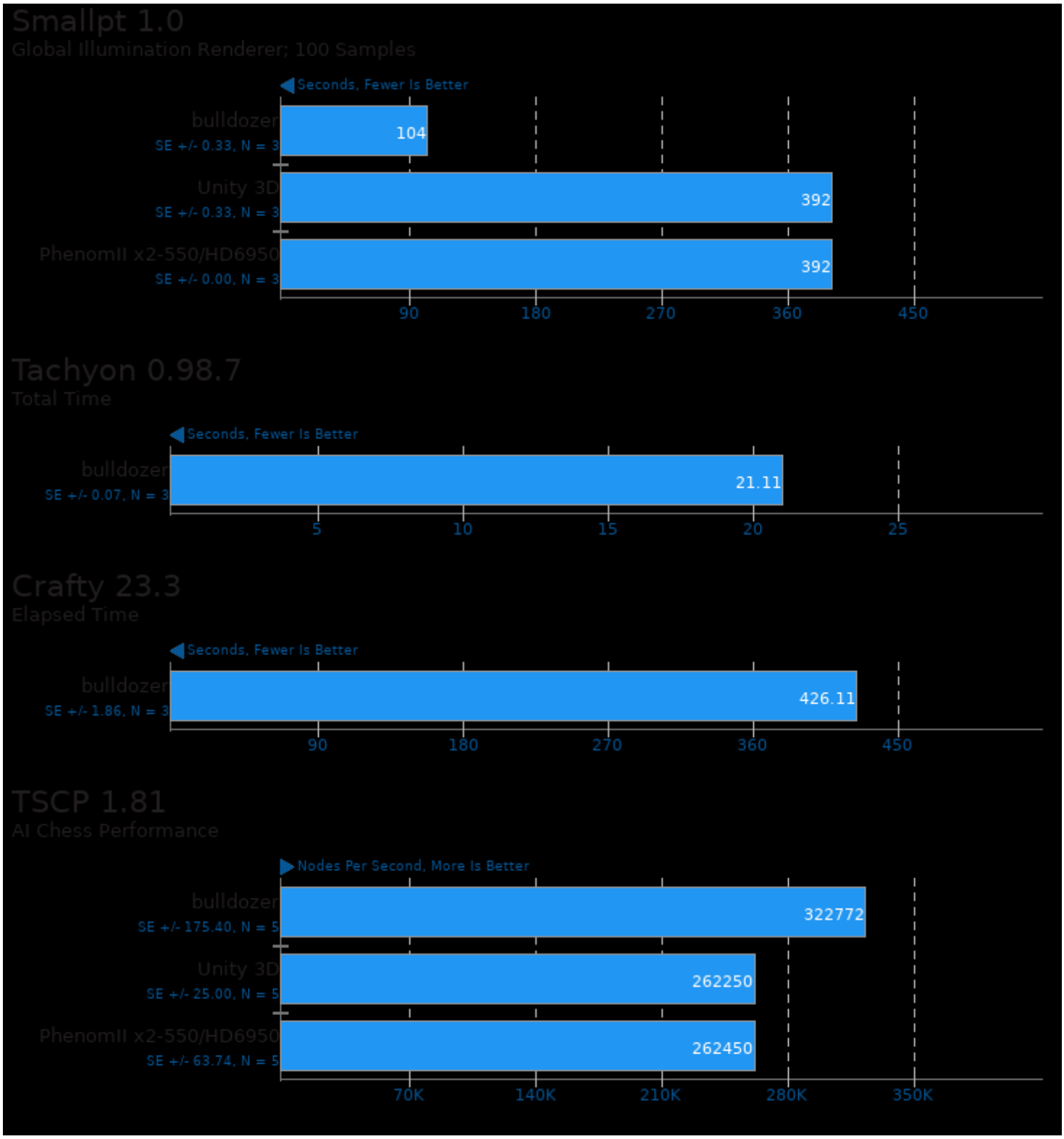
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FFmpeg 0.8.2
AVI To NTSC VCD
Seconds, Fewer Is Better
bulldozer
SE +/- 0.07, N = 3
9.98
Unity 3D
SE +/- 0.49, N = 3
25.50
PhenomII x2-550/HD6950
SE +/- 0.06, N = 3
24.96
6
12
18
24
30
OpenSSL 1.0.0a
RSA 4096-bit Performance
Signs Per Second, More Is Better
bulldozer
SE +/- 0.30, N = 4
68.68
Unity 3D
SE +/- 0.04, N = 4
58.40
PhenomII x2-550/HD6950
SE +/- 0.00, N = 4
58.30
15
30
45
60
75
Gcrypt Library 1.4.4
CAMELLIA256-ECB Cipher
Microseconds, Fewer Is Better
bulldozer
SE +/- 16.67, N = 3
2807
600
1200
1800
2400
3000
Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
bulldozer
SE +/- 0.33, N = 3
237.28
Unity 3D
SE +/- 0.30, N = 3
170.32
PhenomII x2-550/HD6950
SE +/- 0.14, N = 3
171.77
50
100
150
200
250

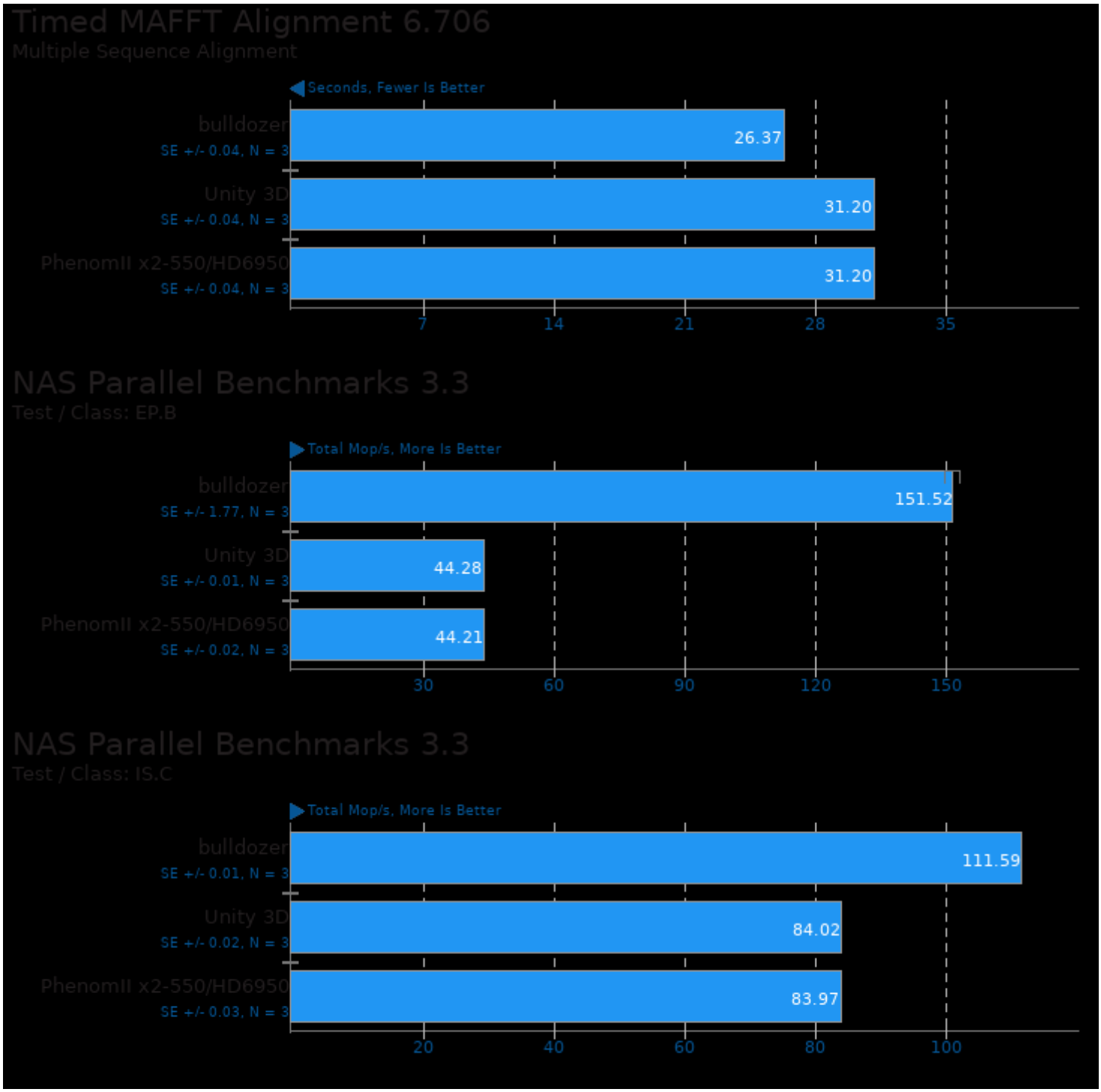
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PostgreSQL pgbench 9.0.4
TPC-B Transactions Per Second
TPS, More Is Better
bulldozer
SE +/- 0.30, N = 3
370.12
Unity 3D
SE +/- 0.36, N = 3
82.18
PhenomII x2-550/HD6950
SE +/- 0.42, N = 3
81.19
80
160
240
320
400
Apache Benchmark 2.2.17
Static Web Page Serving
Requests Per Second, More Is Better
bulldozer
SE +/- 50.80, N = 3
17849.63
Unity 3D
SE +/- 80.48, N = 3
17920.38
PhenomII x2-550/HD6950
SE +/- 78.59, N = 3
17582.93
4K
8K
12K
16K
20K
C-Ray 1.1
Total Time
Seconds, Fewer Is Better
bulldozer
SE +/- 0.04, N = 3
51.07
Unity 3D
SE +/- 0.07, N = 3
219.67
PhenomII x2-550/HD6950
SE +/- 0.01, N = 3
220.05
50
100
150
200
250

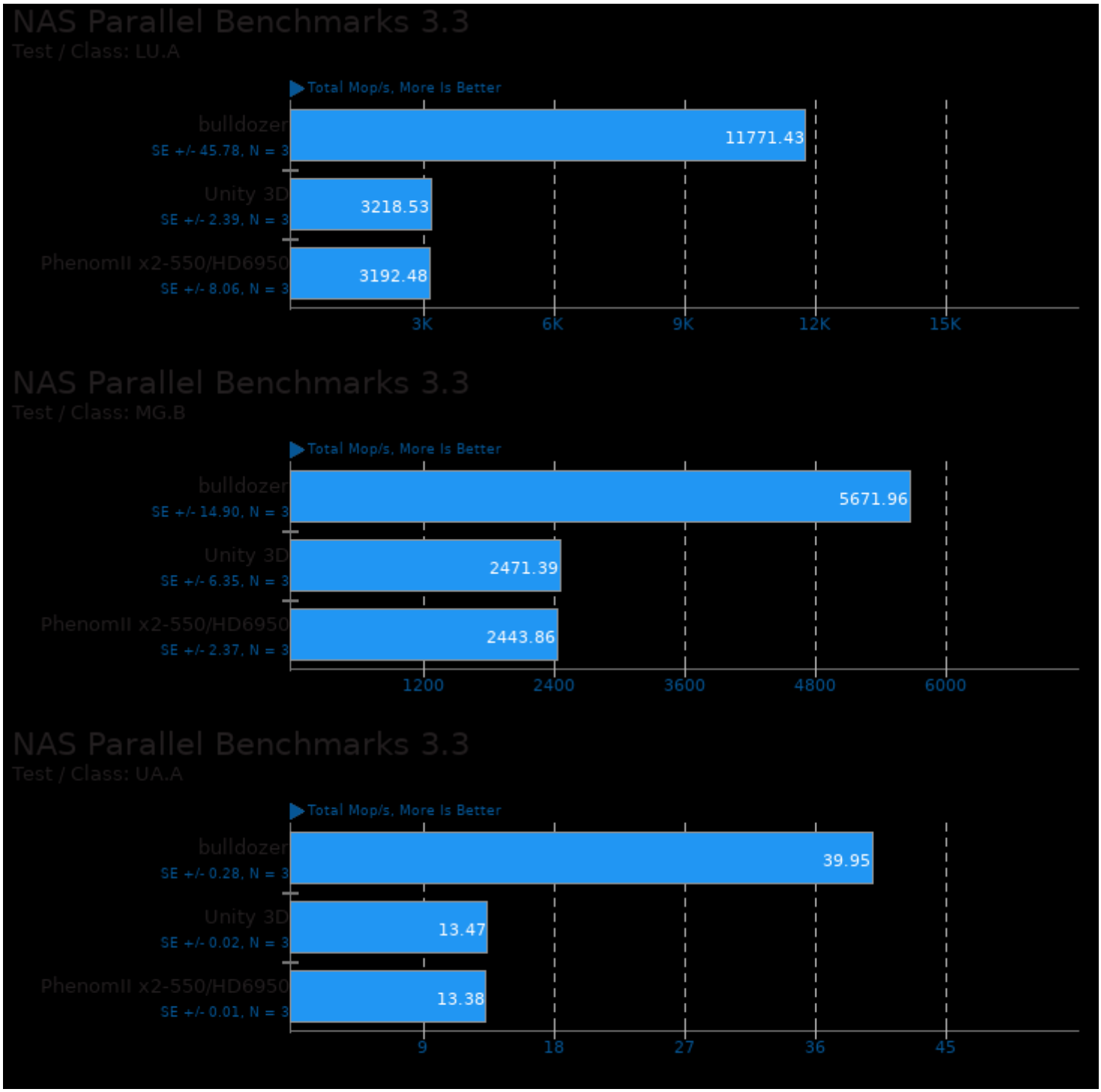
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Smallpt 1.0
Global Illumination Renderer; 100 Samples
Seconds, Fewer Is Better
bulldozer
SE +/- 0.33, N = 3
104
Unity 3D
SE +/- 0.33, N = 3
392
PhenomII x2-550/HD6950
SE +/- 0.00, N = 3
392
90
180
270
360
450
Tachyon 0.98.7
Total Time
Seconds, Fewer Is Better
bulldozer
SE +/- 0.07, N = 3
21.11
5
10
15
20
25
Crafty 23.3
Elapsed Time
Seconds, Fewer Is Better
bulldozer
SE +/- 1.86, N = 3
426.11
90
180
270
360
450
TSCP 1.81
AI Chess Performance
Nodes Per Second, More Is Better
bulldozer
SE +/- 175.40, N = 5
322772
Unity 3D
SE +/- 25.00, N = 5
262250
PhenomII x2-550/HD6950
SE +/- 63.74, N = 5
262450
70K
140K
210K
280K
350K

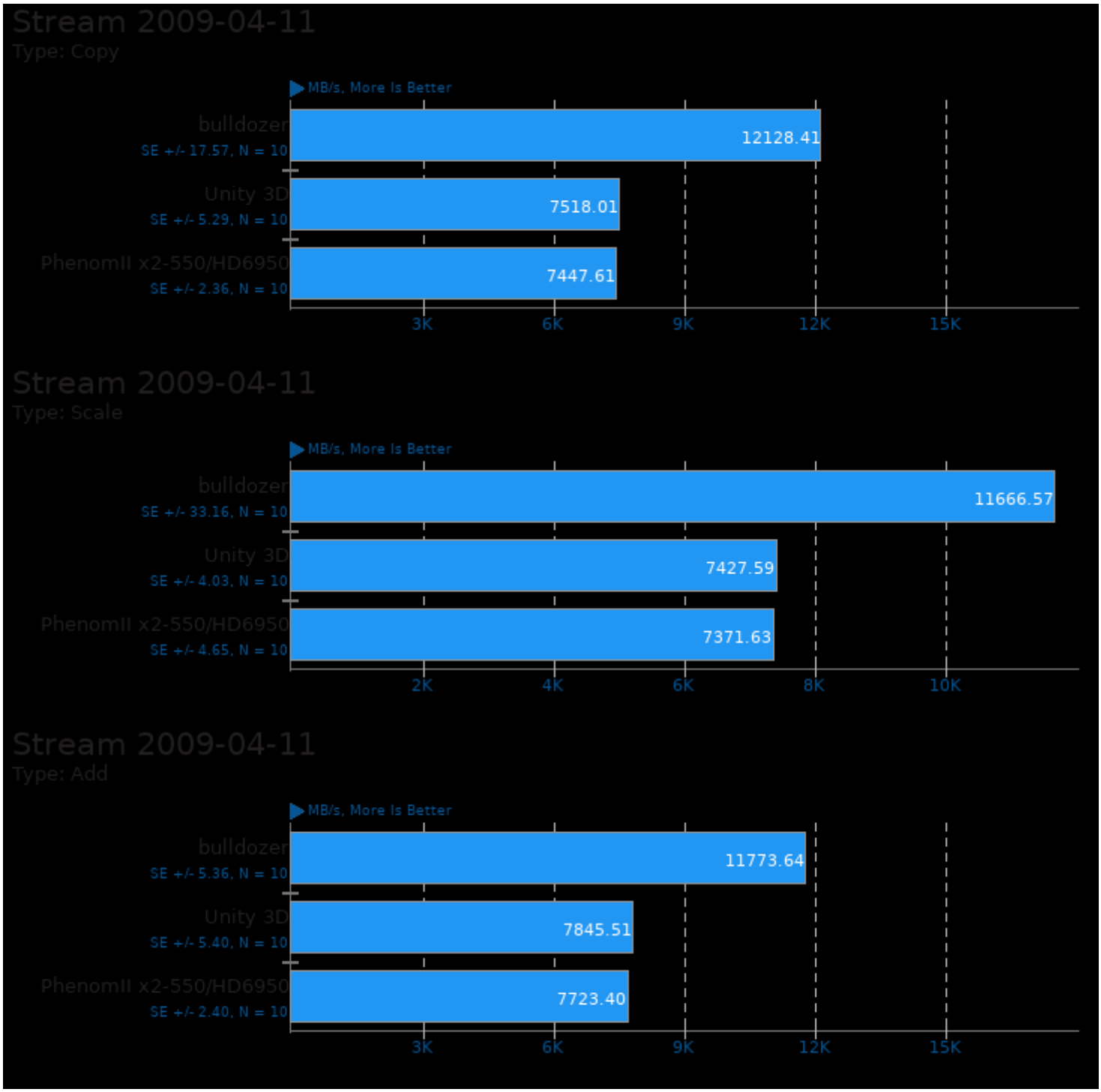
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Timed MAFFT Alignment 6.706
Multiple Sequence Alignment
Seconds, Fewer Is Better
bulldozer
SE +/- 0.04, N = 3
26.37
Unity 3D
SE +/- 0.04, N = 3
31.20
PhenomII x2-550/HD6950
SE +/- 0.04, N = 3
31.20
7
14
21
28
35
NAS Parallel Benchmarks 3.3
Test / Class: EP.B
Total Mop/s, More Is Better
bulldozer
SE +/- 1.77, N = 3
151.52
Unity 3D
SE +/- 0.01, N = 3
44.28
PhenomII x2-550/HD6950
SE +/- 0.02, N = 3
44.21
30
60
90
120
150
NAS Parallel Benchmarks 3.3
Test / Class: IS.C
Total Mop/s, More Is Better
bulldozer
SE +/- 0.01, N = 3
111.59
Unity 3D
SE +/- 0.02, N = 3
84.02
PhenomII x2-550/HD6950
SE +/- 0.03, N = 3
83.97
20
40
60
80
100

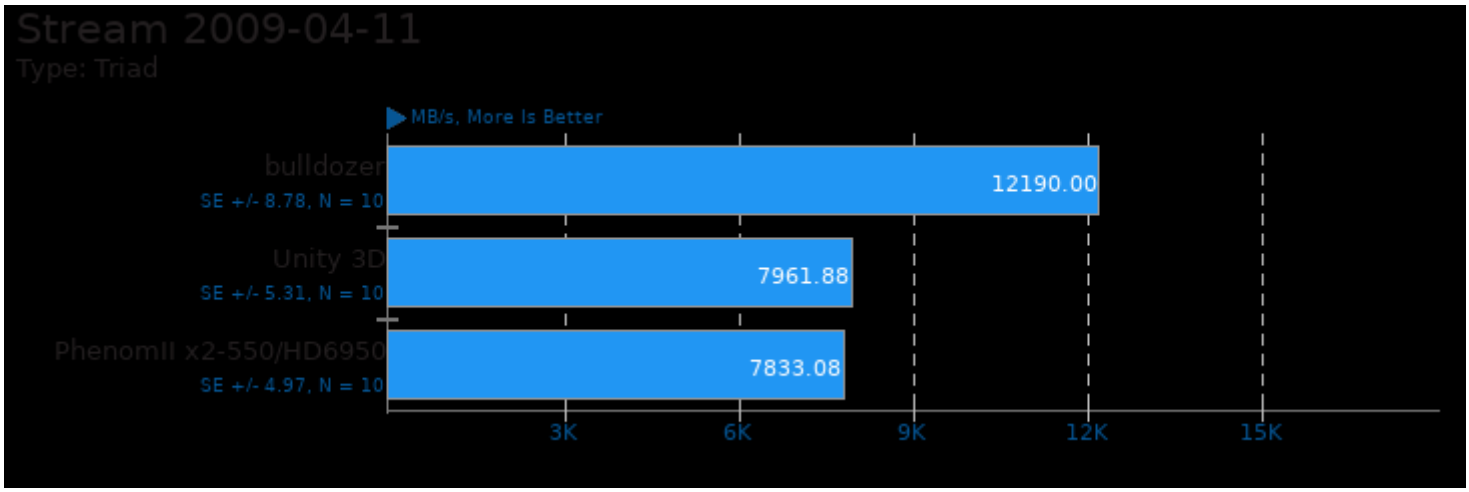
bulldozer


NAS Parallel Benchmarks 3.3
Test / Class: LU.A
Total Mop/s, More Is Better
bulldozer
SE +/- 45.78, N = 3
11771.43
Unity 3D
SE +/- 2.39, N = 3
3218.53
PhenomII x2-550/HD6950
SE +/- 8.06, N = 3
3192.48
3K
6K
9K
12K
15K
NAS Parallel Benchmarks 3.3
Test / Class: MG.B
Total Mop/s, More Is Better
bulldozer
SE +/- 14.90, N = 3
5671.96
Unity 3D
SE +/- 6.35, N = 3
2471.39
PhenomII x2-550/HD6950
SE +/- 2.37, N = 3
2443.86
1200
2400
3600
4800
6000
NAS Parallel Benchmarks 3.3
Test / Class: UA.A
Total Mop/s, More Is Better
bulldozer
SE +/- 0.28, N = 3
39.95
Unity 3D
SE +/- 0.02, N = 3
13.47
PhenomII x2-550/HD6950
SE +/- 0.01, N = 3
13.38
9
18
27
36
45

bulldozer

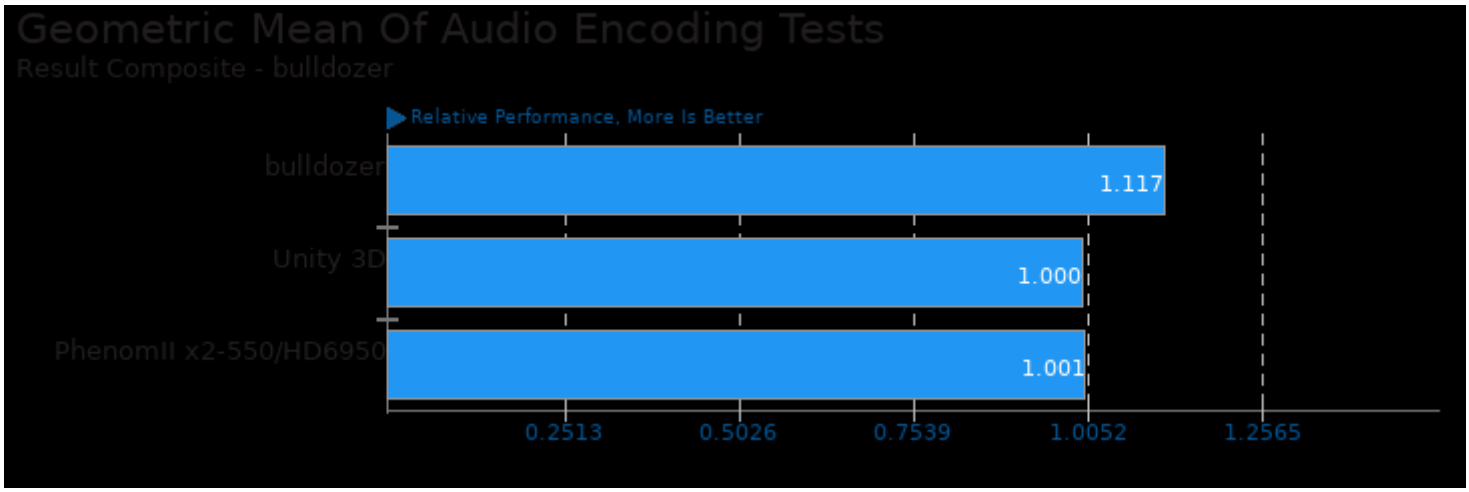

Stream 2009-04-11
Type: Copy
MB/s, More Is Better
bulldozer
SE +/- 17.57, N = 10
12128.41
Unity 3D
SE +/- 5.29, N = 10
7518.01
PhenomII x2-550/HD6950
SE +/- 2.36, N = 10
7447.61
3K
6K
9K
12K
15K
Stream 2009-04-11
Type: Scale
MB/s, More Is Better
bulldozer
SE +/- 33.16, N = 10
11666.57
Unity 3D
SE +/- 4.03, N = 10
7427.59
PhenomII x2-550/HD6950
SE +/- 4.65, N = 10
7371.63
2K
4K
6K
8K
10K
Stream 2009-04-11
Type: Add
MB/s, More Is Better
bulldozer
SE +/- 5.36, N = 10
11773.64
Unity 3D
SE +/- 5.40, N = 10
7845.51
PhenomII x2-550/HD6950
SE +/- 2.40, N = 10
7723.40
3K
6K
9K
12K
15K

bulldozer

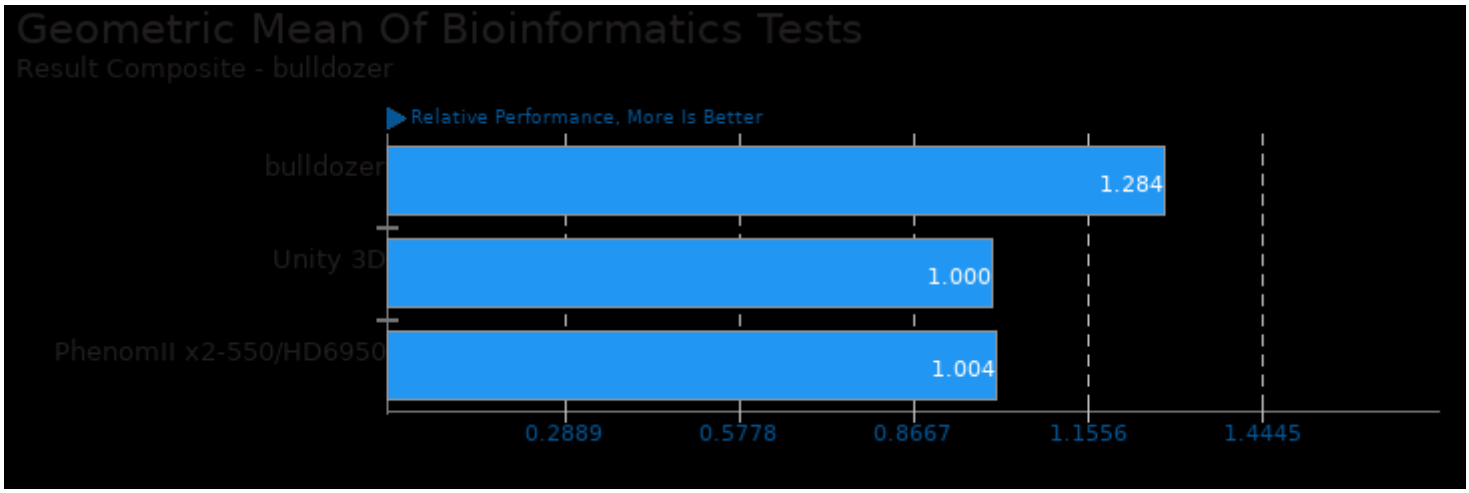

Stream 2009-04-11
Type: Triad
MB/s, More Is Better
bulldozer
SE +/- 8.78, N = 10
12190.00
Unity 3D
SE +/- 5.31, N = 10
7961.88
PhenomII x2-550/HD6950
SE +/- 4.97, N = 10
7833.08
3K
6K
9K
12K
15K

bulldozer

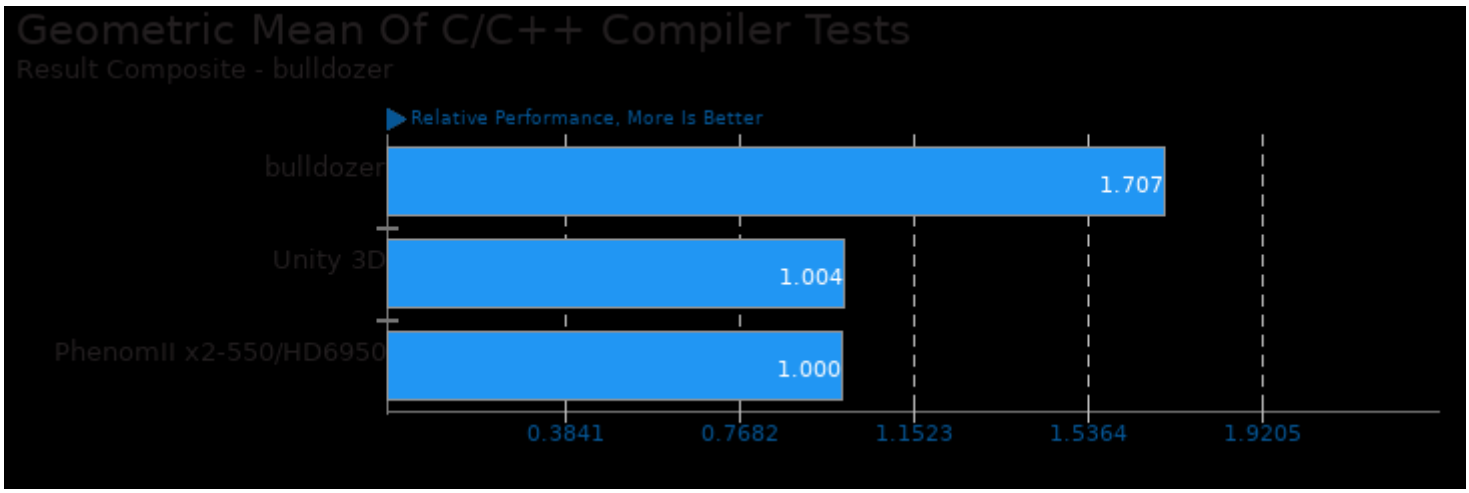
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac

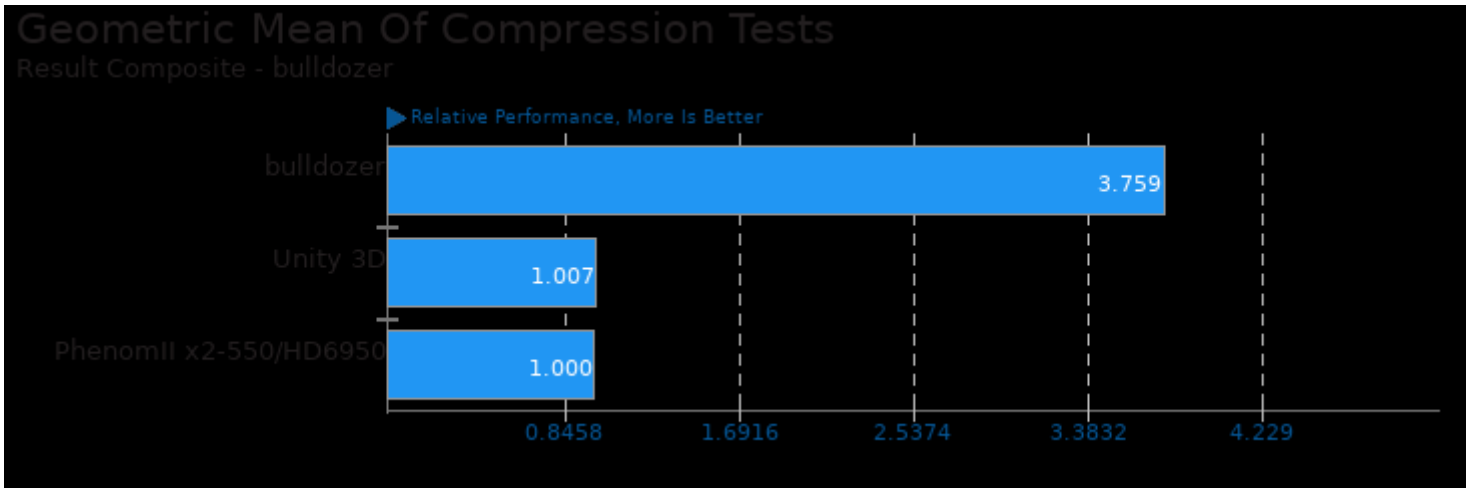


Geometric mean based upon tests: pts/himeno and pts/mafft

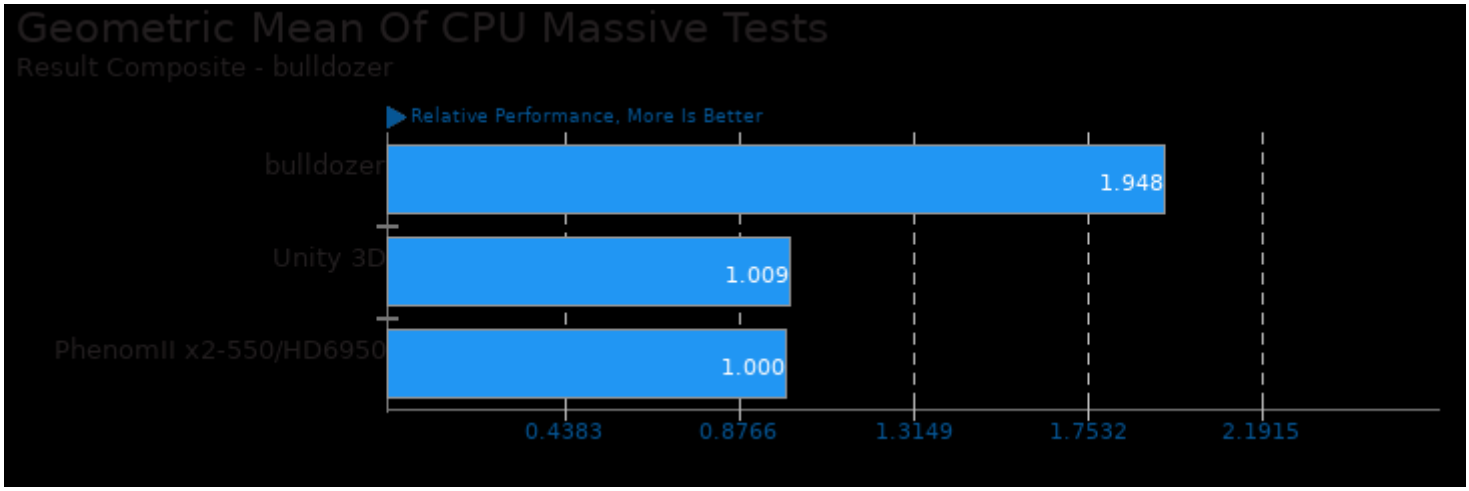


Geometric mean based upon tests: pts/mafft, pts/tscp, pts/graphics-magick, pts/himeno, pts/c-ray, pts/compress-7zip, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/apache, pts/john-the-ripper, pts/openssl and pts/tachyon

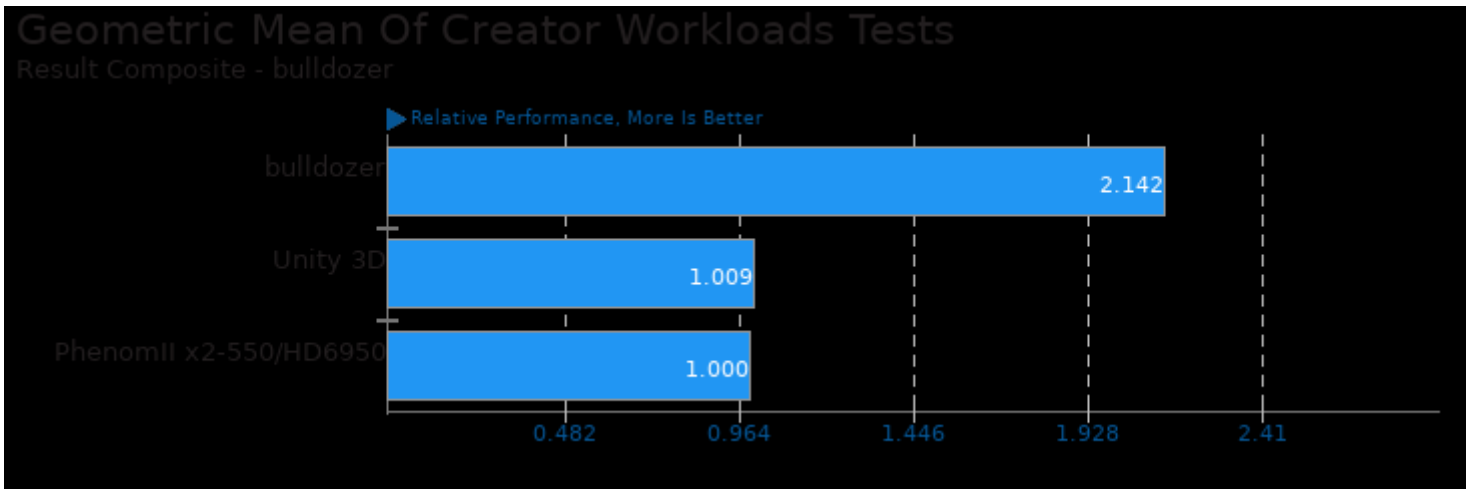
bulldozer



Geometric mean based upon tests: pts/compress-7zip and pts/compress-pbzip2

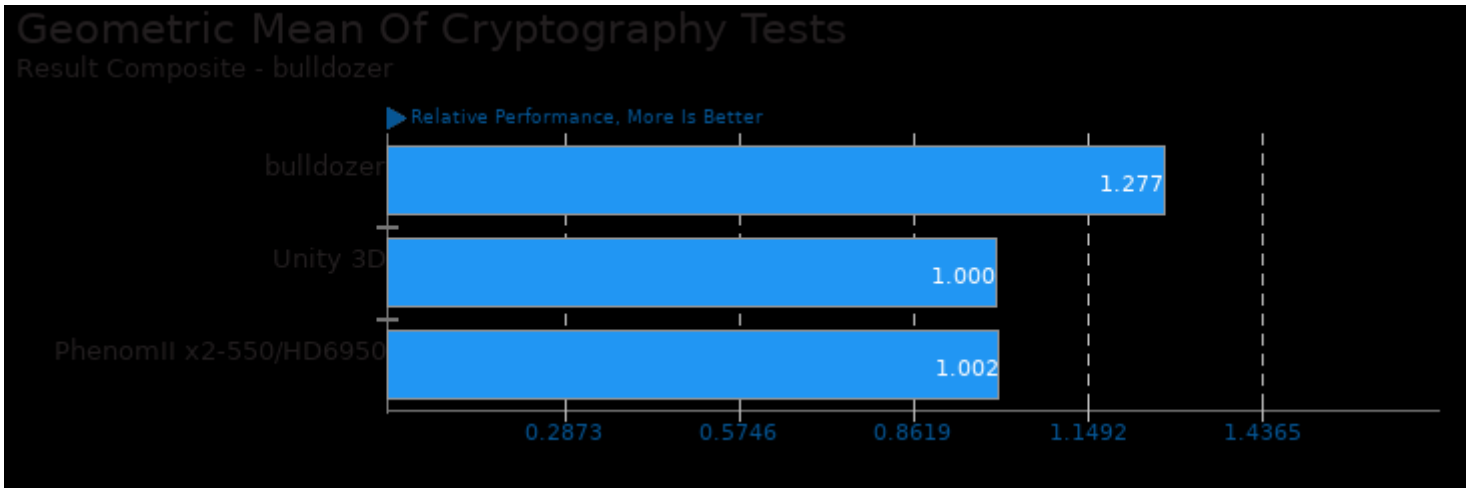


Geometric mean based upon tests: pts/apache, pts/c-ray, pts/compress-7zip, pts/compress-pbzip2, pts/crafty, pts/encode-flac, pts/encode-mp3, pts/graphics-magick, pts/himeno, pts/john-the-ripper, pts/openssl, pts/mafft, pts/npb, pts/pgbench, pts/stream, pts/tachyon and pts/ttsiod-renderer

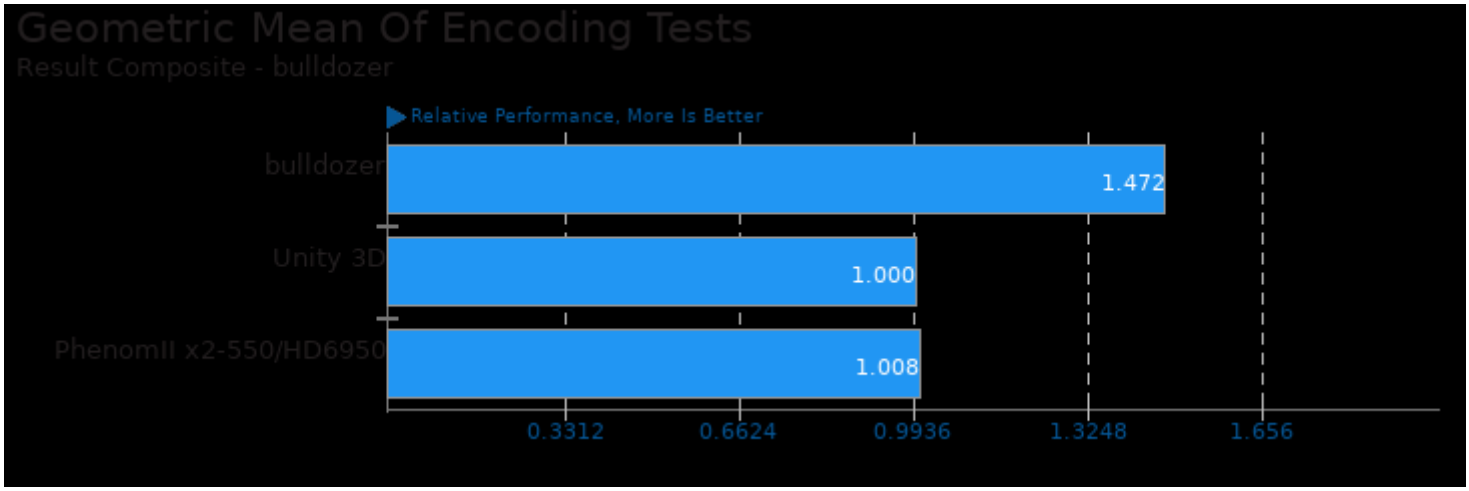


Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/smallpt, pts/ttsiod-renderer, pts/ffmpeg, pts/encode-mp3, pts/encode-flac and pts/graphics-magick

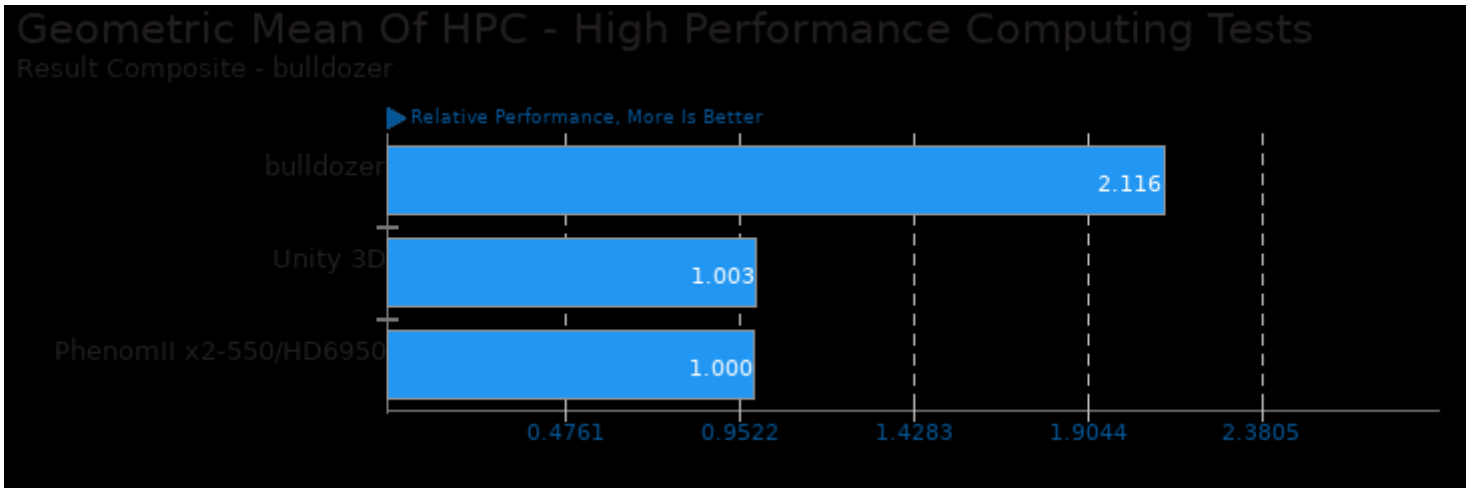
bulldozer



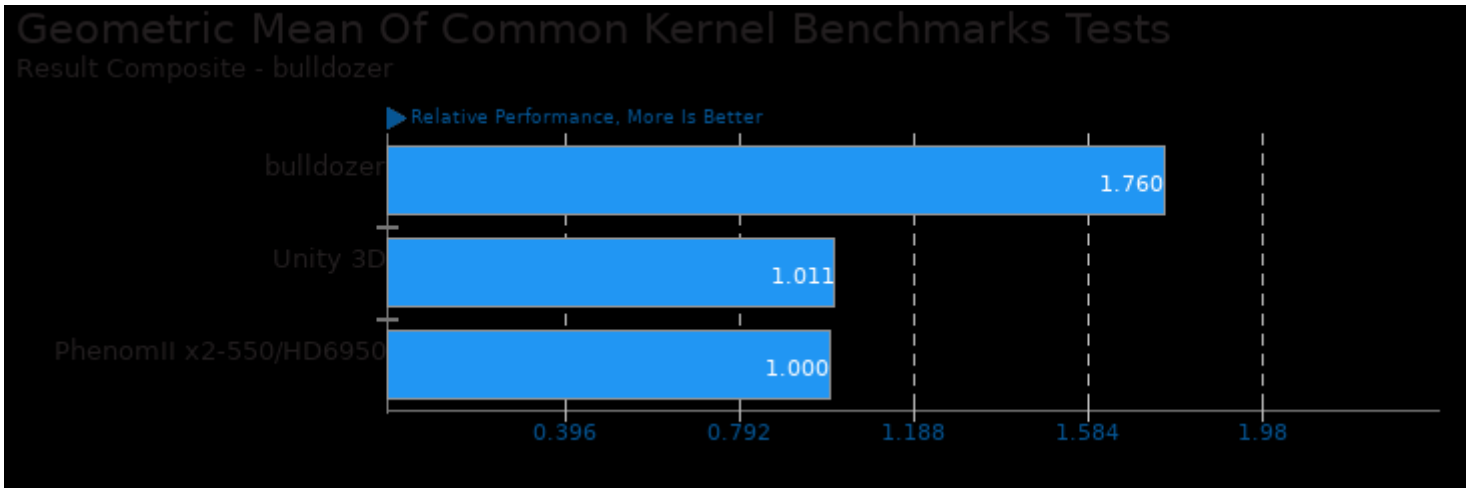
Geometric mean based upon tests: pts/openssl, pts/gcrypt and pts/john-the-ripper



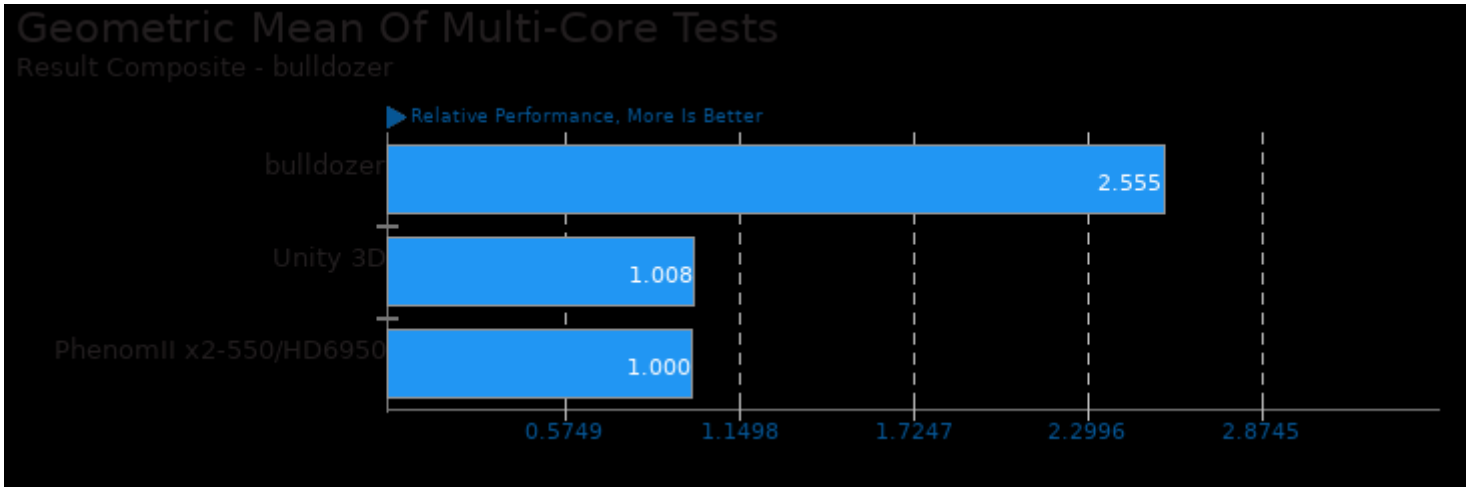
Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac and pts/ffmpeg



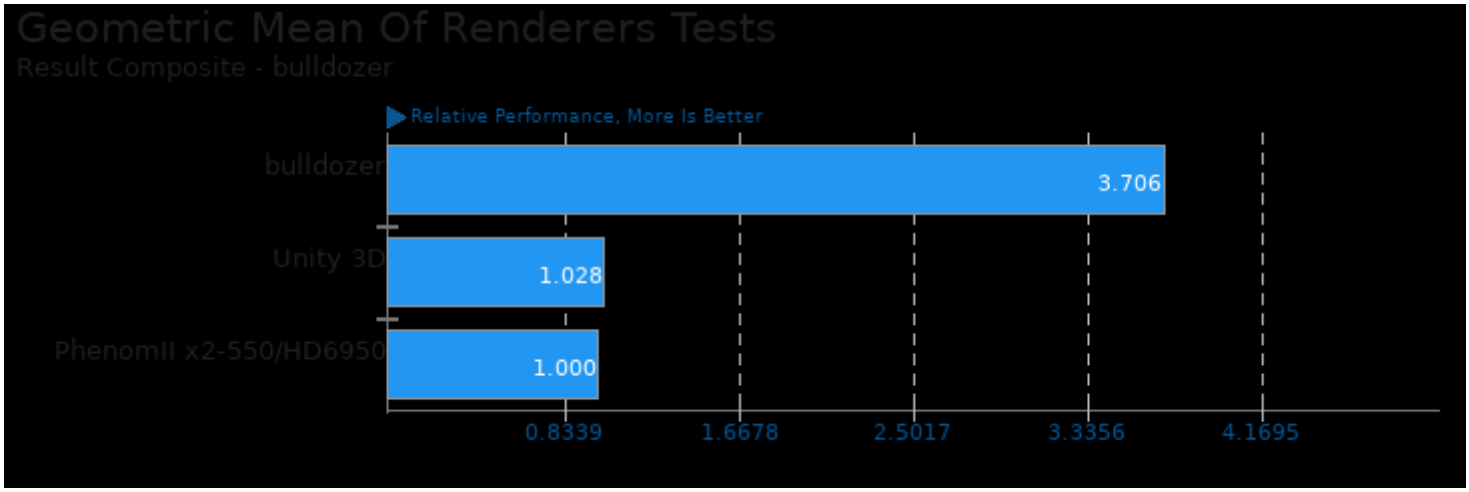
Geometric mean based upon tests: pts/npb, pts/himeno and pts/mafft



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

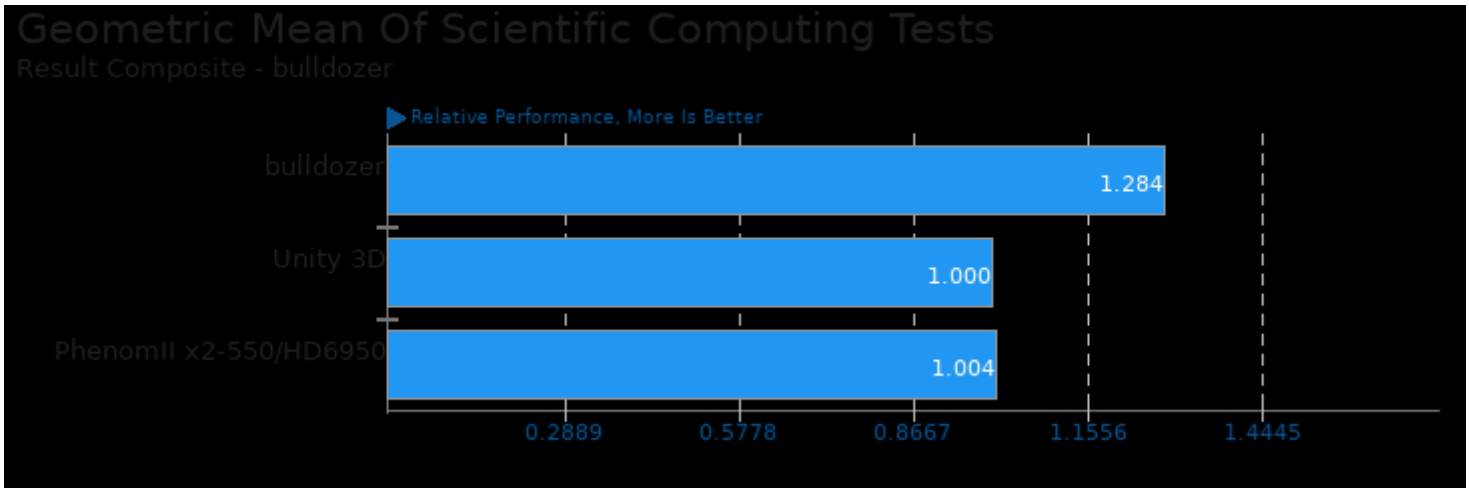


Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/ffmpeg, pts/npb, pts/john-the-ripper, pts/smallpt, pts/graphics-magick, pts/compress-7zip, pts/compress-pbzip2, pts/ttsiod-renderer and pts/pgbench

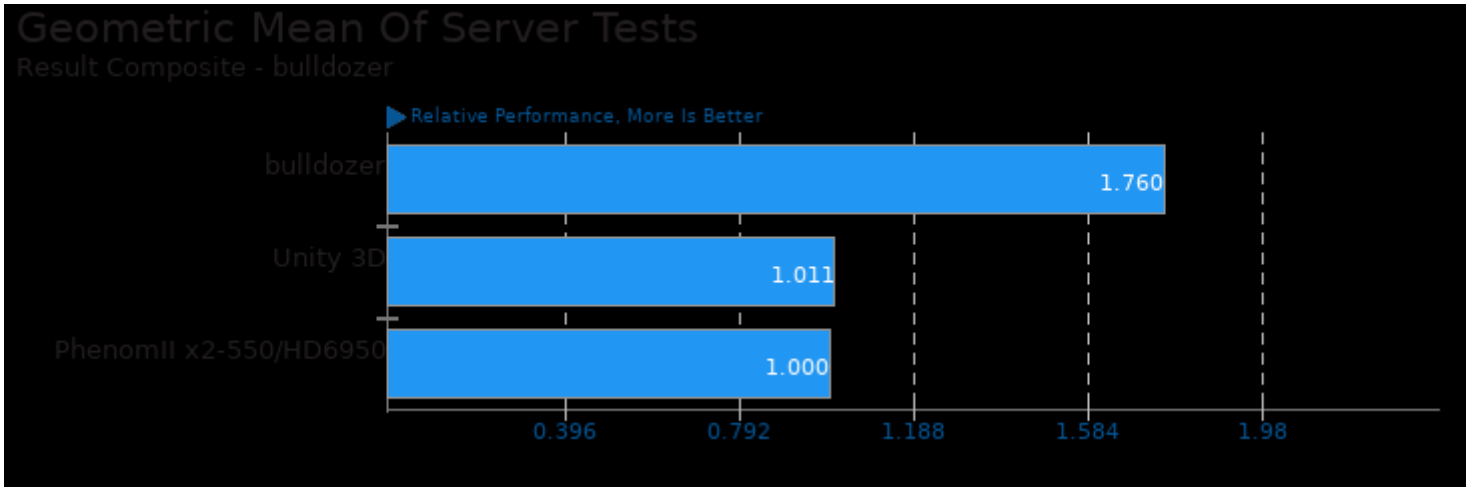


Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/smallpt and pts/ttsiod-renderer

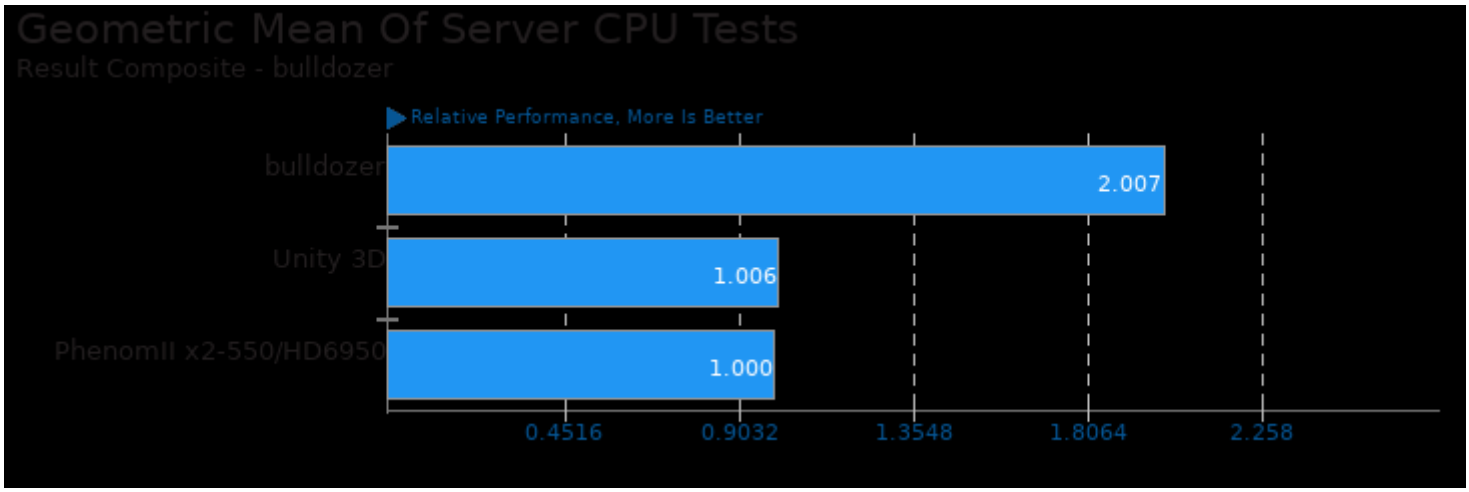
bulldozer



Geometric mean based upon tests: pts/himeno and pts/mafft

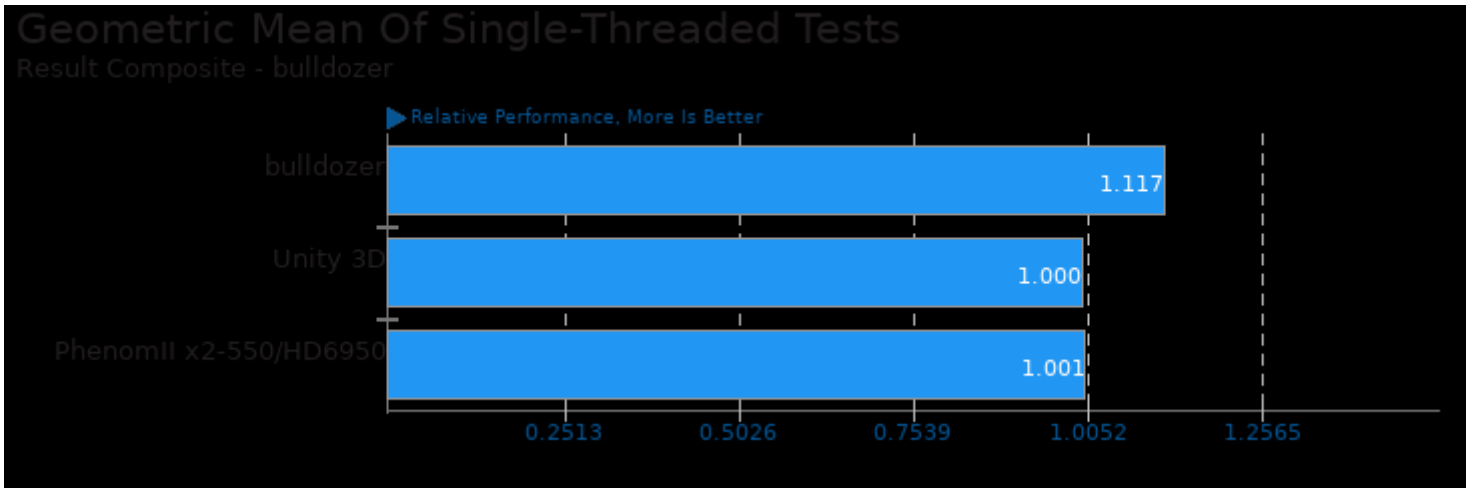


Geometric mean based upon tests: pts/apache, pts/pgbench and pts/openssl



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

bulldozer



Geometric mean based upon tests: pts/encode-flac and pts/encode-mp3

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:54.