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2 x AMD EPYC 75F3 32-Core testing with a ASRockRack ROME2D16-2T (P3.30 BIOS) and ASPEED on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 54% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.005x the speed of the slowest (B).

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

Apache Spark (Row Count: 20000000 - Partitions: 1000 - Calculate Pi Benchmark Using Dataframe) at 1.388x
Apache Spark (Row Count: 40000000 - Partitions: 1000 - Calculate Pi Benchmark Using Dataframe) at 1.273x
Apache Spark (Row Count: 20000000 - Partitions: 1000 - Inner Join Test Time) at 1.198x
Apache Spark (Row Count: 40000000 - Partitions: 2000 - Group By Test Time) at 1.197x
Apache Spark (Row Count: 10000000 - Partitions: 2000 - Inner Join Test Time) at 1.196x
Apache Spark (Row Count: 10000000 - Partitions: 2000 - Broadcast Inner Join Test Time) at 1.158x
Apache Spark (Row Count: 20000000 - Partitions: 100 - Inner Join Test Time) at 1.151x
Apache Spark (Row Count: 40000000 - Partitions: 1000 - Group By Test Time) at 1.139x
Apache Spark (Row Count: 20000000 - Partitions: 500 - Repartition Test Time) at 1.139x
Apache Spark (Row Count: 20000000 - Partitions: 2000 - Broadcast Inner Join Test Time) at 1.138x.

Test Systems:

A

B

Processor: 2 x AMD EPYC 75F3 32-Core @ 2.95GHz (64 Cores / 128 Threads), Motherboard: ASRockRack ROME2D16-2T (P3.30 BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Audio: AMD Starship/Matisse, Monitor: VE228, Network: 2 x Intel 10G X550T

OS: Ubuntu 21.10, Kernel: 5.19.0-rc2-phx-mglru-v12 (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server, Vulkan: 1.1.182, 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 performance (Boost: Enabled) - CPU Microcode: 0xa001114
Java Notes: OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.21.10.1)
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 + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B
OpenFOAM - motorBike - Mesh Time (sec)	**36.81**	**36.9**
Normalized	100%	99.76%
OpenFOAM - motorBike - Execution Time (sec)	**70.86**	**69.7**
Normalized	98.36%	100%
OpenFOAM - d.L.M.S - Mesh Time (sec)	**620.65**	**617.89**
Normalized	99.56%	100%
OpenFOAM - d.L.M.S - Execution Time (sec)	**9235**	**9227**
Normalized	99.91%	100%
OpenFOAM - d.S.M.S - Mesh Time (sec)	**96.9**	**97.14**
Normalized	100%	99.75%
OpenFOAM - d.S.M.S - Execution Time (sec)	**351.8**	**349.89**
Normalized	99.46%	100%
OpenFOAM - d.M.M.S - Mesh Time (sec)	**96.99**	**97.45**
Normalized	100%	99.53%
OpenFOAM - d.M.M.S - Execution Time (sec)	**351.81**	**350.57**
Normalized	99.65%	100%
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	**26.47**	**26.198**
Normalized	100%	98.97%
Standard Deviation		1.1%

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LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	**28.427**	**26.426**
Normalized	100%	92.96%
Standard Deviation		5.9%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	**2.626**	**2.625**
Normalized	100%	99.96%
Standard Deviation		0.9%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	**74.022**	**72.875**
Normalized	100%	98.45%
Standard Deviation		0.3%
SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)	**126.831**	**126.062**
Normalized	100%	99.39%
Standard Deviation		1.1%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	**171.671**	**171.410**
Normalized	100%	99.85%
Standard Deviation		3.2%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	**6.896**	**6.815**
Normalized	100%	98.83%
Standard Deviation		0.2%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	**157.719**	**155.755**
Normalized	100%	98.75%
Standard Deviation		1.1%
SVT-AV1 - Preset 10 - Bosphorus 1080p (FPS)	**339.814**	**338.421**
Normalized	100%	99.59%
Standard Deviation		1.2%
SVT-AV1 - Preset 12 - Bosphorus 1080p (FPS)	**507.098**	**500.454**
Normalized	100%	98.69%
Standard Deviation		2.2%
Primesieve - 1e12 (sec)	**3.114**	**3.172**
Normalized	100%	98.17%
Standard Deviation		1.1%
Primesieve - 1e13 (sec)	**37.395**	**37.206**
Normalized	99.49%	100%
Standard Deviation		0.7%
OSPRay Studio - 1 - 4K - 1 - Path Tracer (ms)	1857	1857
Standard Deviation		0.1%
OSPRay Studio - 2 - 4K - 1 - Path Tracer (ms)	**1892**	**1890**
Normalized	99.89%	100%
Standard Deviation		0.1%
OSPRay Studio - 3 - 4K - 1 - Path Tracer (ms)	**2217**	**2208**
Normalized	99.59%	100%
Standard Deviation		0.1%
OSPRay Studio - 1 - 4K - 16 - Path Tracer (ms)	**29443**	**29595**
Normalized	100%	99.49%
Standard Deviation		0.3%
OSPRay Studio - 1 - 4K - 32 - Path Tracer (ms)	**64597**	**64975**
Normalized	100%	99.42%
Standard Deviation		0.7%
OSPRay Studio - 2 - 4K - 16 - Path Tracer (ms)	**30388**	**30225**
Normalized	99.46%	100%
Standard Deviation		0.4%
OSPRay Studio - 2 - 4K - 32 - Path Tracer (ms)	**65501**	**65702**
Normalized	100%	99.69%
Standard Deviation		0.2%
OSPRay Studio - 3 - 4K - 16 - Path Tracer (ms)	**35425**	**35397**

Normalized	99.92%	100%
Standard Deviation		0.2%
OSPRay Studio - 3 - 4K - 32 - Path Tracer (ms)	**75793**	**75817**
Normalized	100%	99.97%
Standard Deviation		0.5%
OSPRay Studio - 1 - 1080p - 1 - Path Tracer (ms)	**467**	**466**
Normalized	99.79%	100%
Standard Deviation		0.1%
OSPRay Studio - 2 - 1080p - 1 - Path Tracer (ms)	**475**	**476**
Normalized	100%	99.79%
Standard Deviation		0.2%
OSPRay Studio - 3 - 1080p - 1 - Path Tracer (ms)	**554**	**555**
Normalized	100%	99.82%
Standard Deviation		0.4%
OSPRay Studio - 1 - 1080p - 16 - Path Tracer (ms)	**7499**	**7449**
Normalized	99.33%	100%
Standard Deviation		0%
OSPRay Studio - 1 - 1080p - 32 - Path Tracer (ms)	**14968**	**15022**
Normalized	100%	99.64%
Standard Deviation		0.7%
OSPRay Studio - 2 - 1080p - 16 - Path Tracer (ms)	**7665**	**7626**
Normalized	99.49%	100%
Standard Deviation		0.4%
OSPRay Studio - 2 - 1080p - 32 - Path Tracer (ms)	**15274**	**15279**
Normalized	100%	99.97%
Standard Deviation		0.1%
OSPRay Studio - 3 - 1080p - 16 - Path Tracer (ms)	**8935**	**8888**
Normalized	99.47%	100%
Standard Deviation		0.4%
OSPRay Studio - 3 - 1080p - 32 - Path Tracer (ms)	**17928**	**17852**
Normalized	99.58%	100%
Standard Deviation		0.4%
Aircrack-ng (k/s)	**277544**	**277519**
Normalized	100%	99.99%
Standard Deviation		0%
Node.js V8 Web Tooling Benchmark (runs/s)	**11.48**	**11.78**
Normalized	97.45%	100%
Standard Deviation		0.8%
Apache Spark - 1000000 - 100 - S.5.B.T (sec)	**3.91**	**4.01**
Normalized	100%	97.51%
Standard Deviation		3.9%
Apache Spark - 1000000 - 100 - C.P.B (sec)	**23.77**	**23.95**
Normalized	100%	99.25%
Standard Deviation		0.4%
Apache Spark - 1000000 - 100 - C.P.B.U.D (sec)	**2.07**	**2.45**
Normalized	100%	84.49%
Standard Deviation		18.8%
Apache Spark - 1000000 - 100 - Group By Test Time (sec)	**5.72**	**6.00**
Normalized	100%	95.33%
Standard Deviation		4.1%
Apache Spark - 1000000 - 100 - R.T.T (sec)	**2.11**	**2.49**
Normalized	100%	84.74%
Standard Deviation		16.8%
Apache Spark - 1000000 - 100 - I.J.T.T (sec)	**2.37**	**2.40**

Normalized	100%	98.75%
Standard Deviation		5.2%
Apache Spark - 1000000 - 100 - B.I.J.T.T (sec)	**1.44**	**1.62**
Normalized	100%	88.89%
Standard Deviation		7.3%
Apache Spark - 1000000 - 500 - S.5.B.T (sec)	**4.39**	**4.47**
Normalized	100%	98.21%
Standard Deviation		2.4%
Apache Spark - 1000000 - 500 - C.P.B (sec)	**23.79**	**23.74**
Normalized	99.79%	100%
Standard Deviation		0.3%
Apache Spark - 1000000 - 500 - C.P.B.U.D (sec)	**2.13**	**2.65**
Normalized	100%	80.38%
Standard Deviation		17%
Apache Spark - 1000000 - 500 - Group By Test Time (sec)	**6.17**	**6.56**
Normalized	100%	94.05%
Standard Deviation		2.6%
Apache Spark - 1000000 - 500 - R.T.T (sec)	**2.91**	**2.63**
Normalized	90.38%	100%
Standard Deviation		7%
Apache Spark - 1000000 - 500 - I.J.T.T (sec)	**2.97**	**2.83**
Normalized	95.29%	100%
Standard Deviation		4.2%
Apache Spark - 1000000 - 500 - B.I.J.T.T (sec)	**1.62**	**1.92**
Normalized	100%	84.38%
Standard Deviation		8.5%
Apache Spark - 1000000 - 1000 - S.5.B.T (sec)	4.43	4.43
Standard Deviation		3.8%
Apache Spark - 1000000 - 1000 - C.P.B (sec)	**23.70**	**23.81**
Normalized	100%	99.54%
Standard Deviation		1%
Apache Spark - 1000000 - 1000 - C.P.B.U.D (sec)	**2.04**	**2.58**
Normalized	100%	79.07%
Standard Deviation		15.4%
Apache Spark - 1000000 - 1000 - Group By Test Time (sec)	**6.73**	**6.67**
Normalized	99.11%	100%
Standard Deviation		2.5%
Apache Spark - 1000000 - 1000 - R.T.T (sec)	**2.57**	**2.64**
Normalized	100%	97.35%
Standard Deviation		11%
Apache Spark - 1000000 - 1000 - I.J.T.T (sec)	**2.87**	**2.78**
Normalized	96.86%	100%
Standard Deviation		8.3%
Apache Spark - 1000000 - 1000 - B.I.J.T.T (sec)	**1.97**	**1.96**
Normalized	99.49%	100%
Standard Deviation		9.5%
Apache Spark - 1000000 - 2000 - S.5.B.T (sec)	**4.55**	**4.64**
Normalized	100%	98.06%
Standard Deviation		1.1%
Apache Spark - 1000000 - 2000 - C.P.B (sec)	**23.81**	**23.71**
Normalized	99.58%	100%
Standard Deviation		0.1%
Apache Spark - 1000000 - 2000 - C.P.B.U.D (sec)	**2.39**	**2.62**

Normalized	100%	91.22%
Standard Deviation		16.1%
Apache Spark - 1000000 - 2000 - Group By Test Time (sec)	**6.52**	**6.94**
Normalized	100%	93.95%
Standard Deviation		2.8%
Apache Spark - 1000000 - 2000 - R.T.T (sec)	**3.12**	**3.04**
Normalized	97.44%	100%
Standard Deviation		3.6%
Apache Spark - 1000000 - 2000 - I.J.T.T (sec)	**2.91**	**3.31**
Normalized	100%	87.92%
Standard Deviation		4.8%
Apache Spark - 1000000 - 2000 - B.I.J.T.T (sec)	**3.02**	**2.53**
Normalized	83.77%	100%
Standard Deviation		11.4%
Apache Spark - 10000000 - 100 - S.5.B.T (sec)	**9.58**	**9.66**
Normalized	100%	99.17%
Standard Deviation		2.4%
Apache Spark - 10000000 - 100 - C.P.B (sec)	**23.77**	**23.87**
Normalized	100%	99.58%
Standard Deviation		0.6%
Apache Spark - 10000000 - 100 - C.P.B.U.D (sec)	**2.15**	**2.64**
Normalized	100%	81.44%
Standard Deviation		20.5%
Apache Spark - 10000000 - 100 - Group By Test Time (sec)	**8.40**	**8.38**
Normalized	99.76%	100%
Standard Deviation		3.4%
Apache Spark - 10000000 - 100 - R.T.T (sec)	**5.28**	**5.04**
Normalized	95.45%	100%
Standard Deviation		8.2%
Apache Spark - 10000000 - 100 - I.J.T.T (sec)	**6.19**	**5.88**
Normalized	94.99%	100%
Standard Deviation		8.8%
Apache Spark - 10000000 - 100 - B.I.J.T.T (sec)	**4.91**	**4.65**
Normalized	94.7%	100%
Standard Deviation		8.8%
Apache Spark - 10000000 - 500 - S.5.B.T (sec)	**10.44**	**10.39**
Normalized	99.52%	100%
Standard Deviation		3%
Apache Spark - 10000000 - 500 - C.P.B (sec)	**24.062991411**	**24.06**
Normalized	99.99%	100%
Standard Deviation		0.4%
Apache Spark - 10000000 - 500 - C.P.B.U.D (sec)	**2.16**	**2.37**
Normalized	100%	91.14%
Standard Deviation		10.9%
Apache Spark - 10000000 - 500 - Group By Test Time (sec)	**10.01**	**9.39**
Normalized	93.81%	100%
Standard Deviation		3.5%
Apache Spark - 10000000 - 500 - R.T.T (sec)	**6.29**	**5.47**
Normalized	86.96%	100%
Standard Deviation		7.6%
Apache Spark - 10000000 - 500 - I.J.T.T (sec)	**6.54**	**6.84**
Normalized	100%	95.61%

Standard Deviation		10.4%
Apache Spark - 10000000 - 500 - B.I.J.T.T (sec)	**5.67**	**5.40**
Normalized	95.24%	100%
Standard Deviation		7.2%
Apache Spark - 20000000 - 100 - S.5.B.T (sec)	**17.188708807**	**16.41**
Normalized	95.47%	100%
Standard Deviation		1%
Apache Spark - 20000000 - 100 - C.P.B (sec)	**24.03**	**23.89**
Normalized	99.42%	100%
Standard Deviation		0.8%
Apache Spark - 20000000 - 100 - C.P.B.U.D (sec)	**3.42**	**2.28**
Normalized	66.67%	100%
Standard Deviation		7.3%
Apache Spark - 20000000 - 100 - Group By Test Time (sec)	**13.32084773**	**13.16**
Normalized	98.79%	100%
Standard Deviation		5.3%
Apache Spark - 20000000 - 100 - R.T.T (sec)	**9.02**	**9.90**
Normalized	100%	91.11%
Standard Deviation		6.3%
Apache Spark - 20000000 - 100 - I.J.T.T (sec)	**11.599225602**	**10.08**
Normalized	86.9%	100%
Standard Deviation		4.8%
Apache Spark - 20000000 - 100 - B.I.J.T.T (sec)	**8.43**	**7.56**
Normalized	89.68%	100%
Standard Deviation		1.6%
Apache Spark - 20000000 - 500 - S.5.B.T (sec)	**16.72**	**17.19**
Normalized	100%	97.27%
Standard Deviation		0.9%
Apache Spark - 20000000 - 500 - C.P.B (sec)	**23.88**	**24.21**
Normalized	100%	98.64%
Standard Deviation		0.2%
Apache Spark - 20000000 - 500 - C.P.B.U.D (sec)	**2.23**	**2.69**
Normalized	100%	82.9%
Standard Deviation		14.3%
Apache Spark - 20000000 - 500 - Group By Test Time (sec)	**14.36**	**14.47**
Normalized	100%	99.24%
Standard Deviation		3.8%
Apache Spark - 20000000 - 500 - R.T.T (sec)	**9.07**	**10.33**
Normalized	100%	87.8%
Standard Deviation		5.2%
Apache Spark - 20000000 - 500 - I.J.T.T (sec)	**12.12**	**10.62**
Normalized	87.62%	100%
Standard Deviation		7.5%
Apache Spark - 20000000 - 500 - B.I.J.T.T (sec)	**9.35**	**8.94**
Normalized	95.61%	100%
Standard Deviation		4.2%
Apache Spark - 40000000 - 100 - S.5.B.T (sec)	**30.894492983**	**30.10**
Normalized	97.43%	100%
Standard Deviation		3%
Apache Spark - 40000000 - 100 - C.P.B (sec)	**24.115291462**	**24.16**
Normalized	100%	99.81%
Standard Deviation		0.5%
Apache Spark - 40000000 - 100 - C.P.B.U.D (sec)	**2.20**	**2.35**

Normalized	100%	93.62%
Standard Deviation		13.3%
Apache Spark - 40000000 - 100 - Group By Test Time (sec)	**18.94**	**18.71**
Normalized	98.79%	100%
Standard Deviation		2.5%
Apache Spark - 40000000 - 100 - R.T.T (sec)	**18.60**	**17.19**
Normalized	92.42%	100%
Standard Deviation		4.2%
Apache Spark - 40000000 - 100 - I.J.T.T (sec)	**18.10**	**17.25**
Normalized	95.3%	100%
Standard Deviation		5%
Apache Spark - 40000000 - 100 - B.I.J.T.T (sec)	**16.59**	**15.75**
Normalized	94.94%	100%
Standard Deviation		2.5%
Apache Spark - 40000000 - 500 - S.5.B.T (sec)	**30.49089958**	**30.93**
Normalized	100%	98.58%
Standard Deviation		0.9%
Apache Spark - 40000000 - 500 - C.P.B (sec)	**23.95**	**24.06**
Normalized	100%	99.54%
Standard Deviation		0.2%
Apache Spark - 40000000 - 500 - C.P.B.U.D (sec)	**2.19**	**2.54**
Normalized	100%	86.22%
Standard Deviation		10.5%
Apache Spark - 40000000 - 500 - Group By Test Time (sec)	**21.82**	**24.16**
Normalized	100%	90.31%
Standard Deviation		20.2%
Apache Spark - 40000000 - 500 - R.T.T (sec)	**17.872729428**	**17.39**
Normalized	97.3%	100%
Standard Deviation		1.7%
Apache Spark - 40000000 - 500 - I.J.T.T (sec)	**17.52**	**17.61**
Normalized	100%	99.49%
Standard Deviation		1.2%
Apache Spark - 40000000 - 500 - B.I.J.T.T (sec)	**17.53**	**17.36**
Normalized	99.03%	100%
Standard Deviation		1.7%
Apache Spark - 10000000 - 1000 - S.5.B.T (sec)	**10.43**	**10.67**
Normalized	100%	97.75%
Standard Deviation		1.9%
Apache Spark - 10000000 - 1000 - C.P.B (sec)	**24.14**	**24.11**
Normalized	99.88%	100%
Standard Deviation		0.3%
Apache Spark - 10000000 - 1000 - C.P.B.U.D (sec)	**2.59**	**2.89**
Normalized	100%	89.62%
Standard Deviation		24.2%
Apache Spark - 10000000 - 1000 - Group By Test Time (sec)	**9.74**	**9.23**
Normalized	94.76%	100%
Standard Deviation		2.7%
Apache Spark - 10000000 - 1000 - R.T.T (sec)	**5.24**	**5.58**
Normalized	100%	93.91%
Standard Deviation		9.4%
Apache Spark - 10000000 - 1000 - I.J.T.T (sec)	**6.57**	**6.88**
Normalized	100%	95.49%

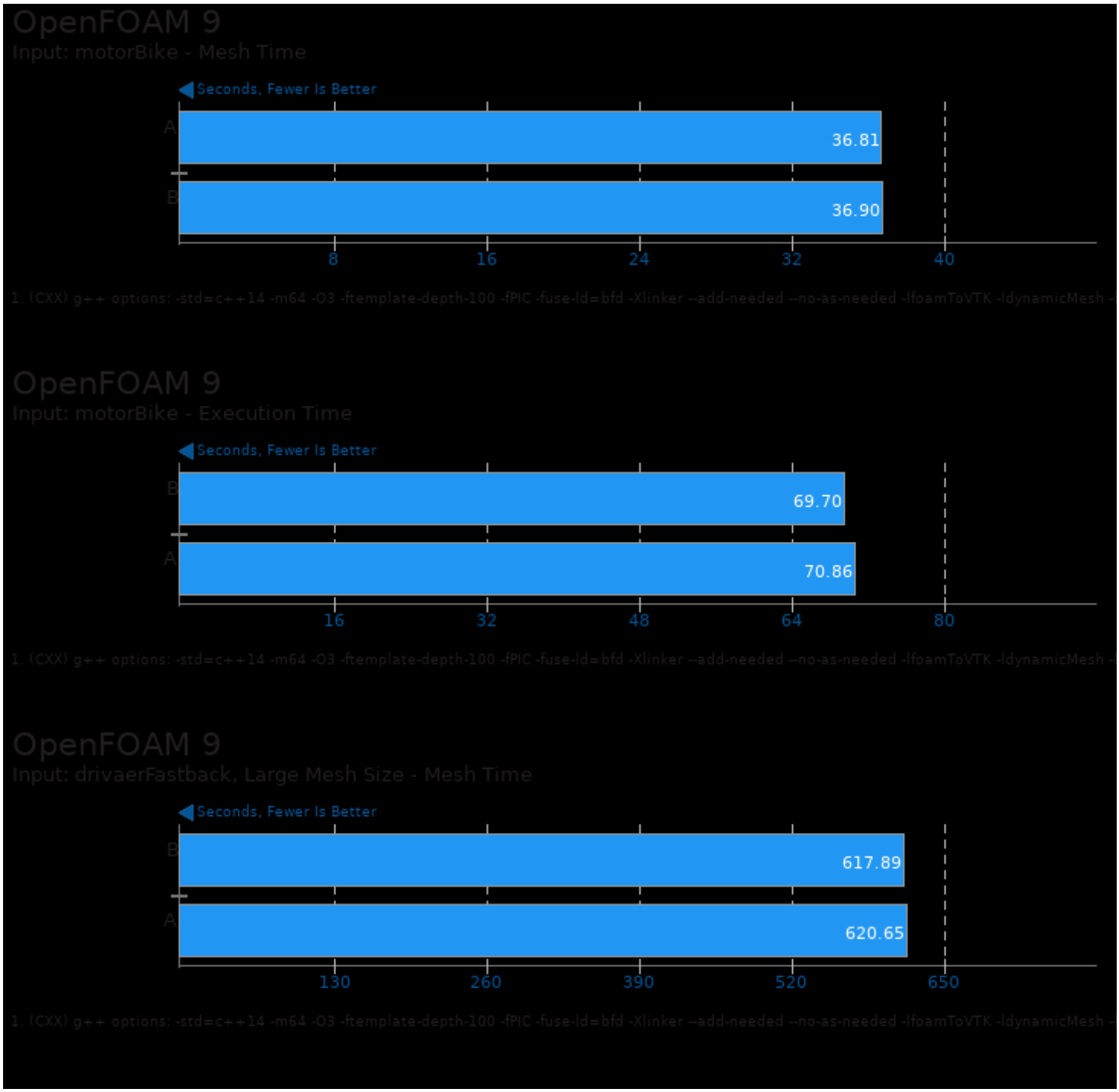
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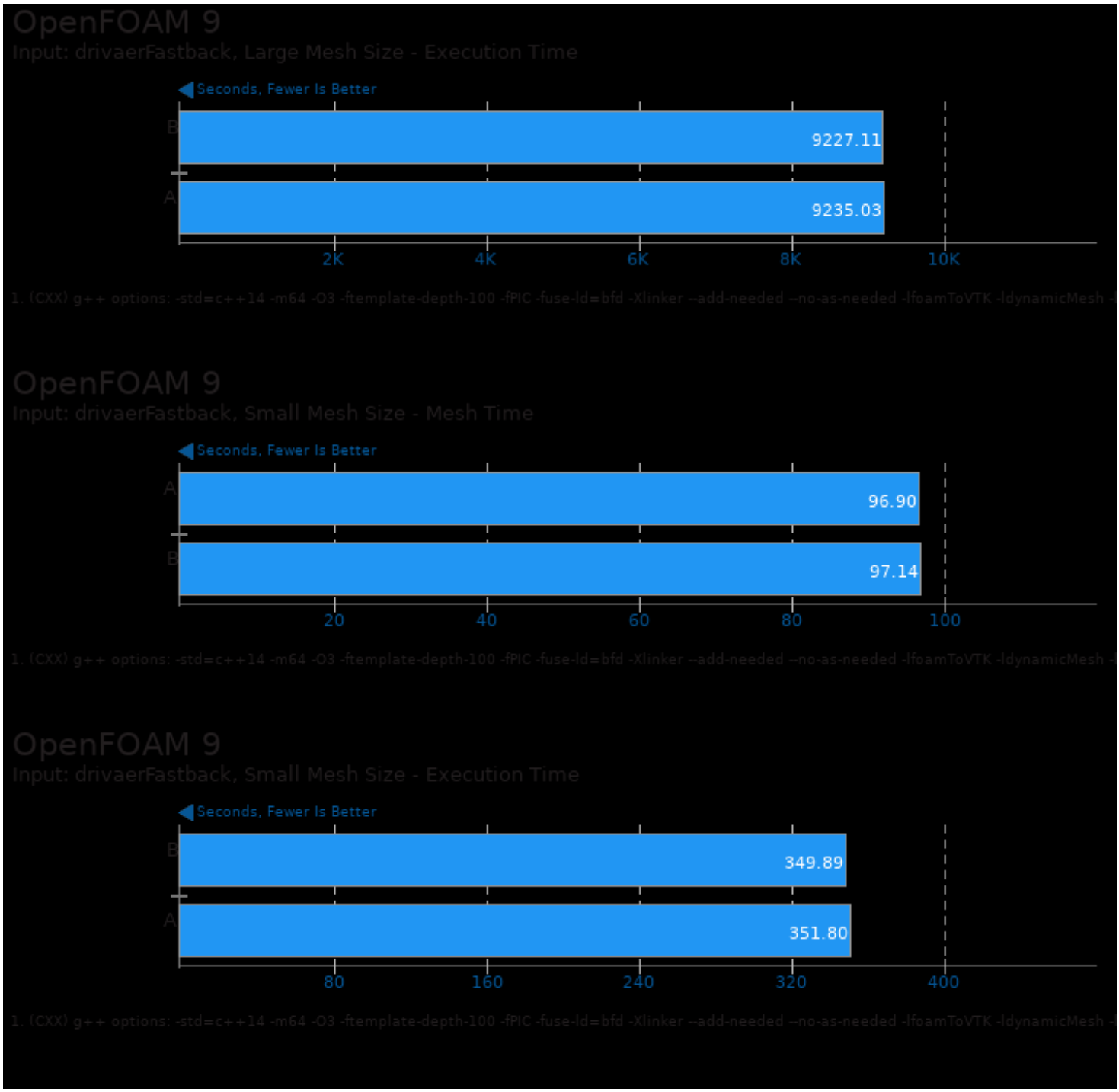
Standard Deviation		7%
Apache Spark - 10000000 - 1000 - B.I.J.T.T (sec)	6.46	5.81
Normalized	89.94%	100%
Standard Deviation		7%
Apache Spark - 10000000 - 2000 - S.5.B.T (sec)	10.85	10.88
Normalized	100%	99.72%
Apache Spark - 10000000 - 2000 - C.P.B (sec)	24.08	24.29
Normalized	100%	99.14%
Apache Spark - 10000000 - 2000 - C.P.B.U.D (sec)	2.69	2.59
Normalized	96.28%	100%
Apache Spark - 10000000 - 2000 - Group By Test Time (sec)	9.34	9.22
Normalized	98.72%	100%
Apache Spark - 10000000 - 2000 - R.T.T (sec)	5.22	5.61
Normalized	100%	93.05%
Apache Spark - 10000000 - 2000 - I.J.T.T (sec)	8.01	6.70
Normalized	83.65%	100%
Apache Spark - 10000000 - 2000 - B.I.J.T.T (sec)	6.53	5.64
Normalized	86.37%	100%
Apache Spark - 20000000 - 1000 - S.5.B.T (sec)	16.94	17.29
Normalized	100%	97.98%
Apache Spark - 20000000 - 1000 - C.P.B (sec)	24.04	24.32
Normalized	100%	98.85%
Apache Spark - 20000000 - 1000 - C.P.B.U.D (sec)	3.11	2.24
Normalized	72.03%	100%
Apache Spark - 20000000 - 1000 - Group By Test Time (sec)	14.59	14.51
Normalized	99.45%	100%
Apache Spark - 20000000 - 1000 - R.T.T (sec)	9.97	9.95
Normalized	99.8%	100%
Apache Spark - 20000000 - 1000 - I.J.T.T (sec)	11.13	13.33
Normalized	100%	83.5%
Apache Spark - 20000000 - 1000 - B.I.J.T.T (sec)	9.84	10.26
Normalized	100%	95.91%
Apache Spark - 20000000 - 2000 - S.5.B.T (sec)	18.51	17.73
Normalized	95.79%	100%
Apache Spark - 20000000 - 2000 - C.P.B (sec)	24.14	24.04
Normalized	99.59%	100%
Apache Spark - 20000000 - 2000 - C.P.B.U.D (sec)	2.20	2.28
Normalized	100%	96.49%
Apache Spark - 20000000 - 2000 - Group By Test Time (sec)	13.95	14.39
Normalized	100%	96.94%
Apache Spark - 20000000 - 2000 - R.T.T (sec)	10.06	9.98
Normalized	99.2%	100%
Apache Spark - 20000000 - 2000 - I.J.T.T (sec)	11.66	11.29
Normalized	96.83%	100%
Apache Spark - 20000000 - 2000 - B.I.J.T.T (sec)	11.43	10.04
Normalized	87.84%	100%
Apache Spark - 40000000 - 1000 - S.5.B.T (sec)	30.99	30.92
Normalized	99.77%	100%
Apache Spark - 40000000 - 1000 - C.P.B (sec)	24.129029328	24.39
Normalized	100%	98.93%

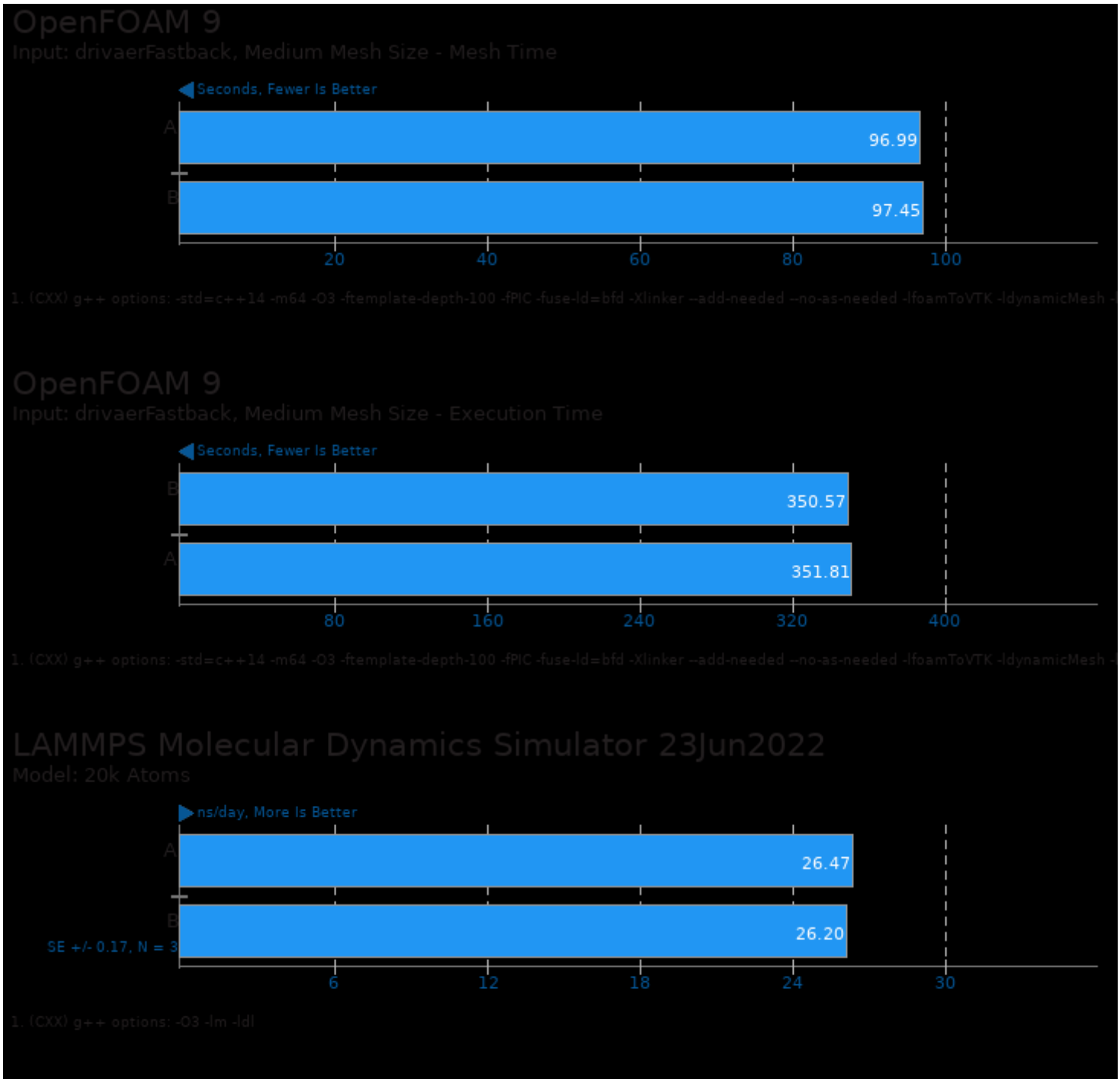
75f3 2p august

Apache Spark - 40000000 - 1000 - C.P.B.U.D (sec)	2.05	2.61
Normalized	100%	78.54%
Apache Spark - 40000000 - 1000 - Group By Test Time (sec)	20.59	23.46
Normalized	100%	87.77%
Apache Spark - 40000000 - 1000 - R.T.T (sec)	18.18	17.67
Normalized	97.19%	100%
Apache Spark - 40000000 - 1000 - I.J.T.T (sec)	18.10	19.55
Normalized	100%	92.58%
Apache Spark - 40000000 - 1000 - B.I.J.T.T (sec)	17.28	17.73
Normalized	100%	97.46%
Apache Spark - 40000000 - 2000 - S.5.B.T (sec)	30.73	31.89
Normalized	100%	96.36%
Apache Spark - 40000000 - 2000 - C.P.B (sec)	23.707470202	24.02
Normalized	100%	98.7%
Apache Spark - 40000000 - 2000 - C.P.B.U.D (sec)	2.10	2.27
Normalized	100%	92.51%
Apache Spark - 40000000 - 2000 - Group By Test Time (sec)	25.363688619	21.19
Normalized	83.54%	100%
Apache Spark - 40000000 - 2000 - R.T.T (sec)	17.78	18.546562926
Normalized	100%	95.87%
Apache Spark - 40000000 - 2000 - I.J.T.T (sec)	20.46	19.36
Normalized	94.62%	100%
Apache Spark - 40000000 - 2000 - B.I.J.T.T (sec)	18.45	18.11
Normalized	98.16%	100%
ASTC Encoder - Fast (MT/s)	815.3515	825.6504
Normalized	98.75%	100%
ASTC Encoder - Medium (MT/s)	329.729	323.542
Normalized	100%	98.12%
ASTC Encoder - Thorough (MT/s)	44.0672	43.942
Normalized	100%	99.72%
ASTC Encoder - Exhaustive (MT/s)	4.7291	4.7445
Normalized	99.68%	100%

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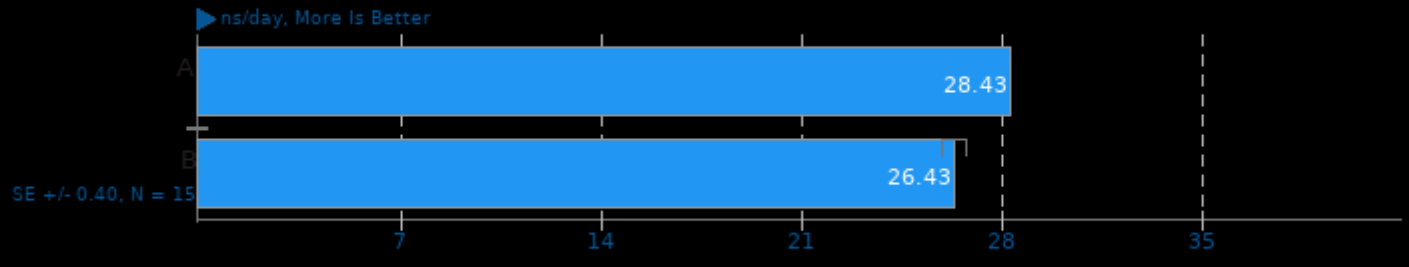



OpenFOAM 9
Input: drivaerFastback, Large Mesh Size - Execution Time
Seconds, Fewer Is Better
B
9227.11
A
9235.03
2K
4K
6K
8K
10K
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
OpenFOAM 9
Input: drivaerFastback, Small Mesh Size - Mesh Time
Seconds, Fewer Is Better
A
96.90
B
97.14
20
40
60
80
100
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
OpenFOAM 9
Input: drivaerFastback, Small Mesh Size - Execution Time
Seconds, Fewer Is Better
B
349.89
A
351.80
80
160
240
320
400
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh


OpenFOAM 9
Input: drivaerFastback, Medium Mesh Size - Mesh Time
Seconds, Fewer Is Better
A
96.99
B
97.45
20
40
60
80
100
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
OpenFOAM 9
Input: drivaerFastback, Medium Mesh Size - Execution Time
Seconds, Fewer Is Better
B
350.57
A
351.81
80
160
240
320
400
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: 20k Atoms
ns/day, More Is Better
A
26.47
B
26.20
SE +/- 0.17, N = 3
6
12
18
24
30
1. (CXX) g++ options: -O3 -lm -ldl

LAMMPS Molecular Dynamics Simulator 23Jun2022

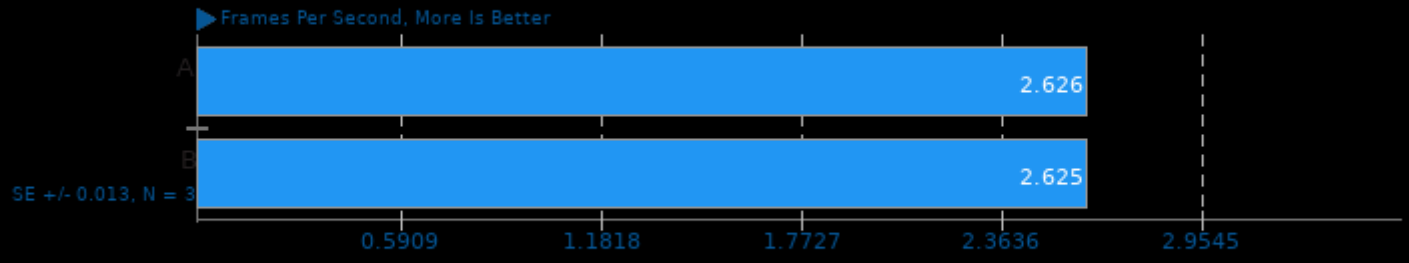
Model: Rhodopsin Protein



1. (CXX) g++ options: -O3 -lm -ldl

SVT-AV1 1.2

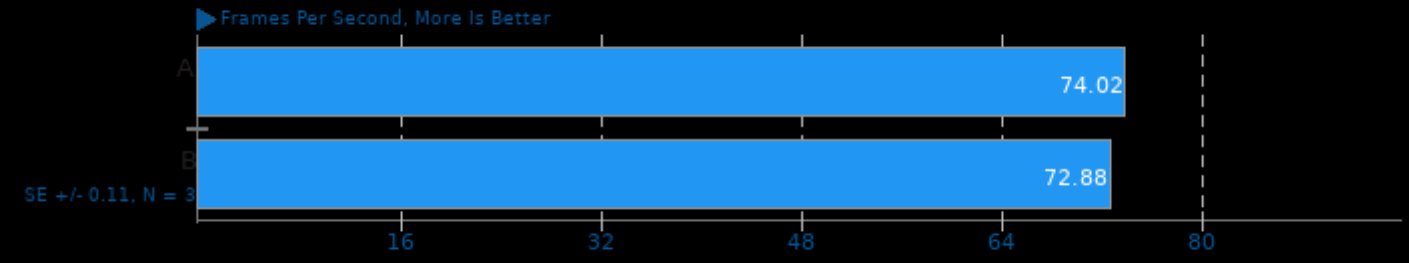
Encoder Mode: Preset 4 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.2

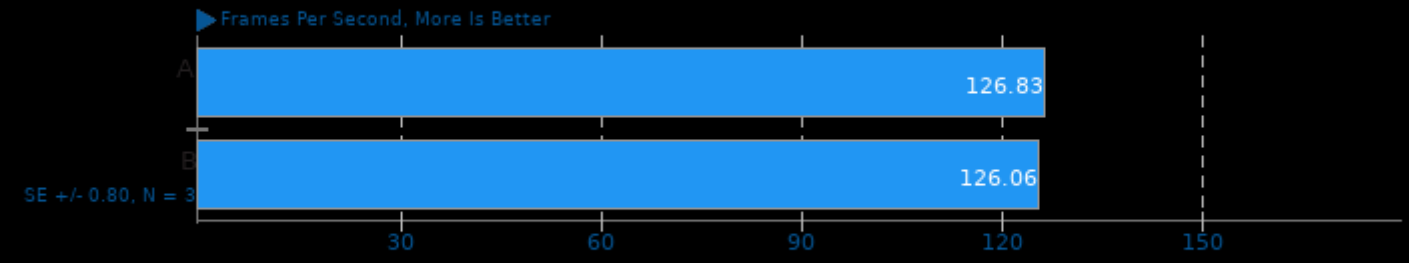
Encoder Mode: Preset 8 - Input: Bosphorus 4K



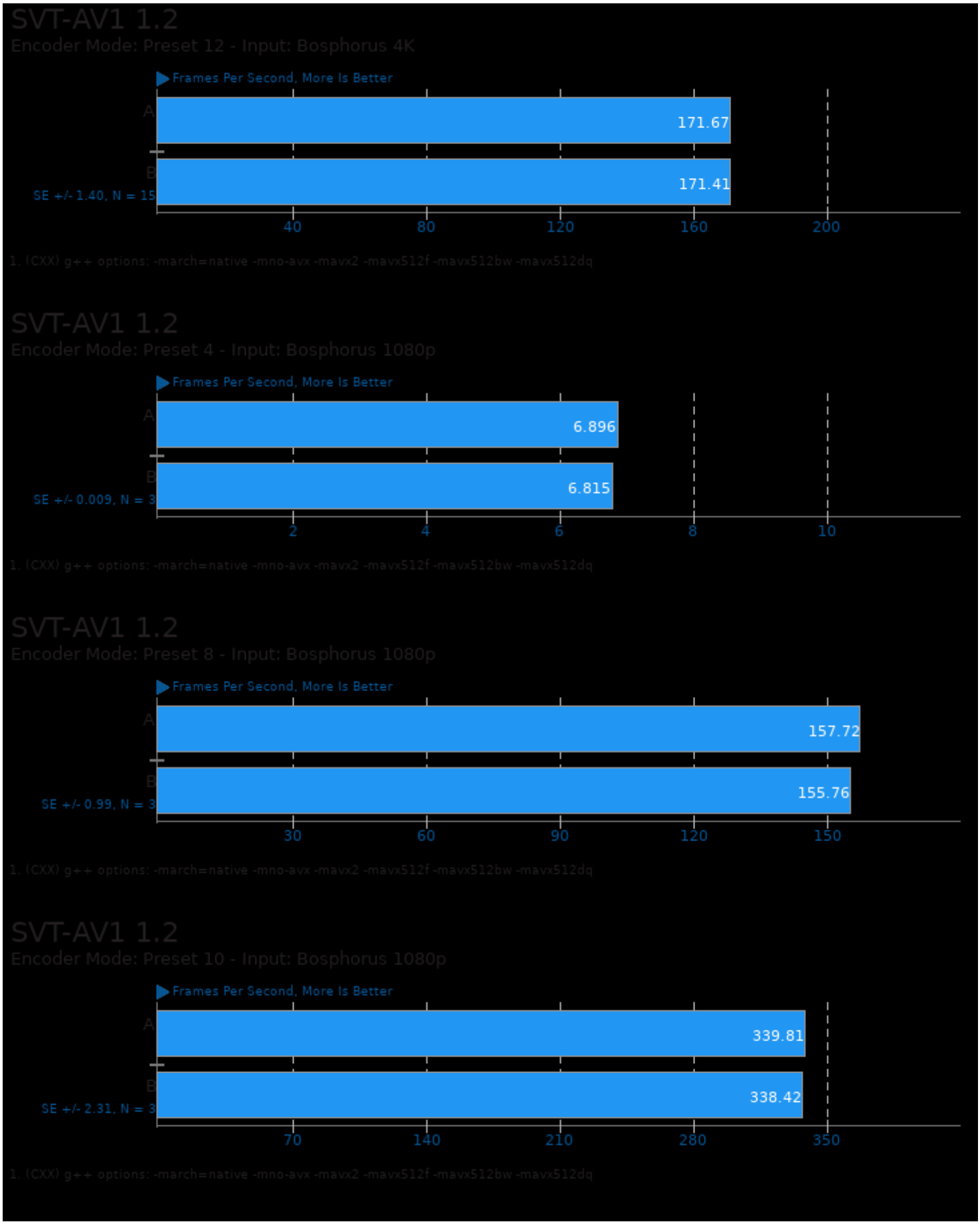
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.2

Encoder Mode: Preset 10 - Input: Bosphorus 4K

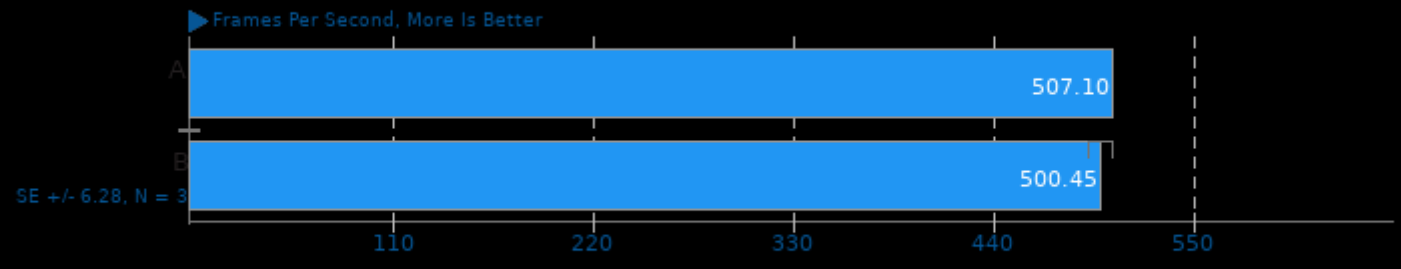


1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq


SVT-AV1 1.2
Encoder Mode: Preset 12 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
171.67
B
171.41
SE +/- 1.40, N = 15
40
80
120
160
200
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
6.896
B
6.815
SE +/- 0.009, N = 3
2
4
6
8
10
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 8 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
157.72
B
155.76
SE +/- 0.99, N = 3
30
60
90
120
150
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 10 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
339.81
B
338.42
SE +/- 2.31, N = 3
70
140
210
280
350
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.2

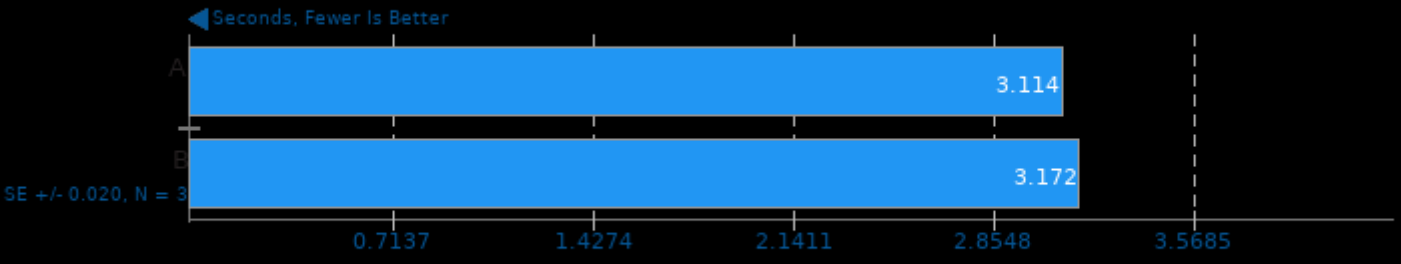
Encoder Mode: Preset 12 - Input: Bosphorus 1080p



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

Primesieve 8.0

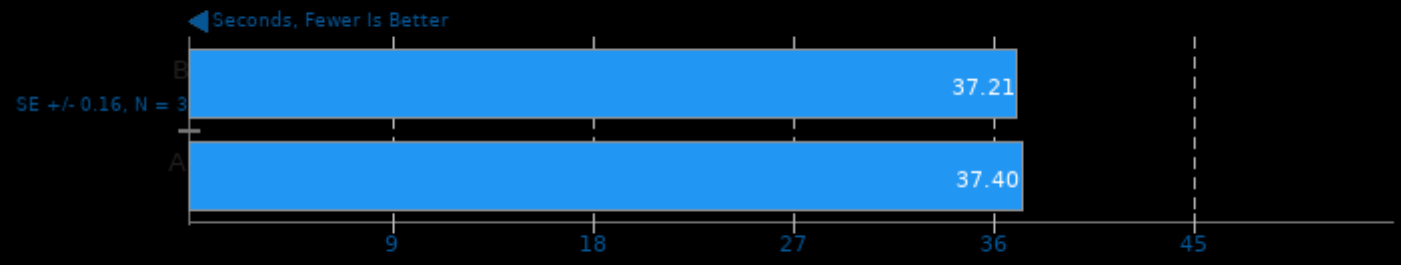
Length: 1e12



1. (CXX) g++ options: -O3

Primesieve 8.0

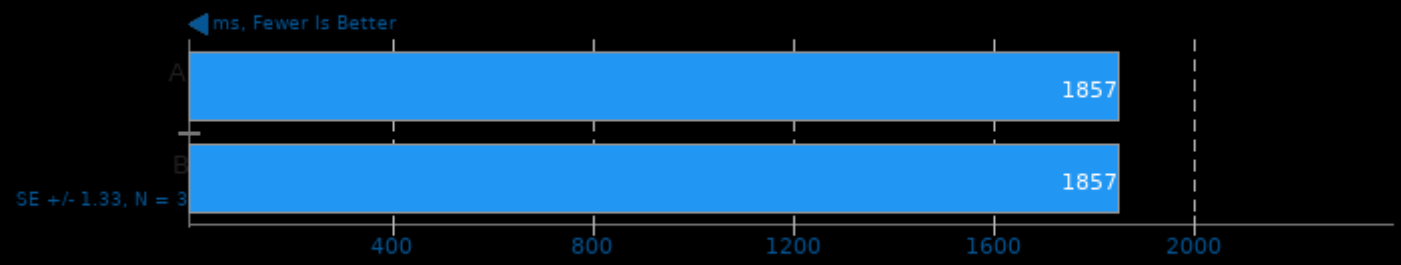
Length: 1e13



1. (CXX) g++ options: -O3

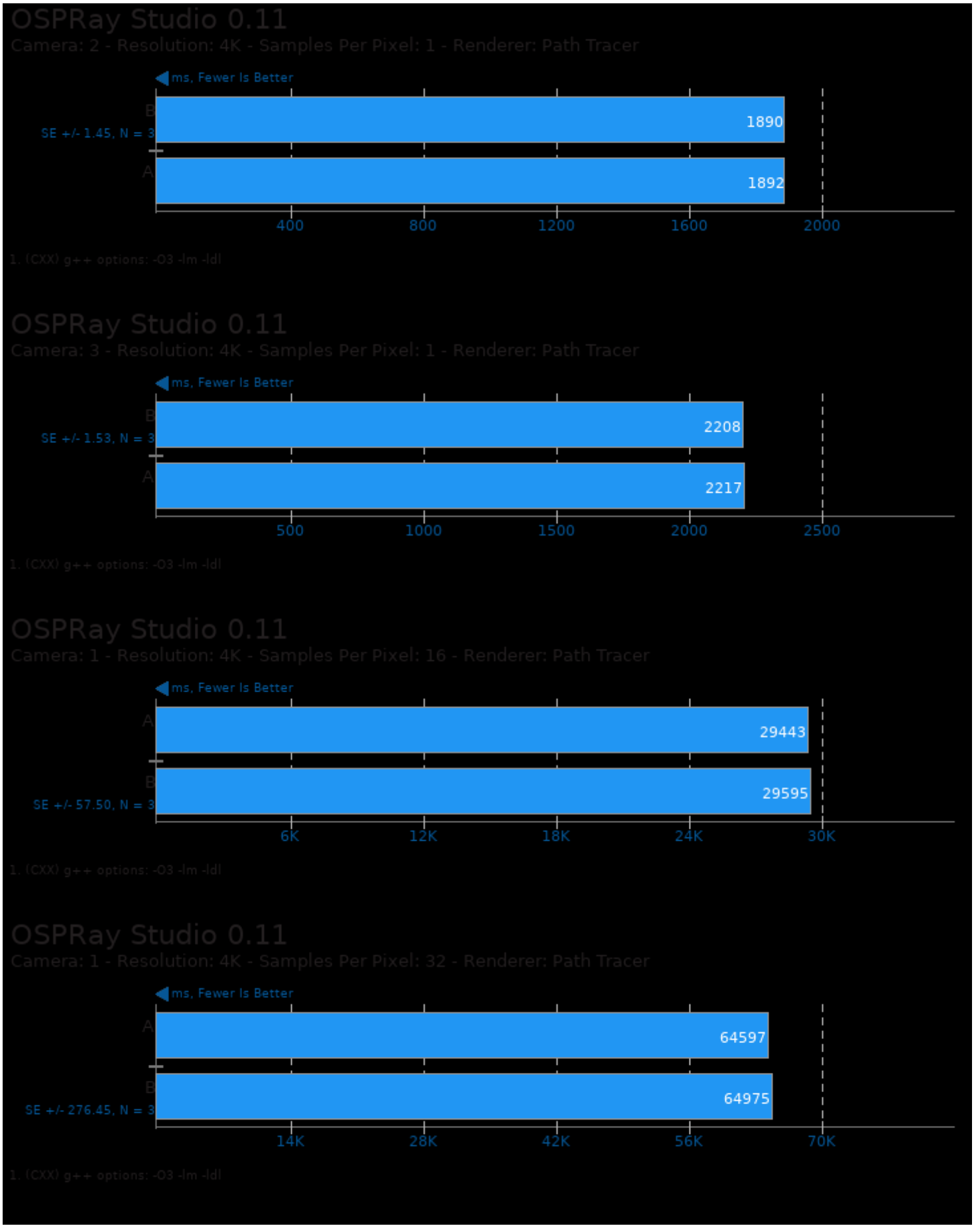
OSPRay Studio 0.11

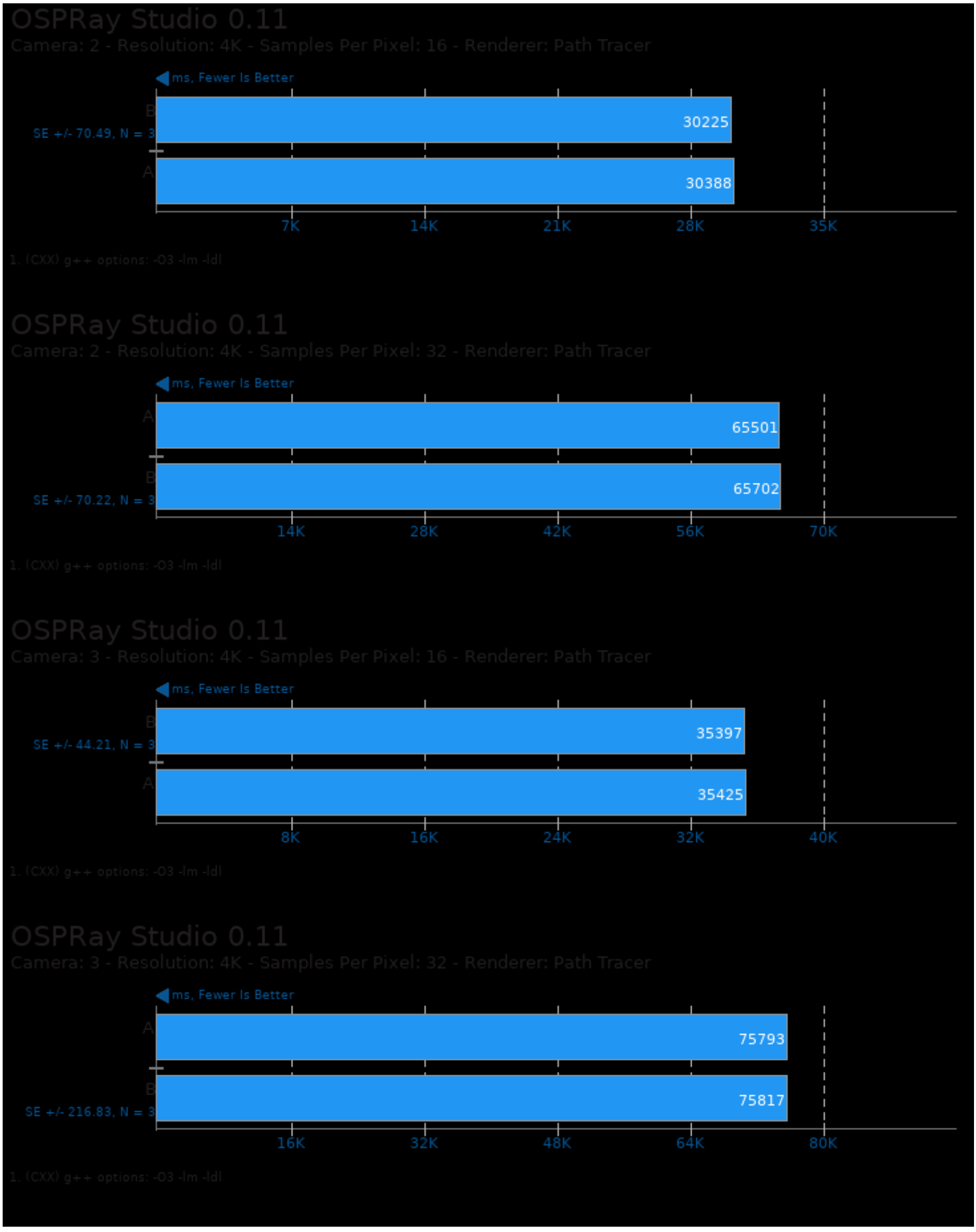
Camera: 1 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer



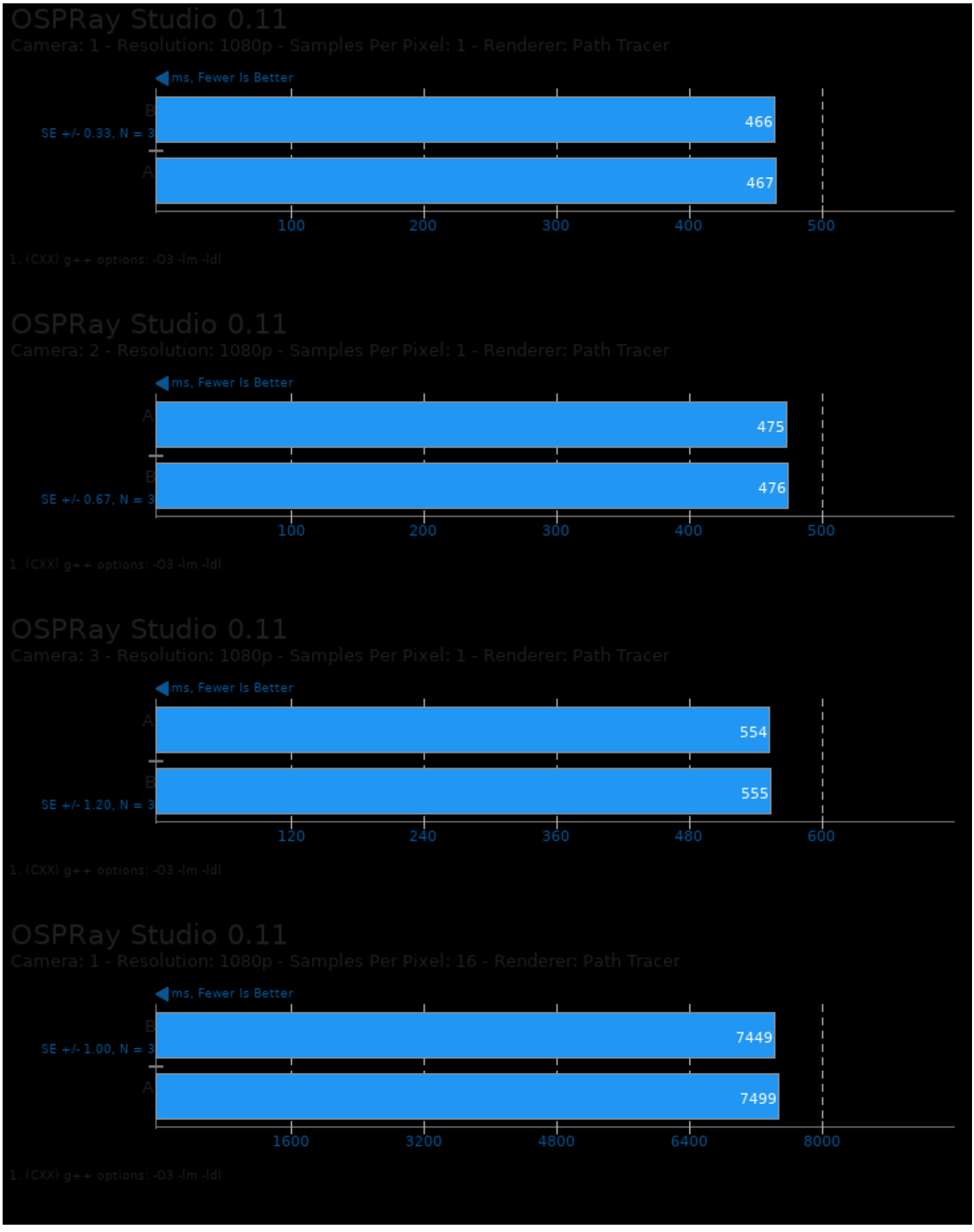
1. (CXX) g++ options: -O3 -lm -ldl

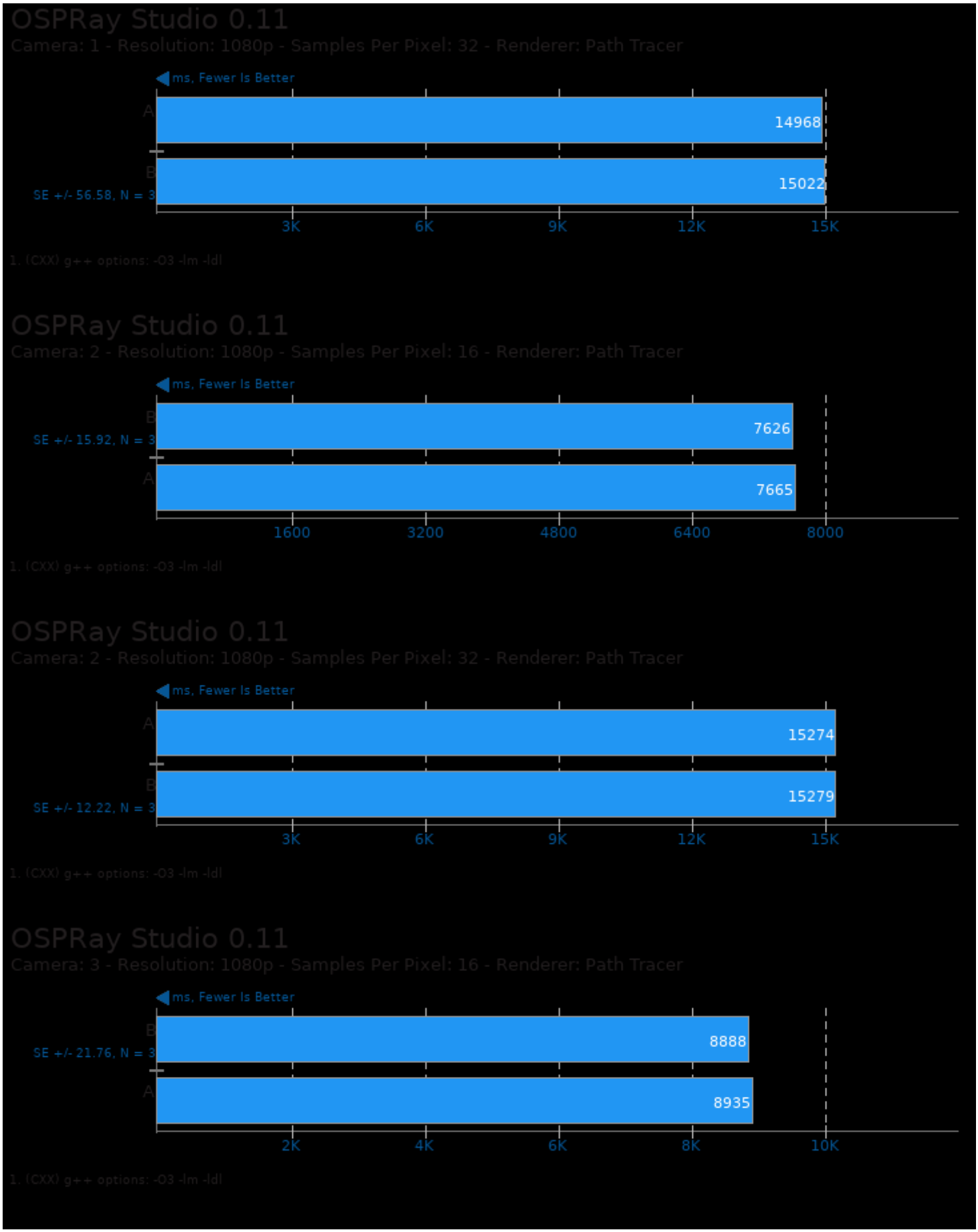
75f3 2p august




OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
B
A
30225
30388
SE +/- 70.49, N = 3
7K
14K
21K
28K
35K
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
A
B
65501
65702
SE +/- 70.22, N = 3
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 3 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
B
A
35397
35425
SE +/- 44.21, N = 3
8K
16K
24K
32K
40K
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 3 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
A
B
75793
75817
SE +/- 216.83, N = 3
16K
32K
48K
64K
80K
1. (CXX) g++ options: -O3 -lm -ldl

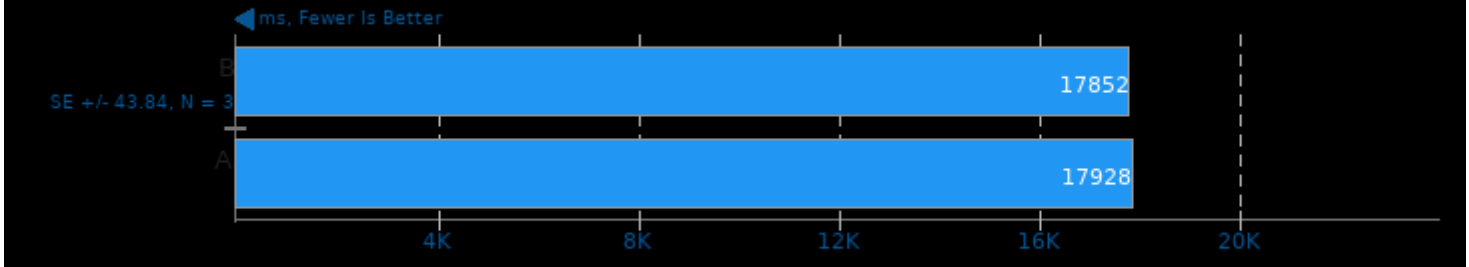
75f3 2p august




OSPRay Studio 0.11
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
A
14968
B
15022
SE +/- 56.58, N = 3
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
B
7626
SE +/- 15.92, N = 3
A
7665
1600
3200
4800
6400
8000
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
A
15274
B
15279
SE +/- 12.22, N = 3
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -lm -ldl
OSPRay Studio 0.11
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
B
8888
SE +/- 21.76, N = 3
A
8935
2K
4K
6K
8K
10K
1. (CXX) g++ options: -O3 -lm -ldl

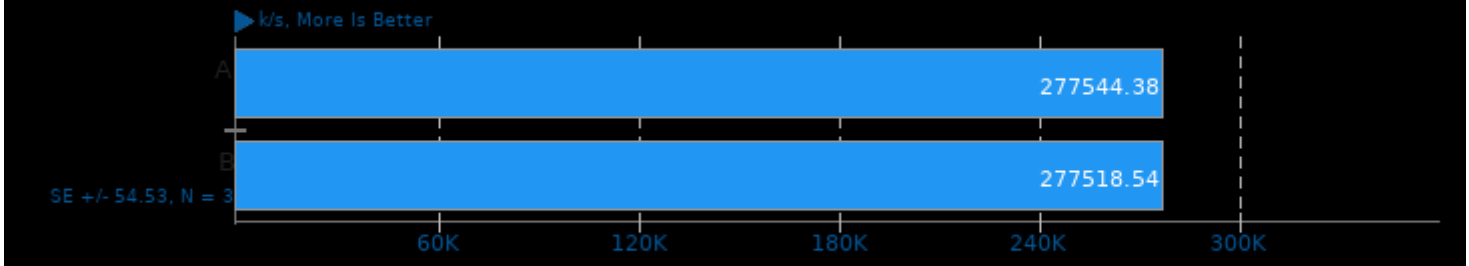
OSPRay Studio 0.11

Camera: 3 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



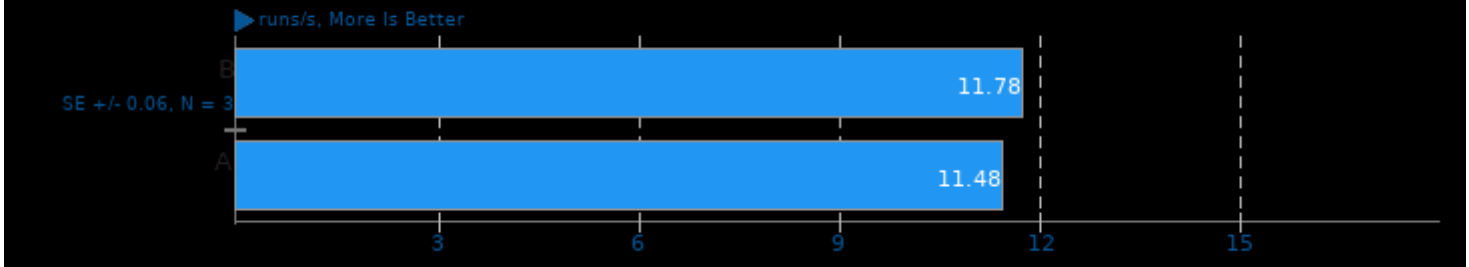
1. (CXX) g++ options: -O3 -lm -ldl

Aircrack-ng 1.7



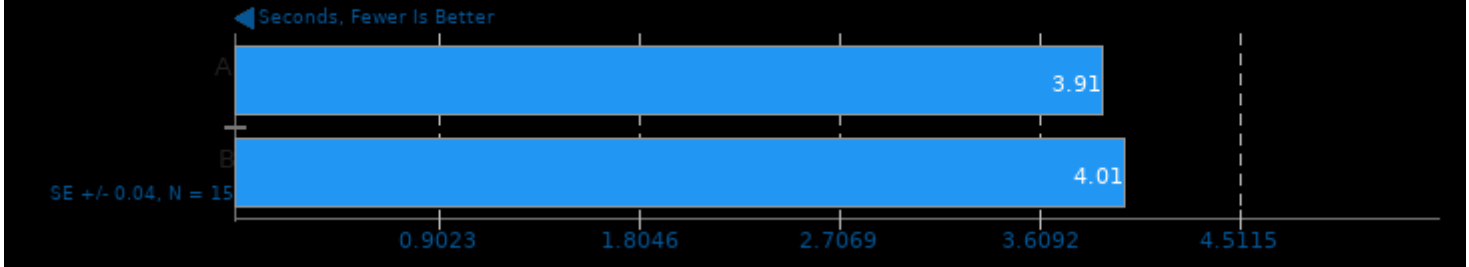
1. (CXX) g++ options: -std=gnu++17 -O3 -fvisibility=hidden -fcommon -rdynamic -lnl-3 -lnl-genl-3 -lpcre -lpthread -lz -lssl -lcrypto -lhwloc -ldl -lm -lbsd

Node.js V8 Web Tooling Benchmark

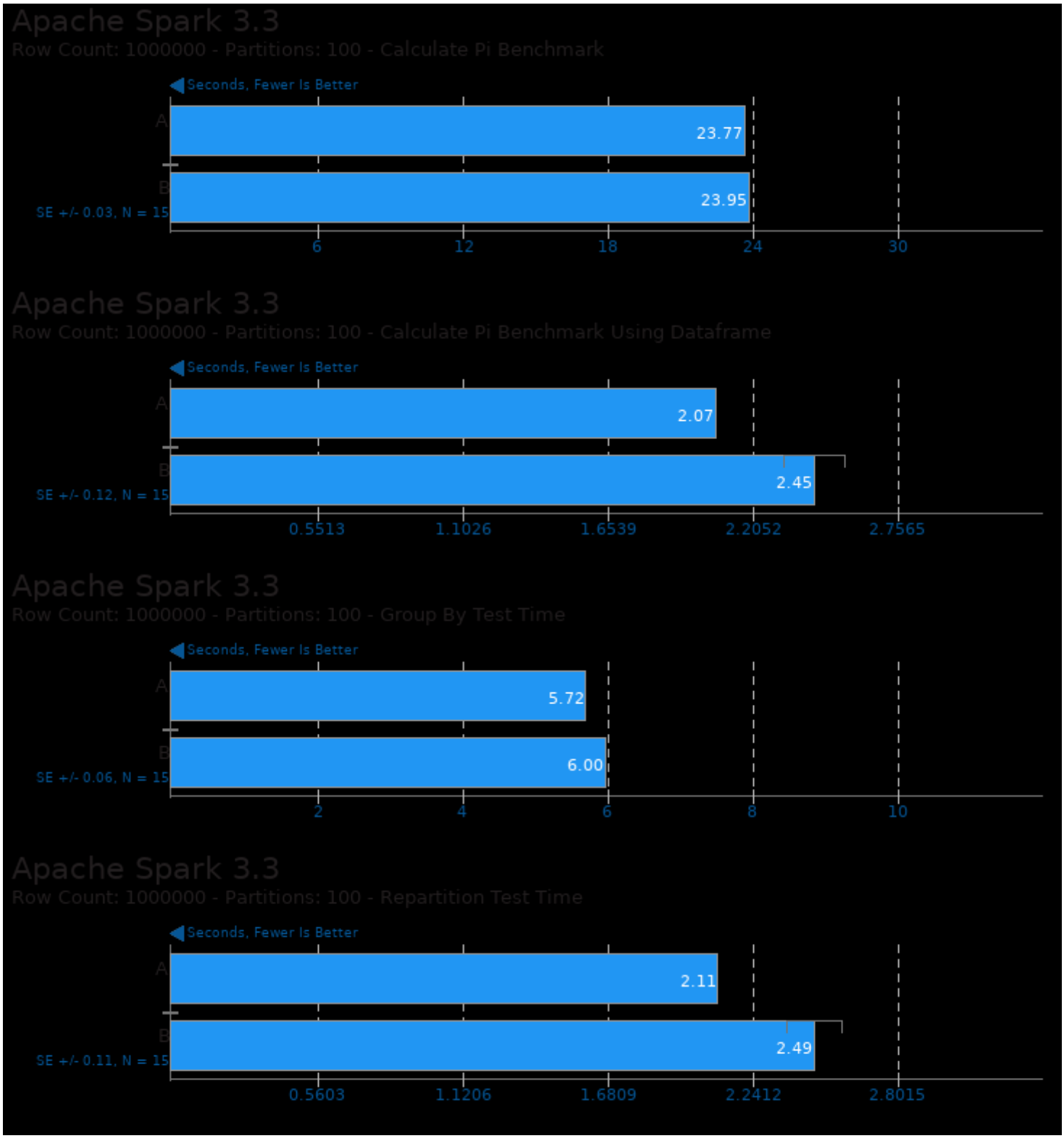


Apache Spark 3.3

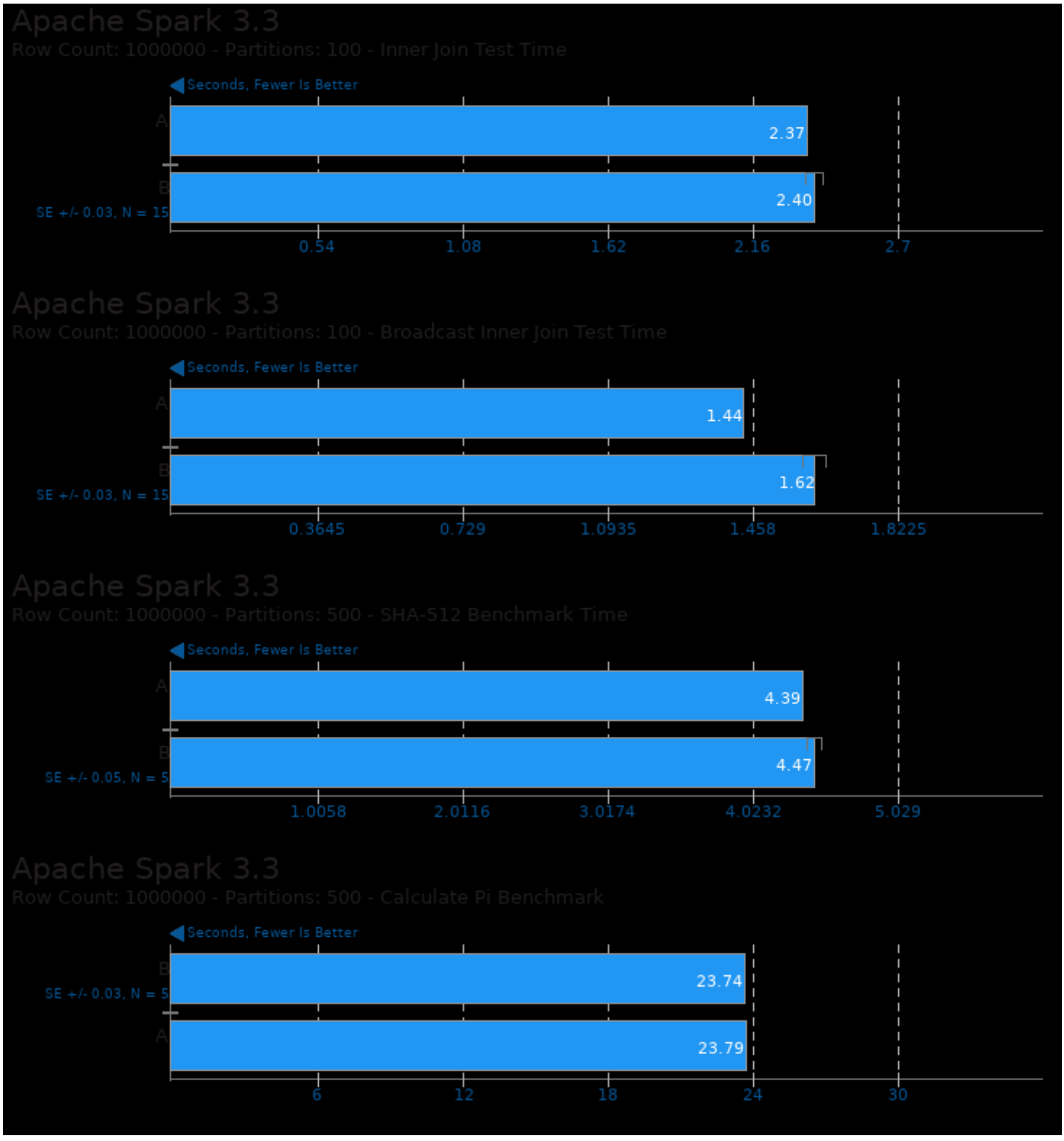
Row Count: 1000000 - Partitions: 100 - SHA-512 Benchmark Time



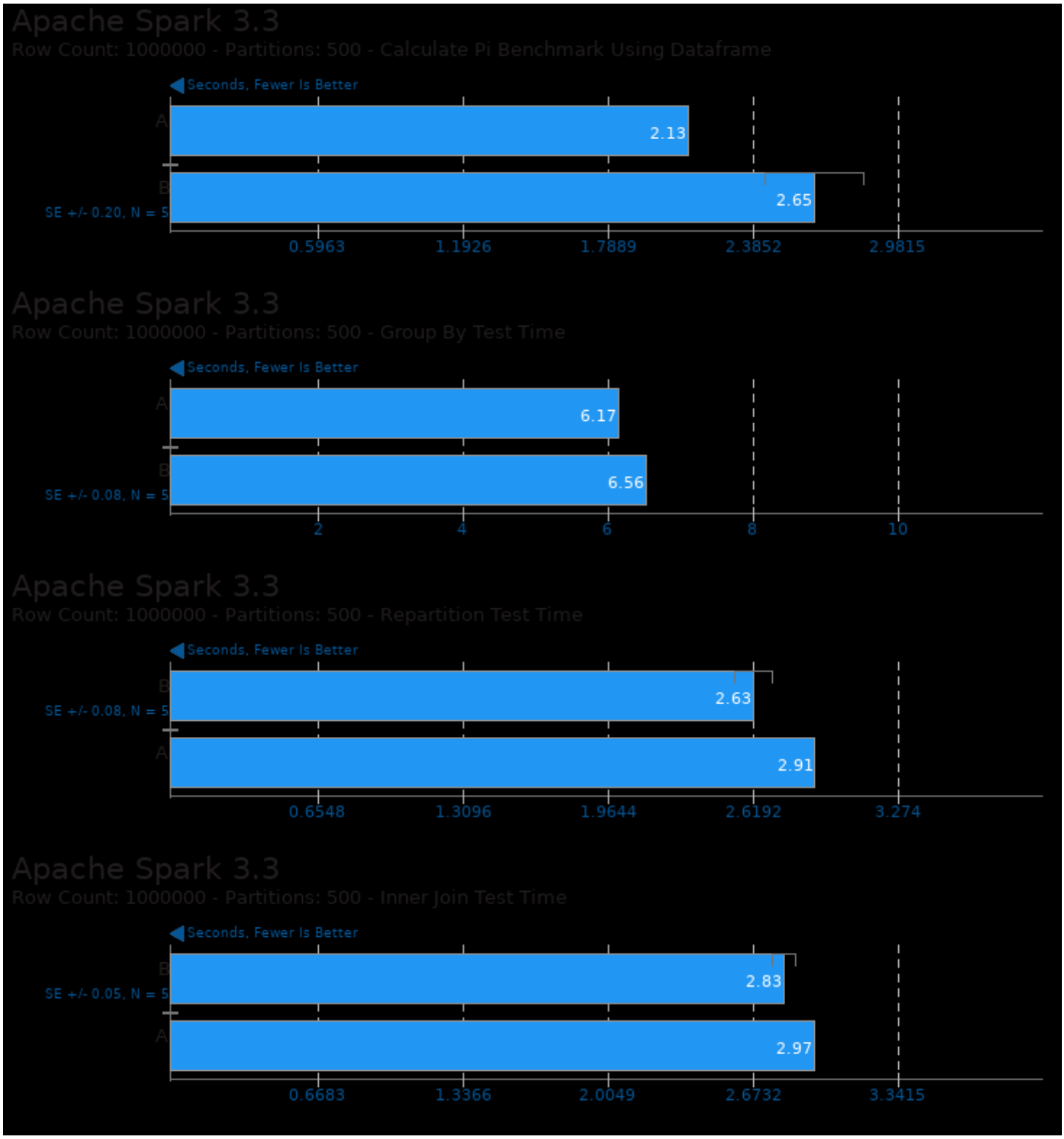
75f3 2p august



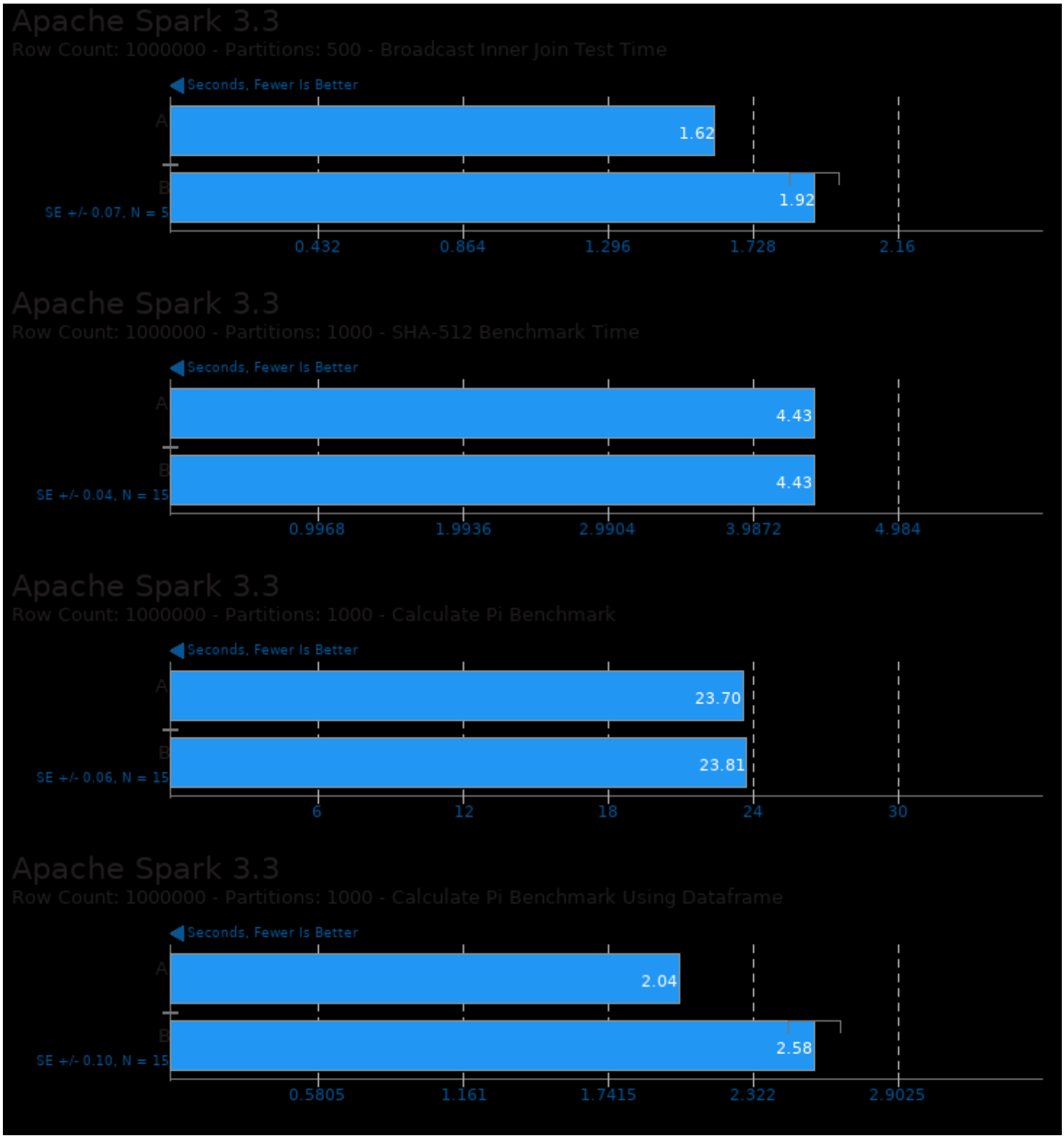
75f3 2p august



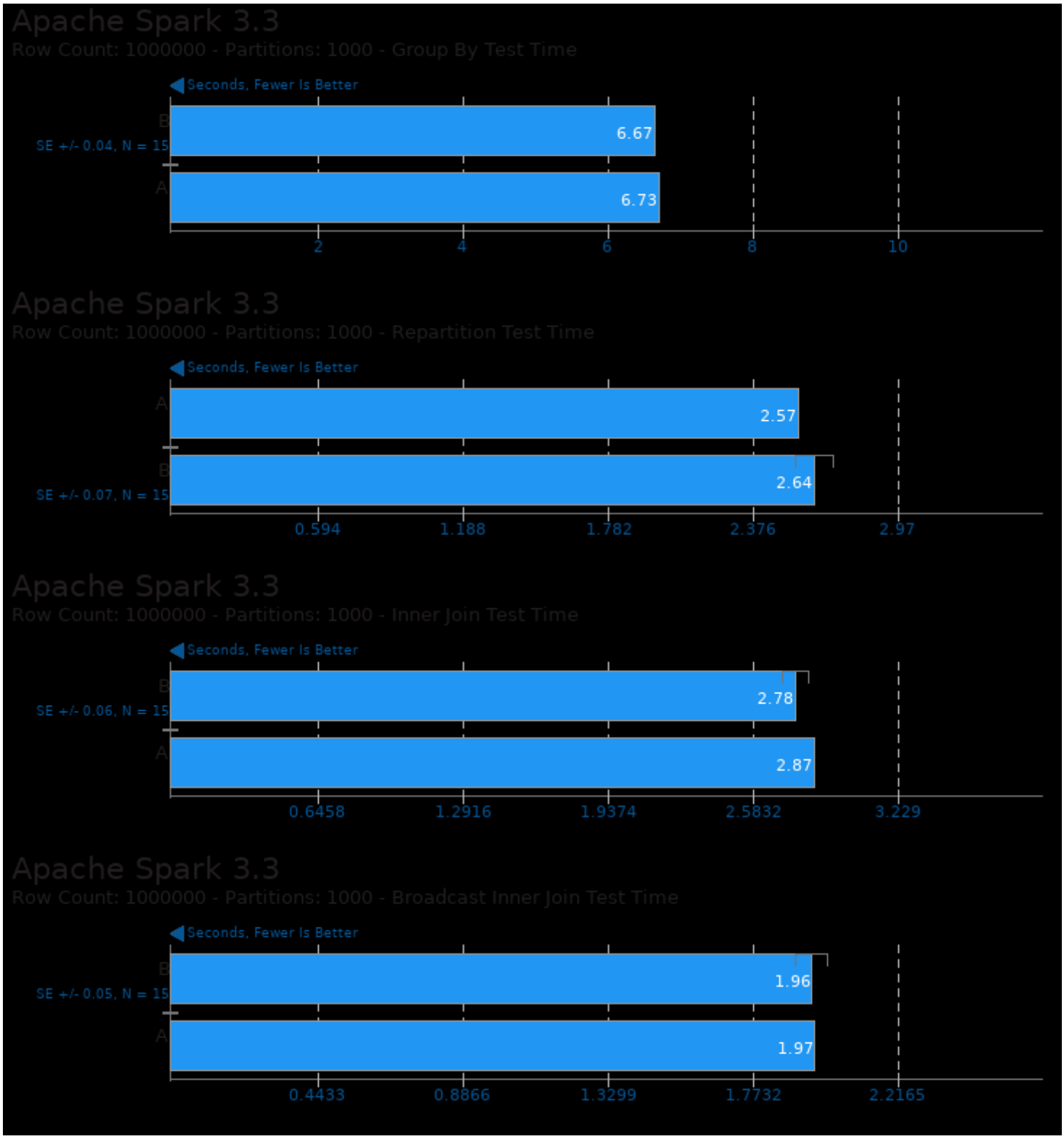
75f3 2p august



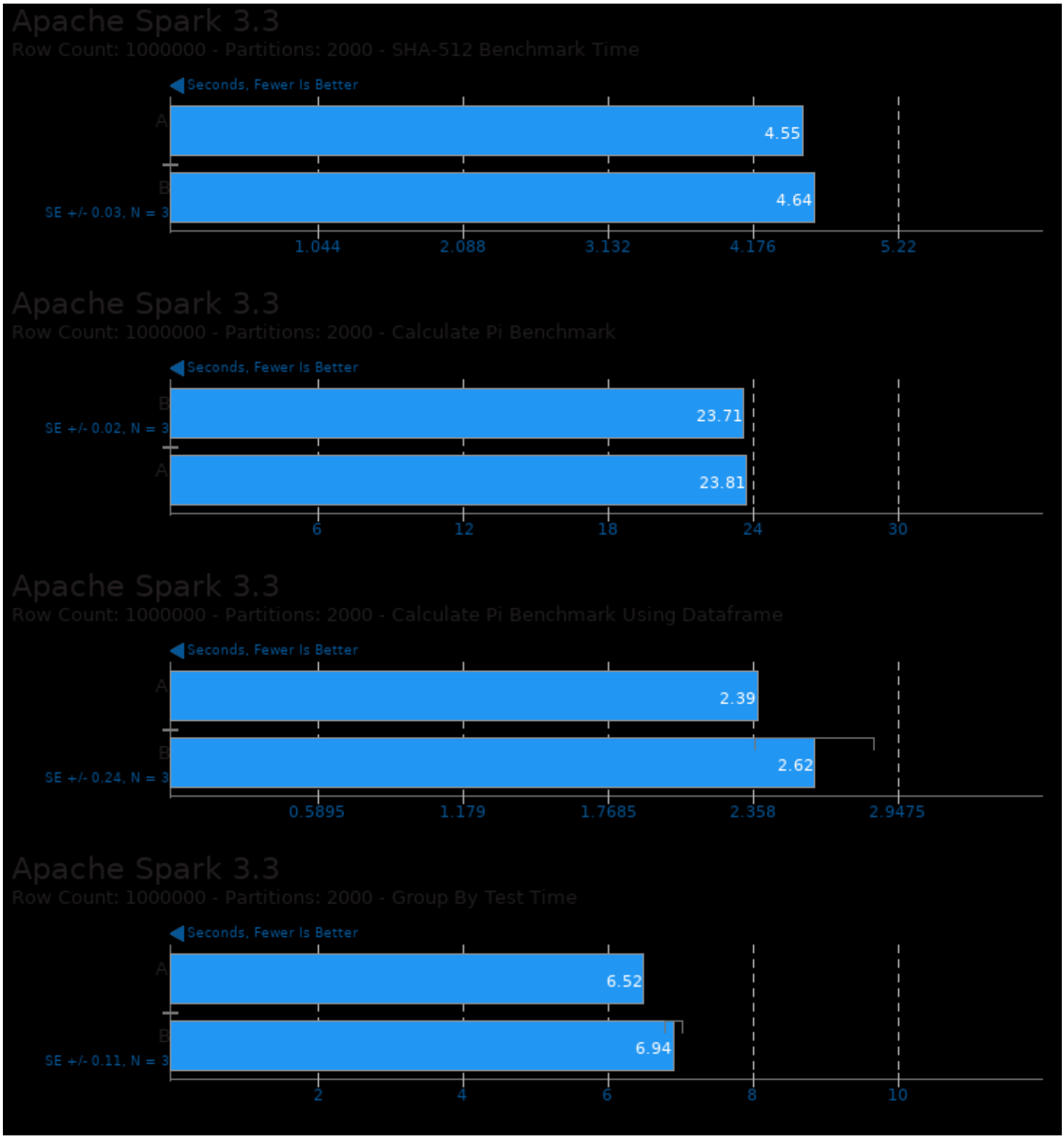
75f3 2p august



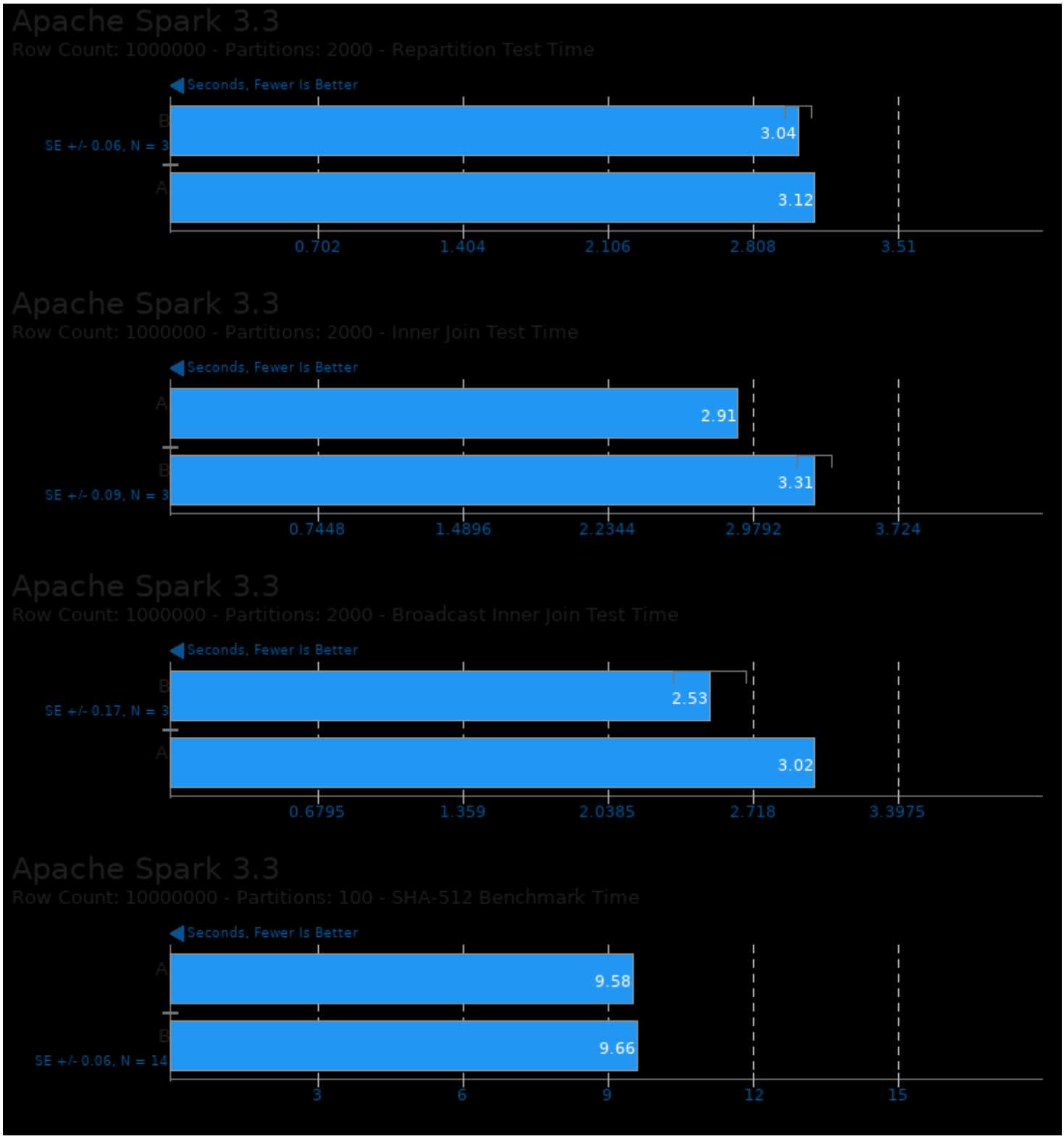
75f3 2p august



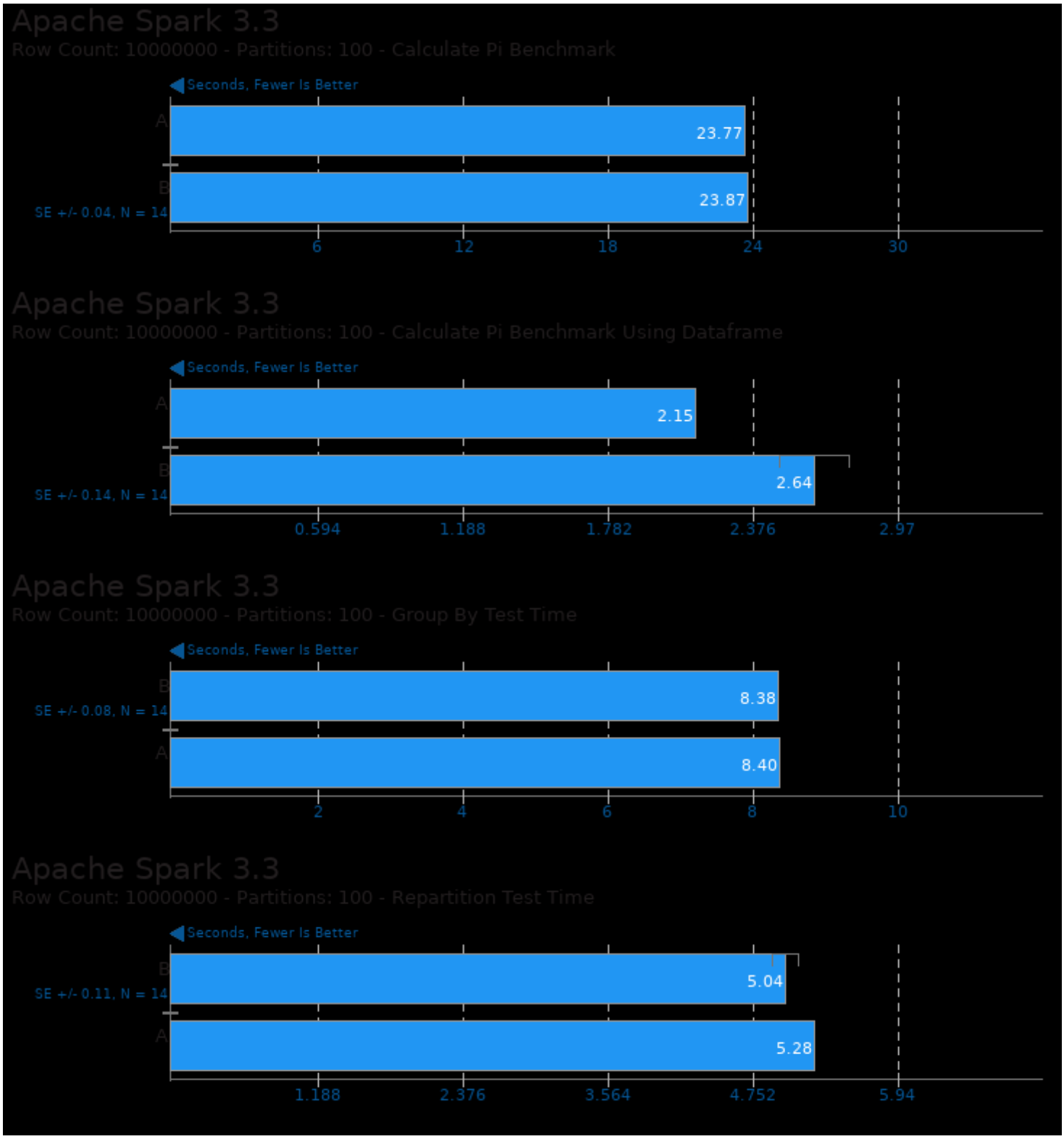
75f3 2p august



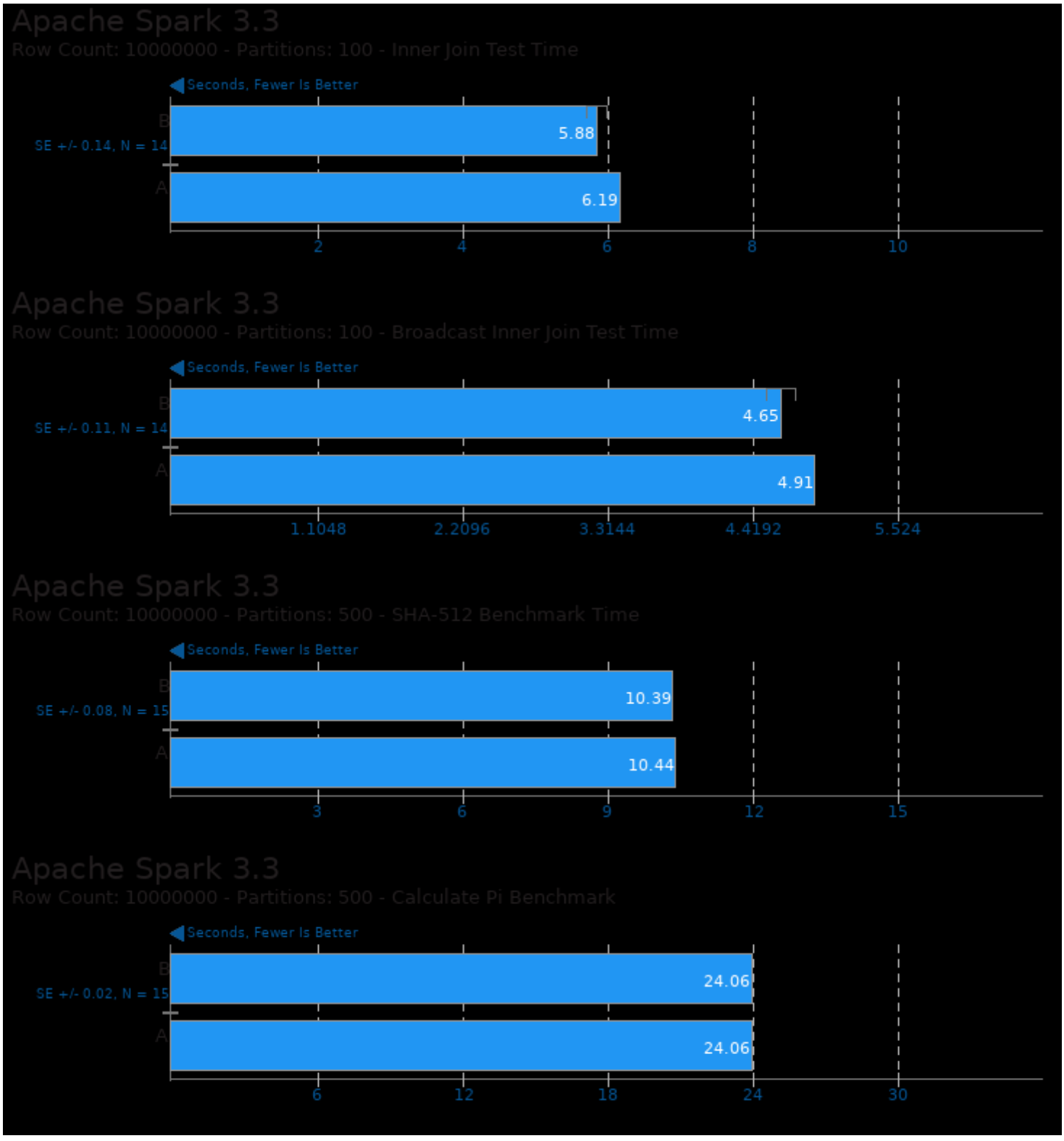
75f3 2p august



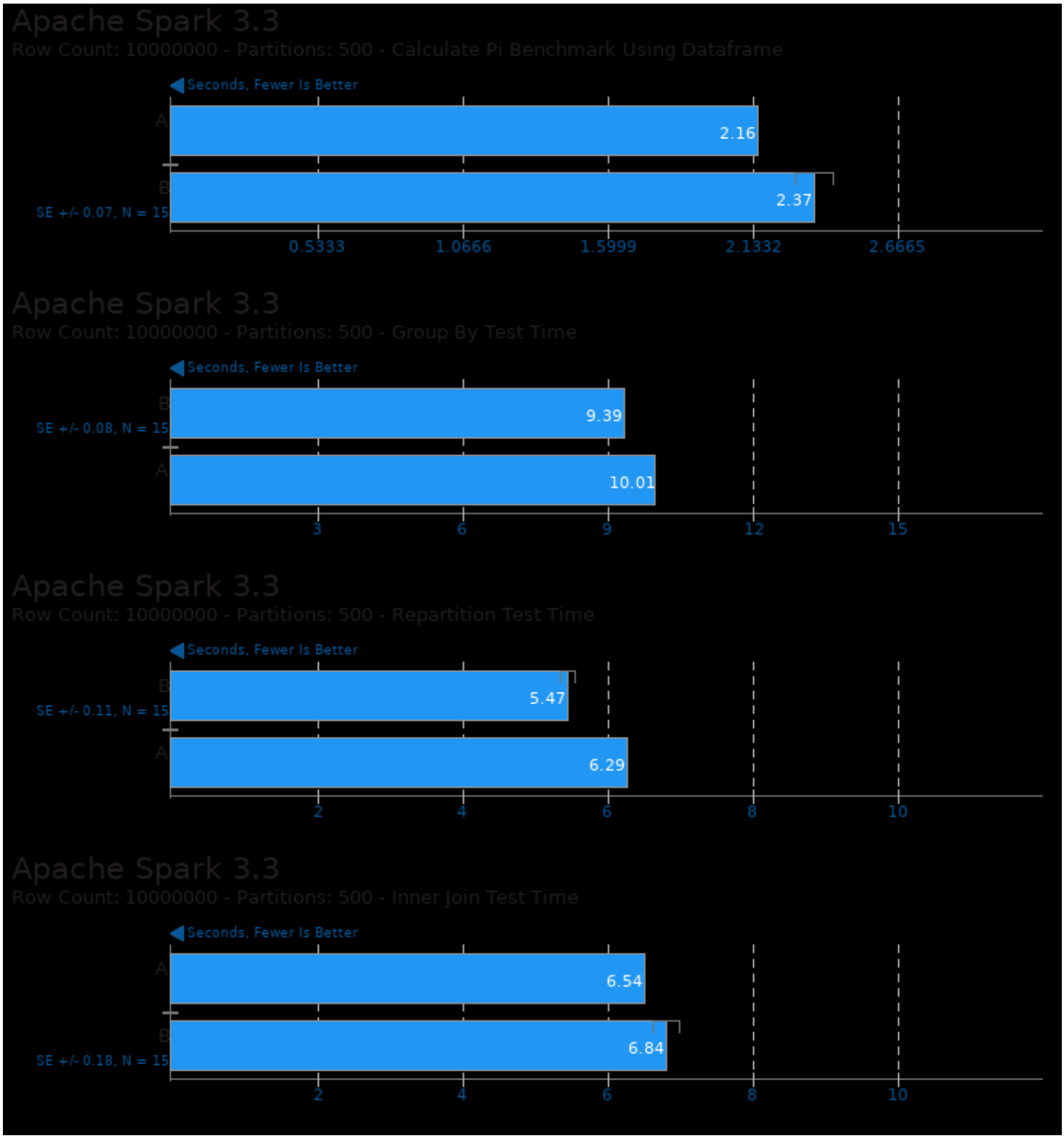
75f3 2p august



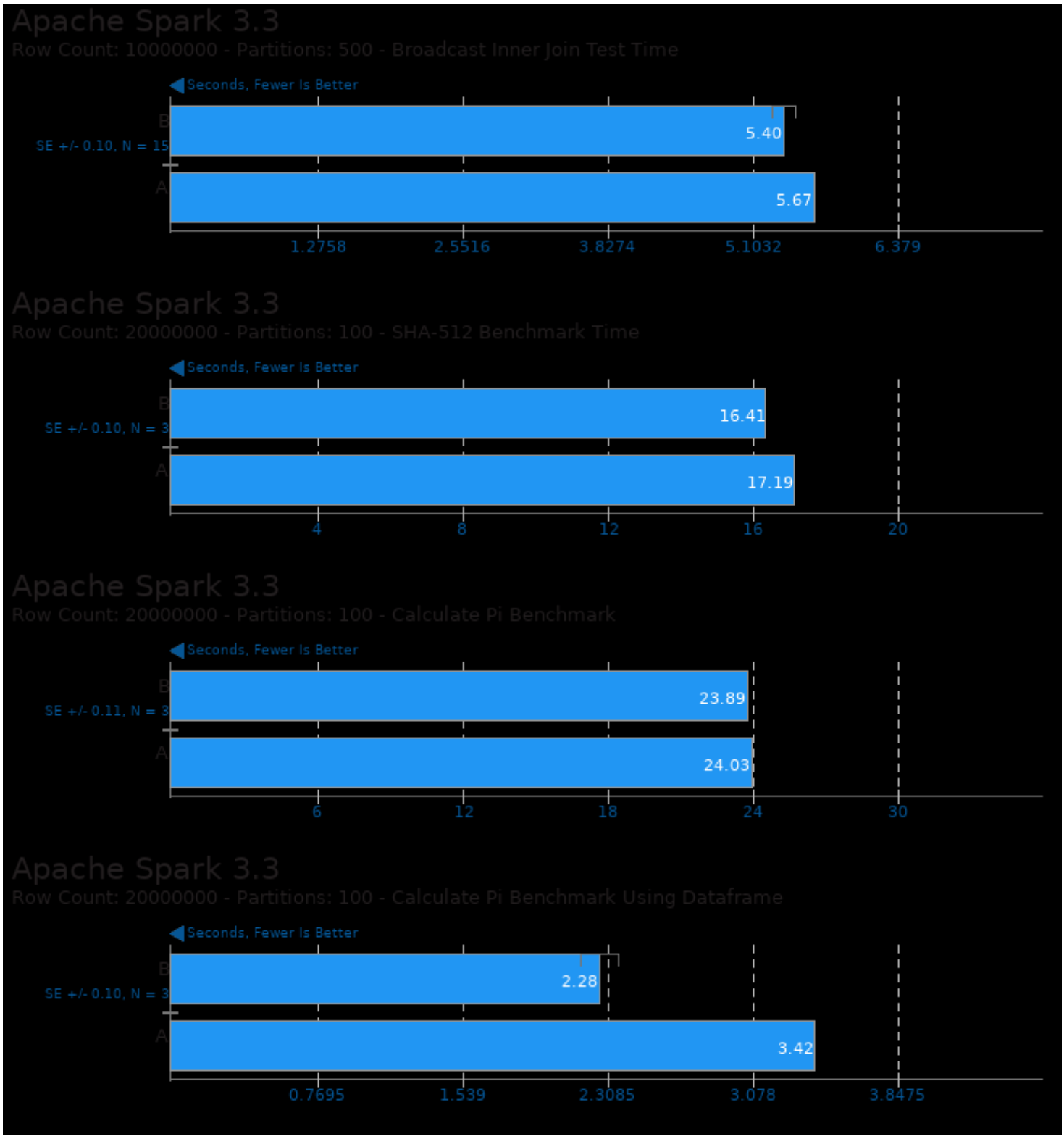
75f3 2p august

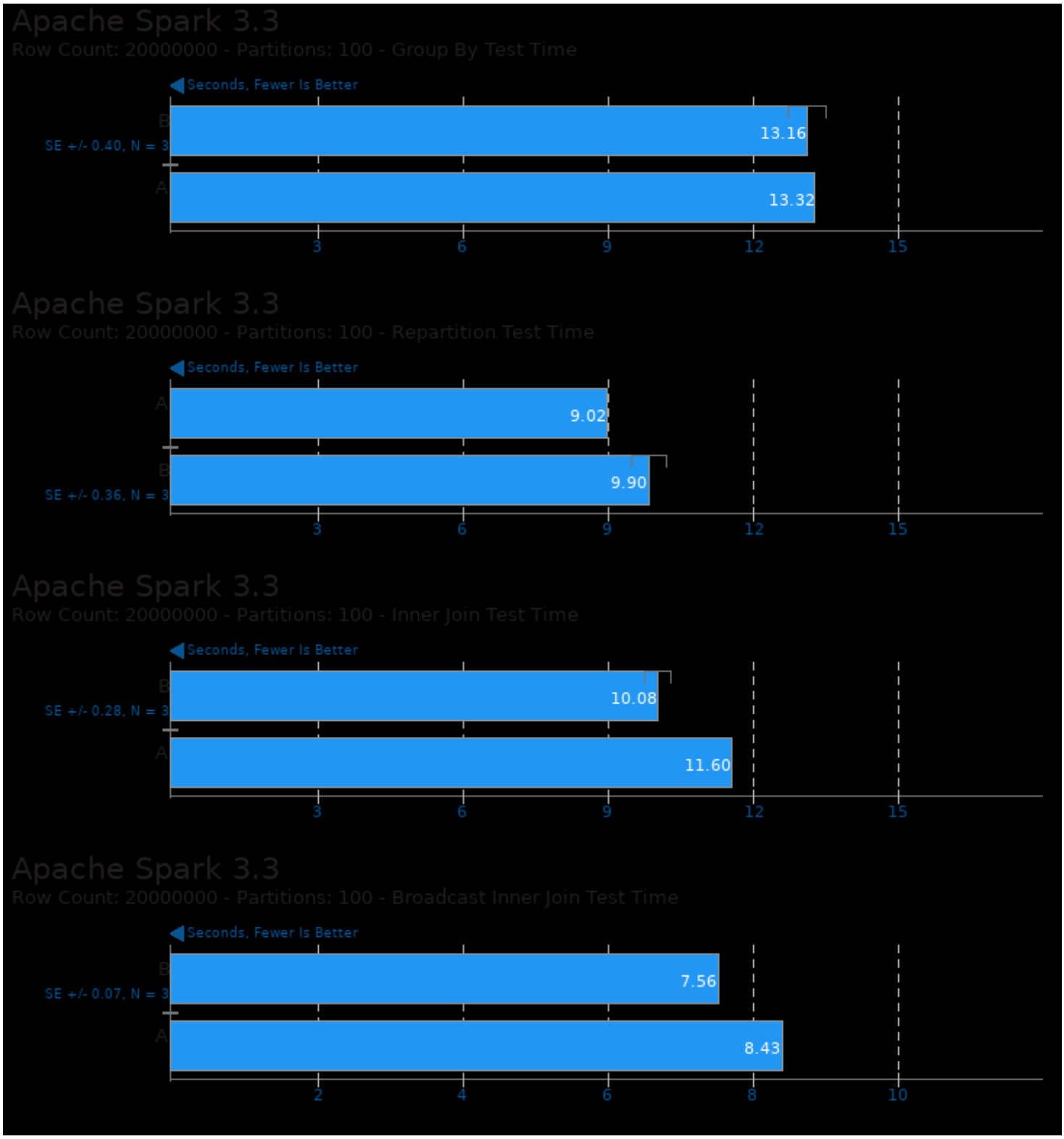


75f3 2p august

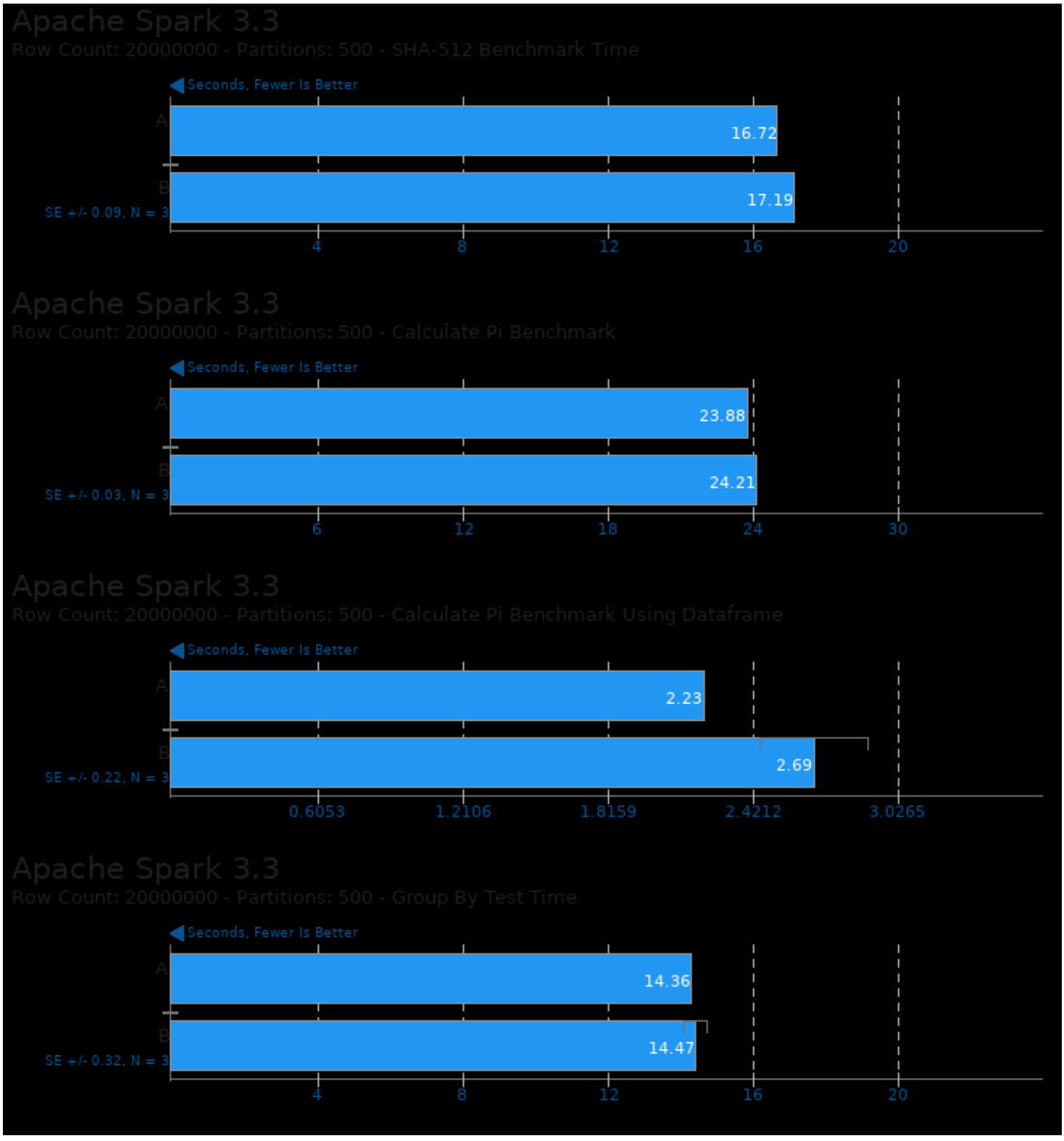


75f3 2p august

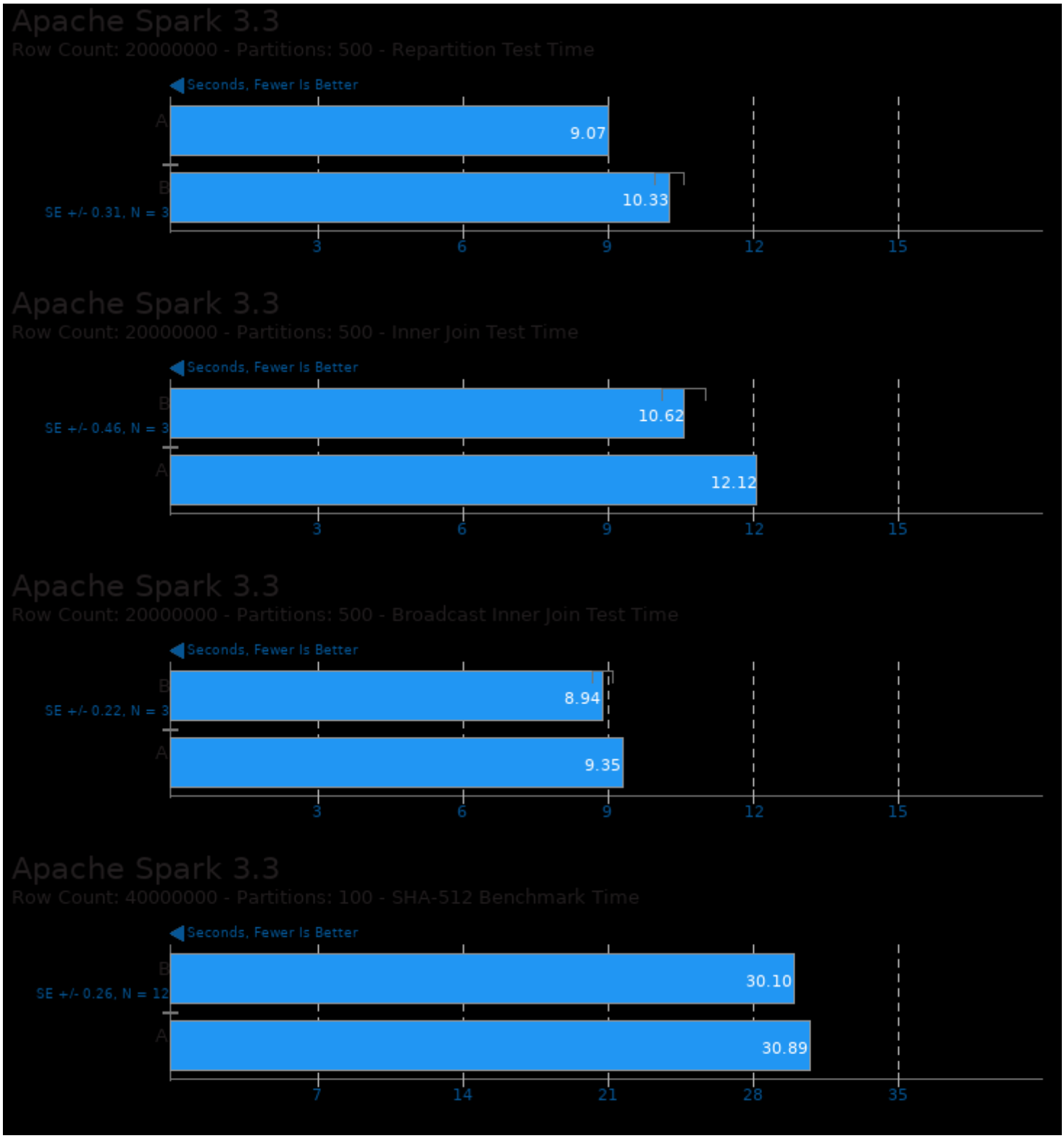


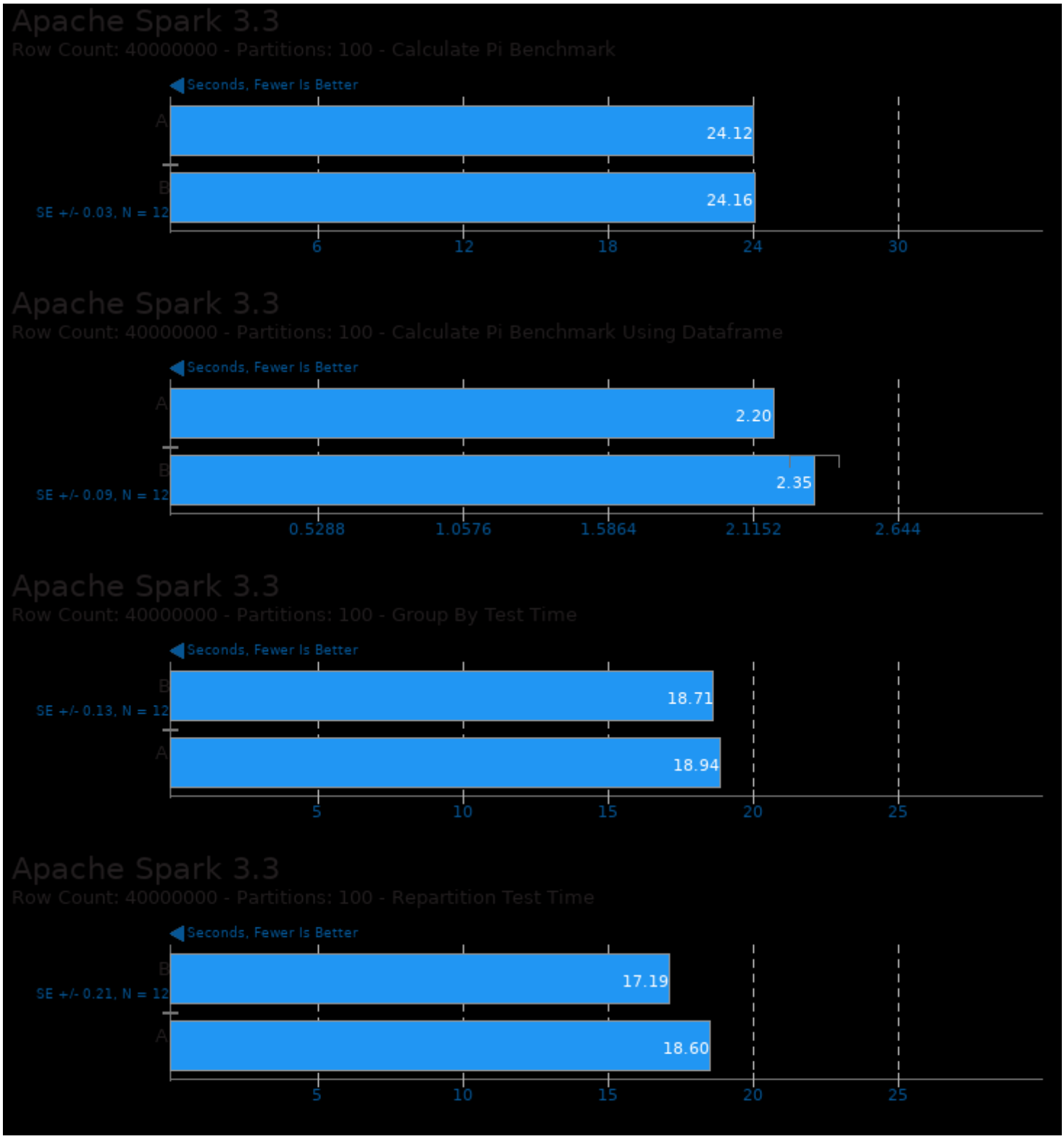

Apache Spark 3.3
Row Count: 20000000 - Partitions: 100 - Group By Test Time
Seconds, Fewer Is Better
B
A
SE +/- 0.40, N = 3
13.16
13.32
3
6
9
12
15
Apache Spark 3.3
Row Count: 20000000 - Partitions: 100 - Repartition Test Time
Seconds, Fewer Is Better
A
B
SE +/- 0.36, N = 3
9.02
9.90
3
6
9
12
15
Apache Spark 3.3
Row Count: 20000000 - Partitions: 100 - Inner Join Test Time
Seconds, Fewer Is Better
B
A
SE +/- 0.28, N = 3
10.08
11.60
3
6
9
12
15
Apache Spark 3.3
Row Count: 20000000 - Partitions: 100 - Broadcast Inner Join Test Time
Seconds, Fewer Is Better
B
A
SE +/- 0.07, N = 3
7.56
8.43
2
4
6
8
10

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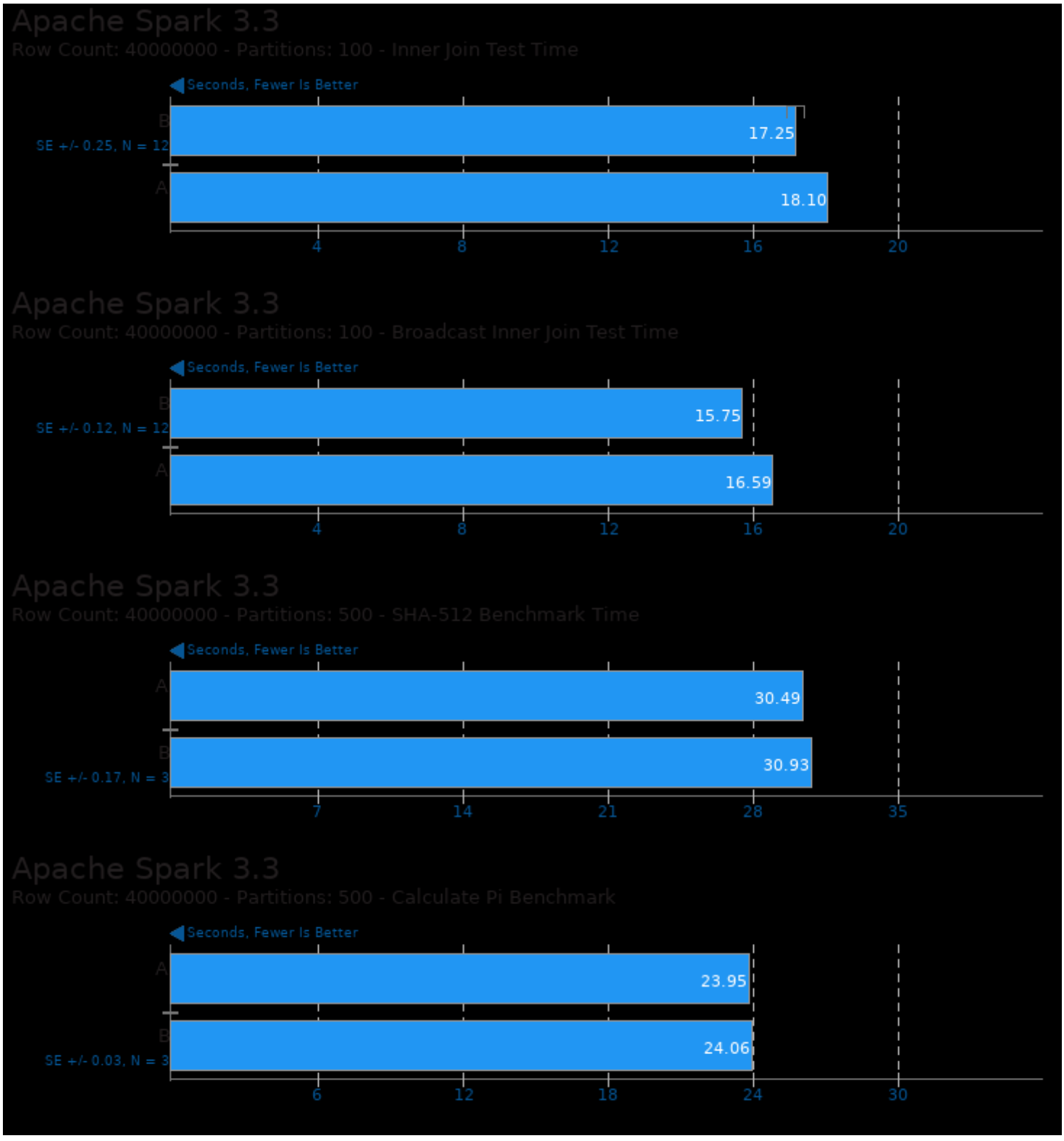


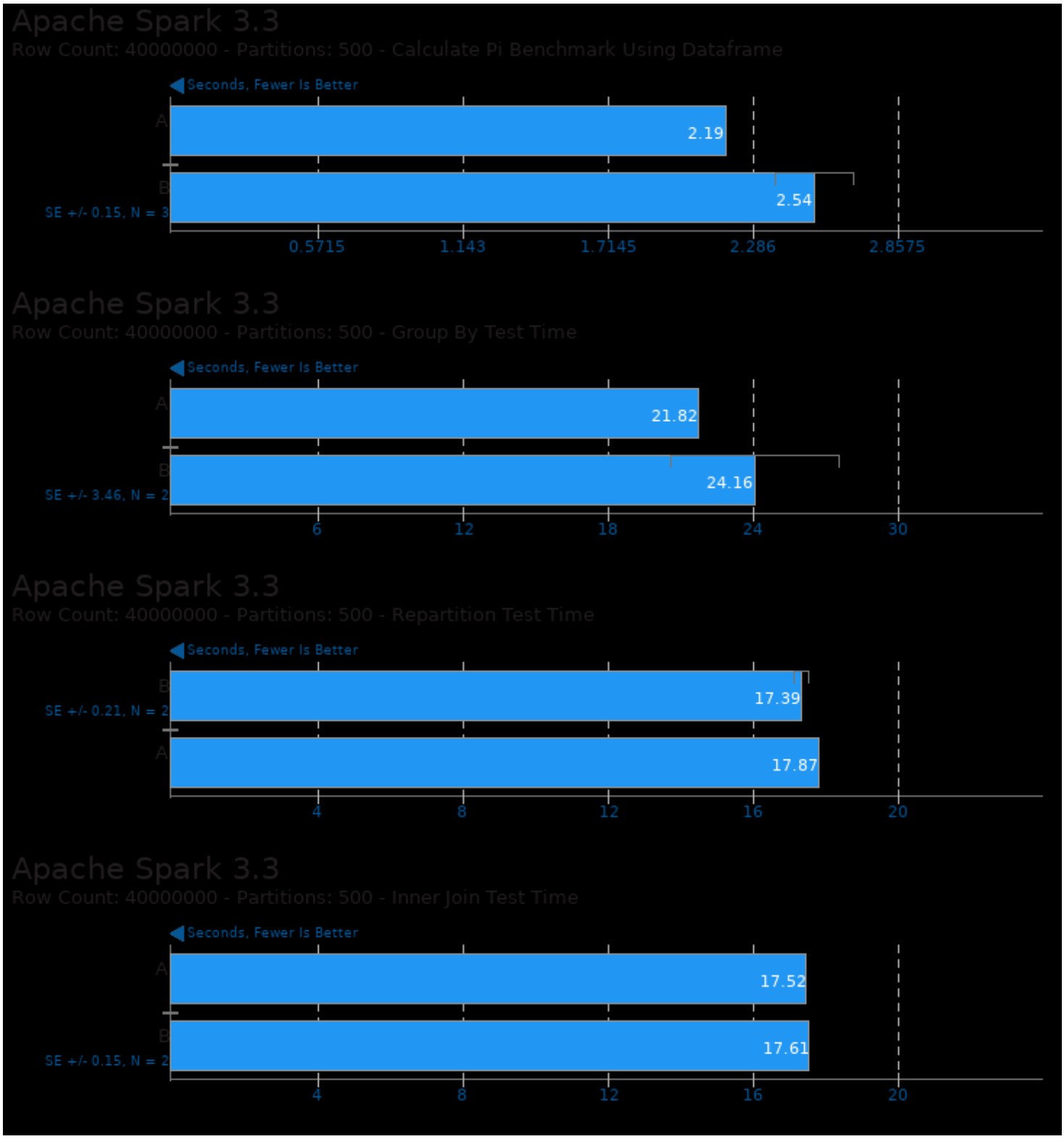
75f3 2p august



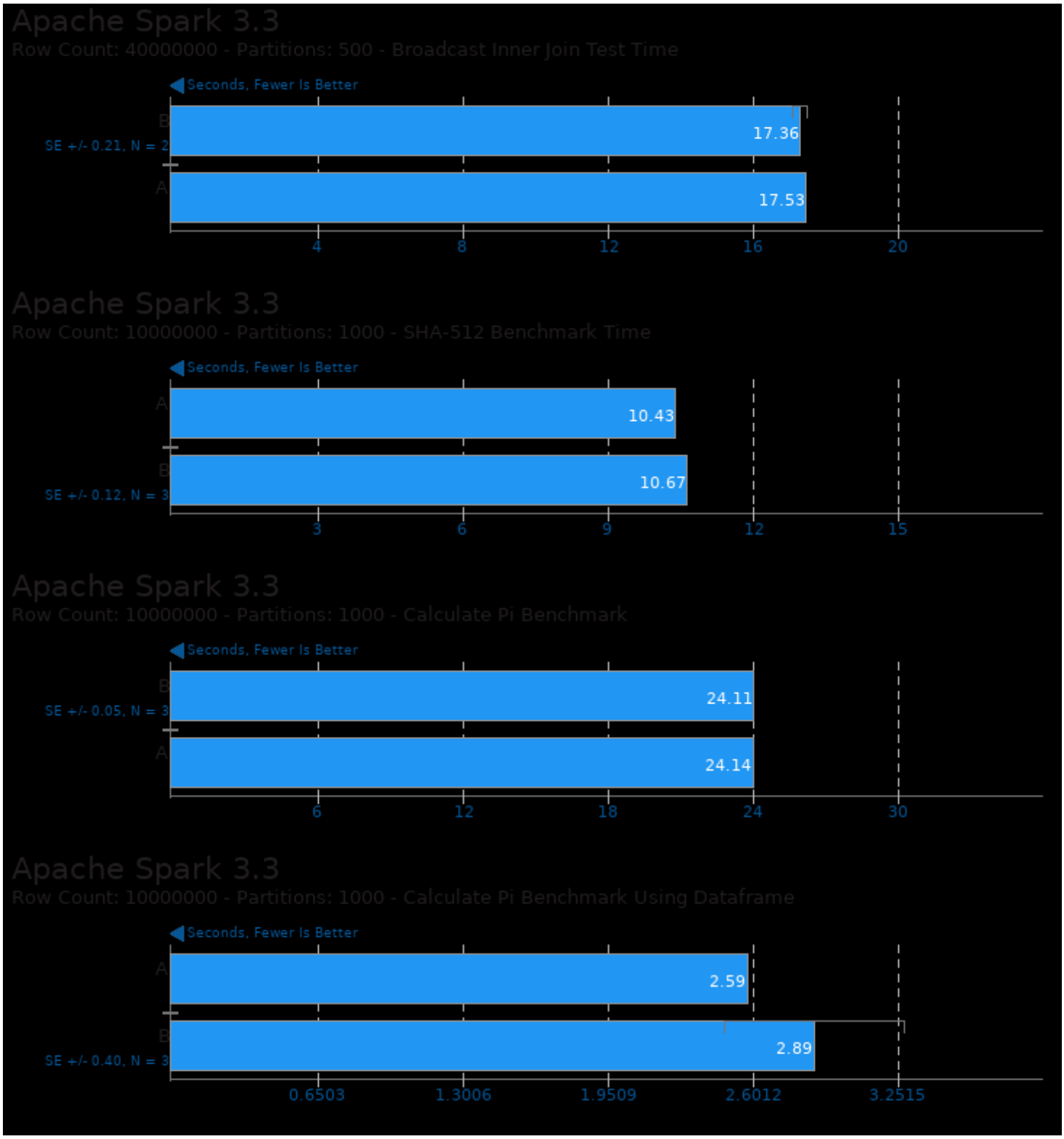

Apache Spark 3.3
Row Count: 40000000 - Partitions: 100 - Calculate Pi Benchmark
Seconds, Fewer Is Better
A
24.12
B
24.16
SE +/- 0.03, N = 12
6
12
18
24
30
Apache Spark 3.3
Row Count: 40000000 - Partitions: 100 - Calculate Pi Benchmark Using Dataframe
Seconds, Fewer Is Better
A
2.20
B
2.35
SE +/- 0.09, N = 12
0.5288
1.0576
1.5864
2.1152
2.644
Apache Spark 3.3
Row Count: 40000000 - Partitions: 100 - Group By Test Time
Seconds, Fewer Is Better
B
18.71
SE +/- 0.13, N = 12
A
18.94
5
10
15
20
25
Apache Spark 3.3
Row Count: 40000000 - Partitions: 100 - Repartition Test Time
Seconds, Fewer Is Better
B
17.19
SE +/- 0.21, N = 12
A
18.60
5
10
15
20
25

75f3 2p august

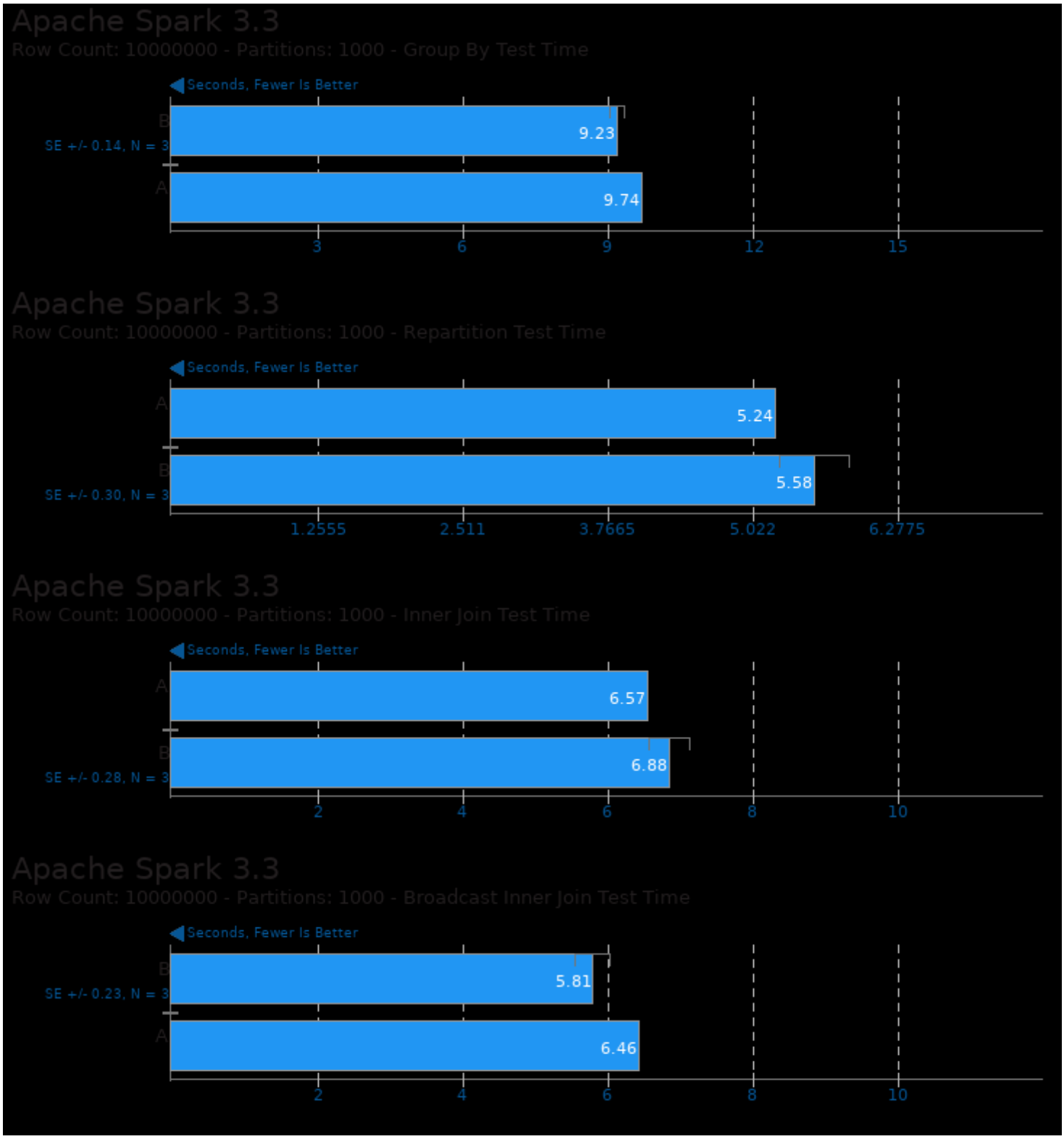



Apache Spark 3.3
Row Count: 40000000 - Partitions: 500 - Calculate Pi Benchmark Using Dataframe
Seconds, Fewer Is Better
A
2.19
B
2.54
SE +/- 0.15, N = 3
0.5715
1.143
1.7145
2.286
2.8575
Apache Spark 3.3
Row Count: 40000000 - Partitions: 500 - Group By Test Time
Seconds, Fewer Is Better
A
21.82
B
24.16
SE +/- 3.46, N = 2
6
12
18
24
30
Apache Spark 3.3
Row Count: 40000000 - Partitions: 500 - Repartition Test Time
Seconds, Fewer Is Better
B
17.39
SE +/- 0.21, N = 2
A
17.87
4
8
12
16
20
Apache Spark 3.3
Row Count: 40000000 - Partitions: 500 - Inner Join Test Time
Seconds, Fewer Is Better
A
17.52
B
17.61
SE +/- 0.15, N = 2
4
8
12
16
20

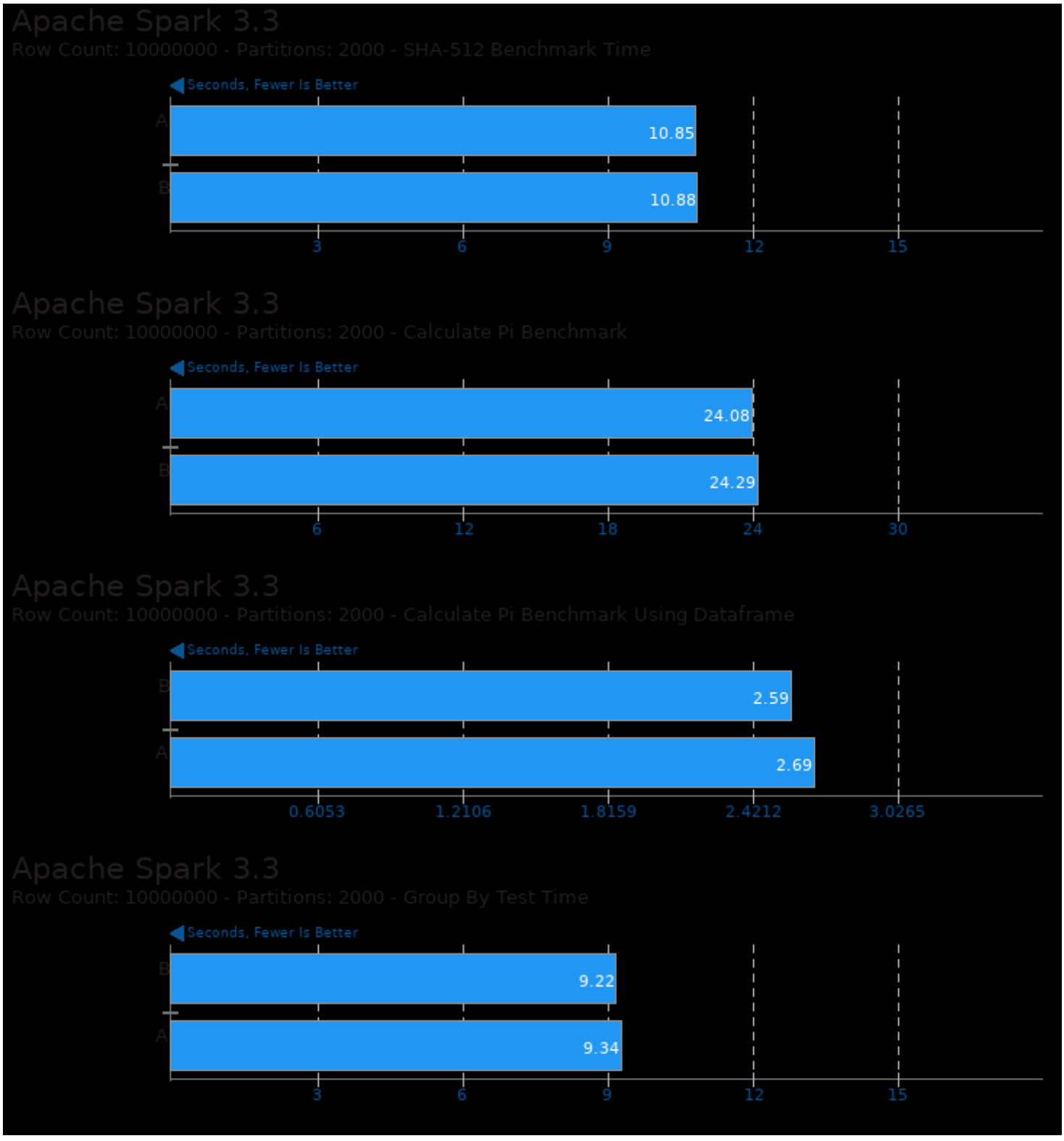
75f3 2p august



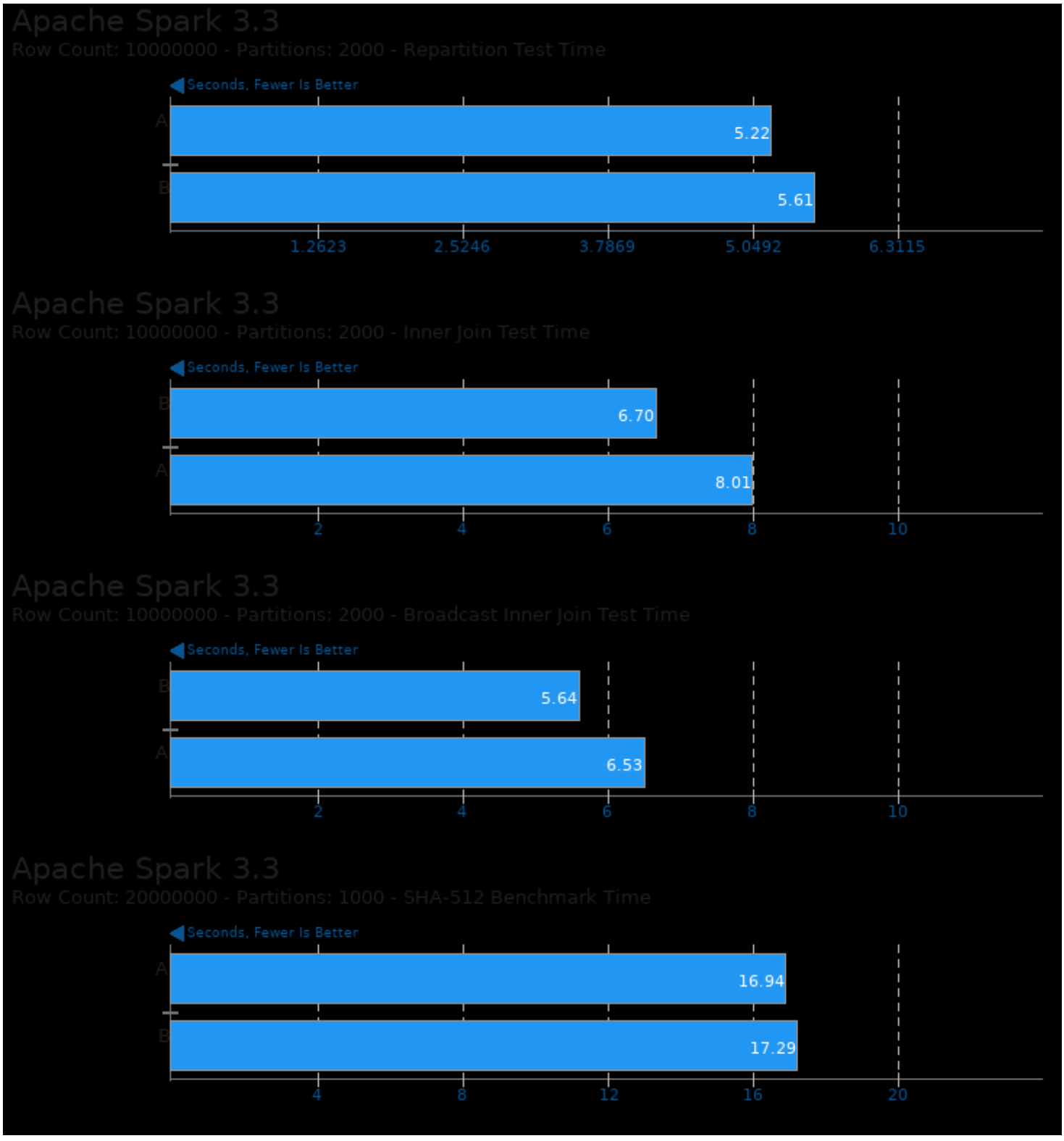
75f3 2p august



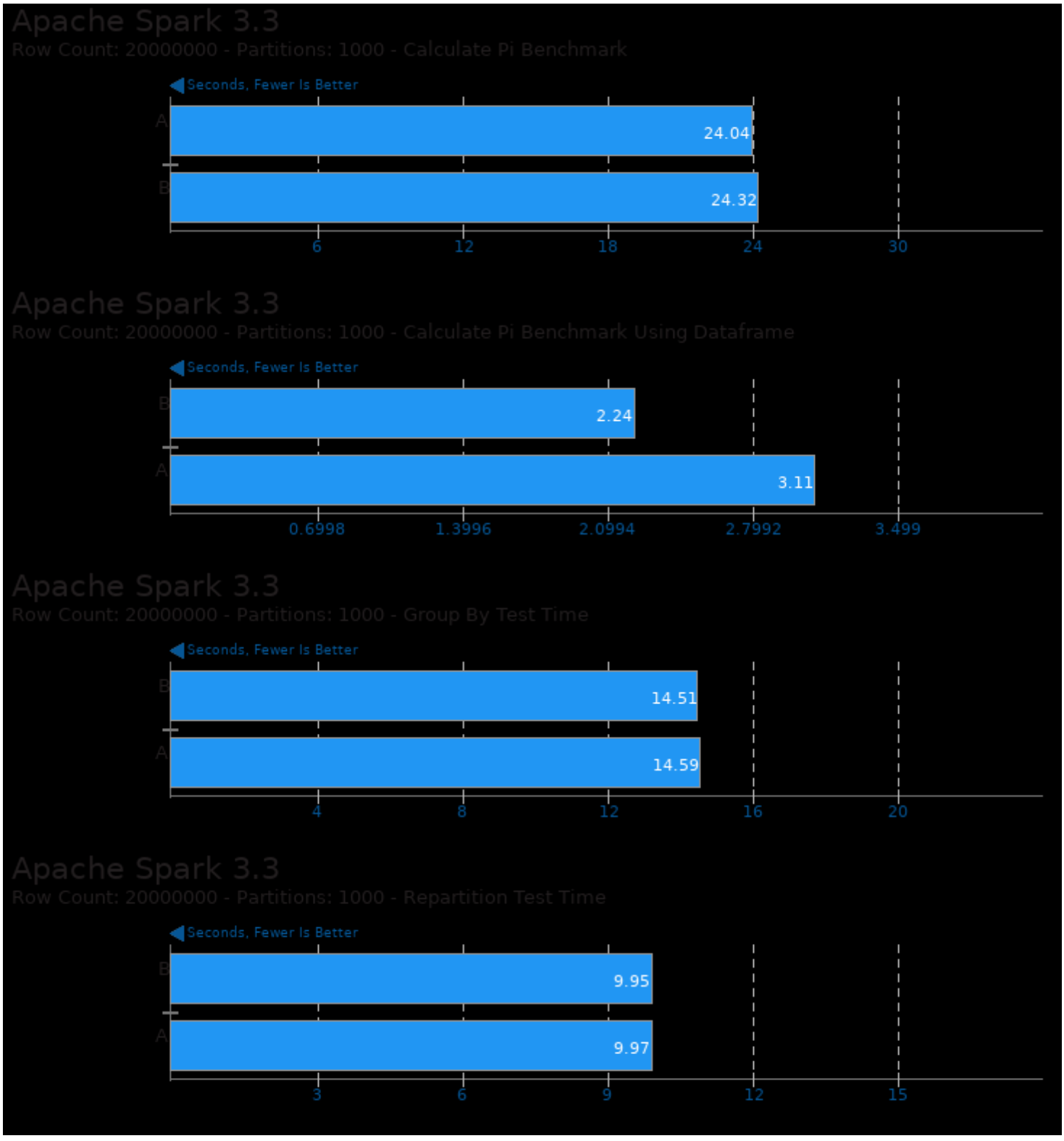
75f3 2p august



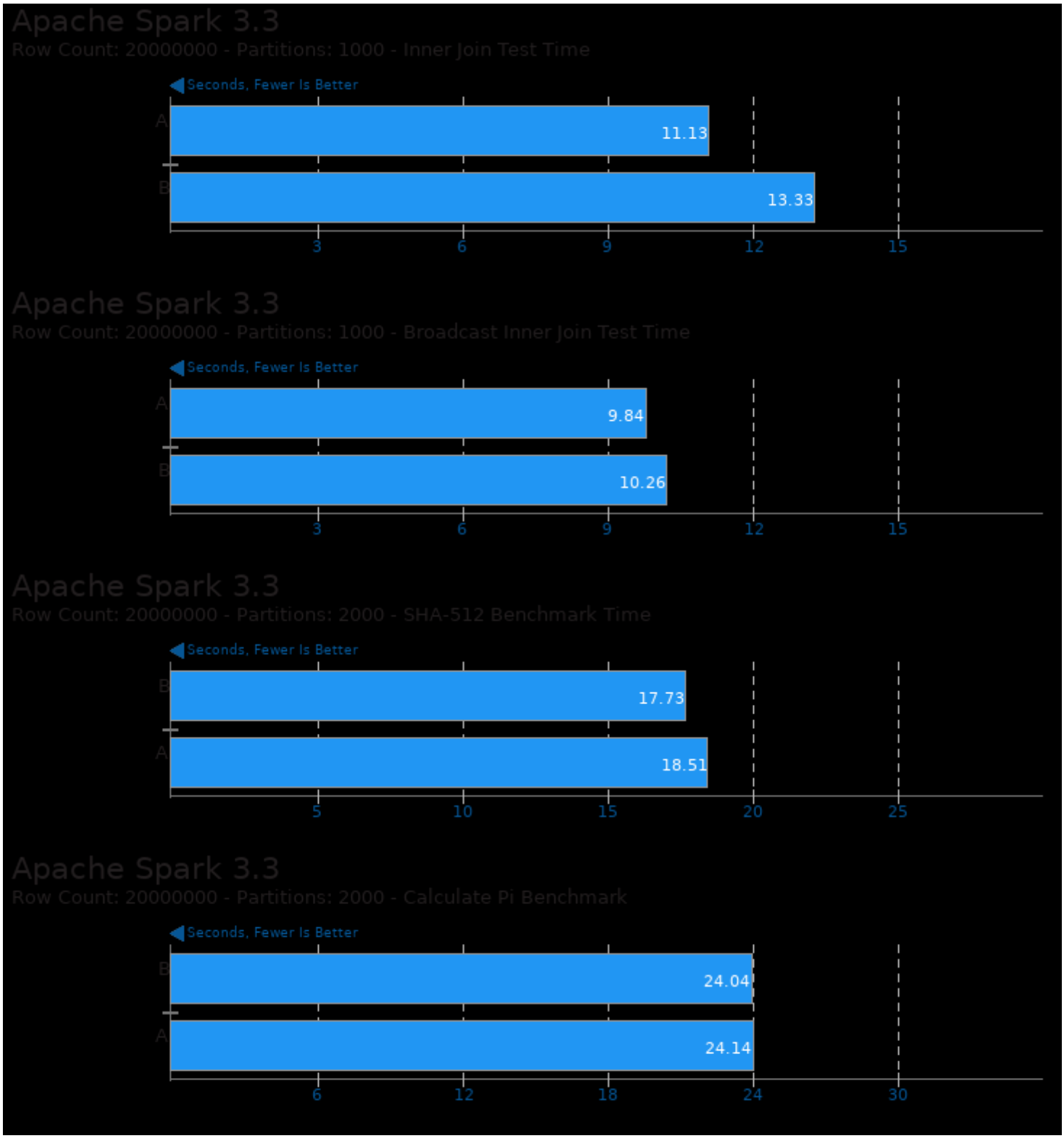
75f3 2p august



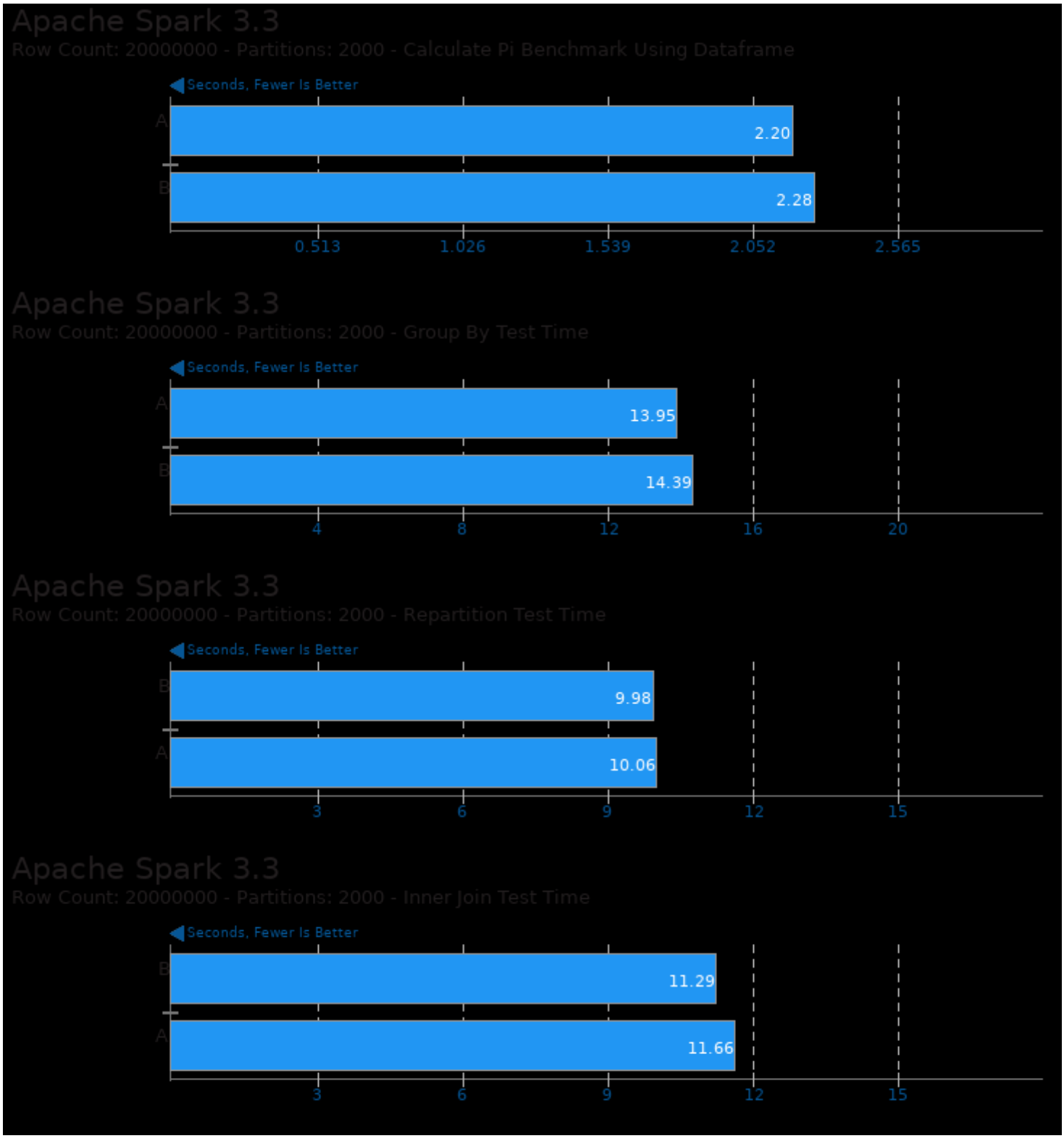
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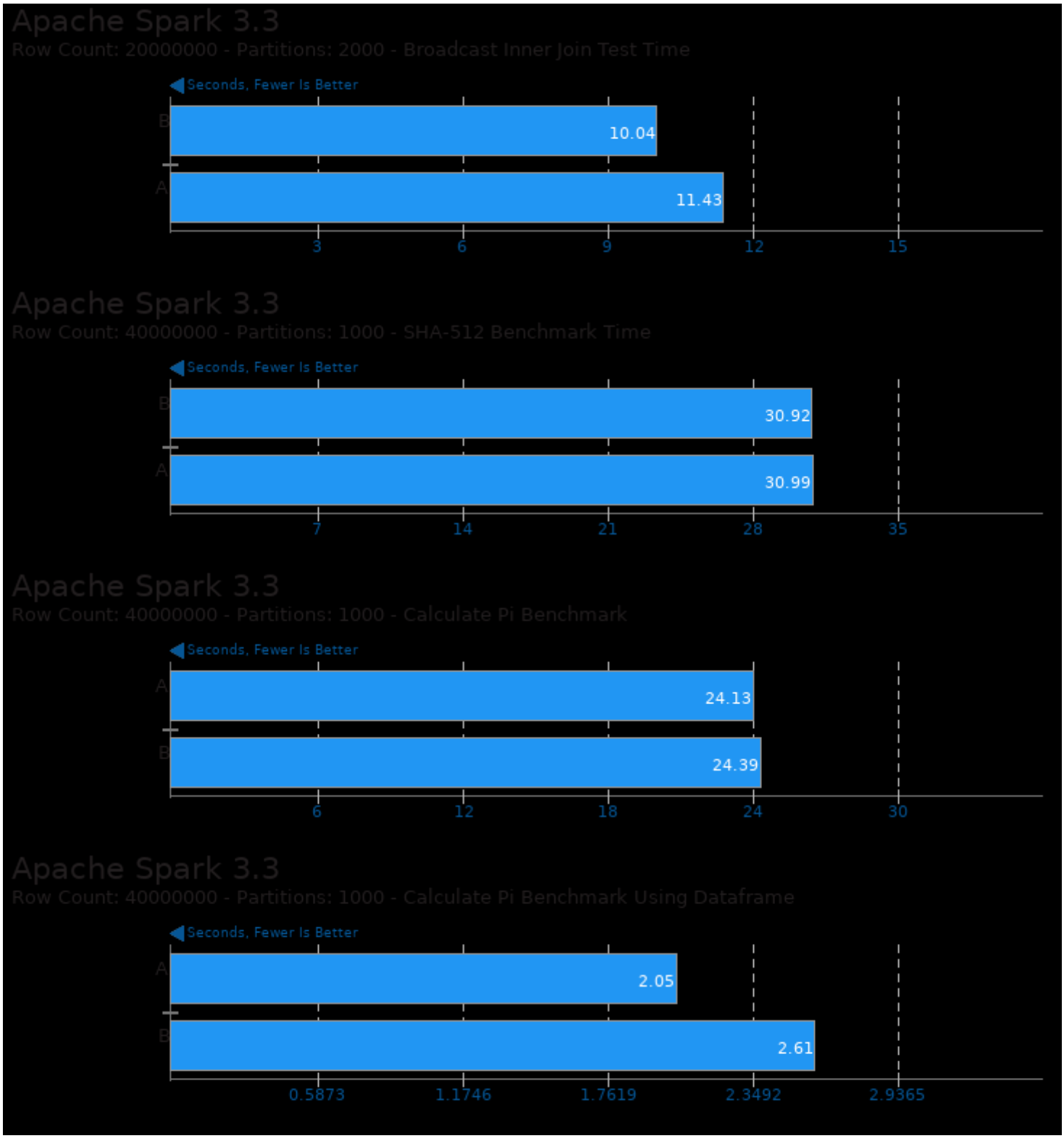
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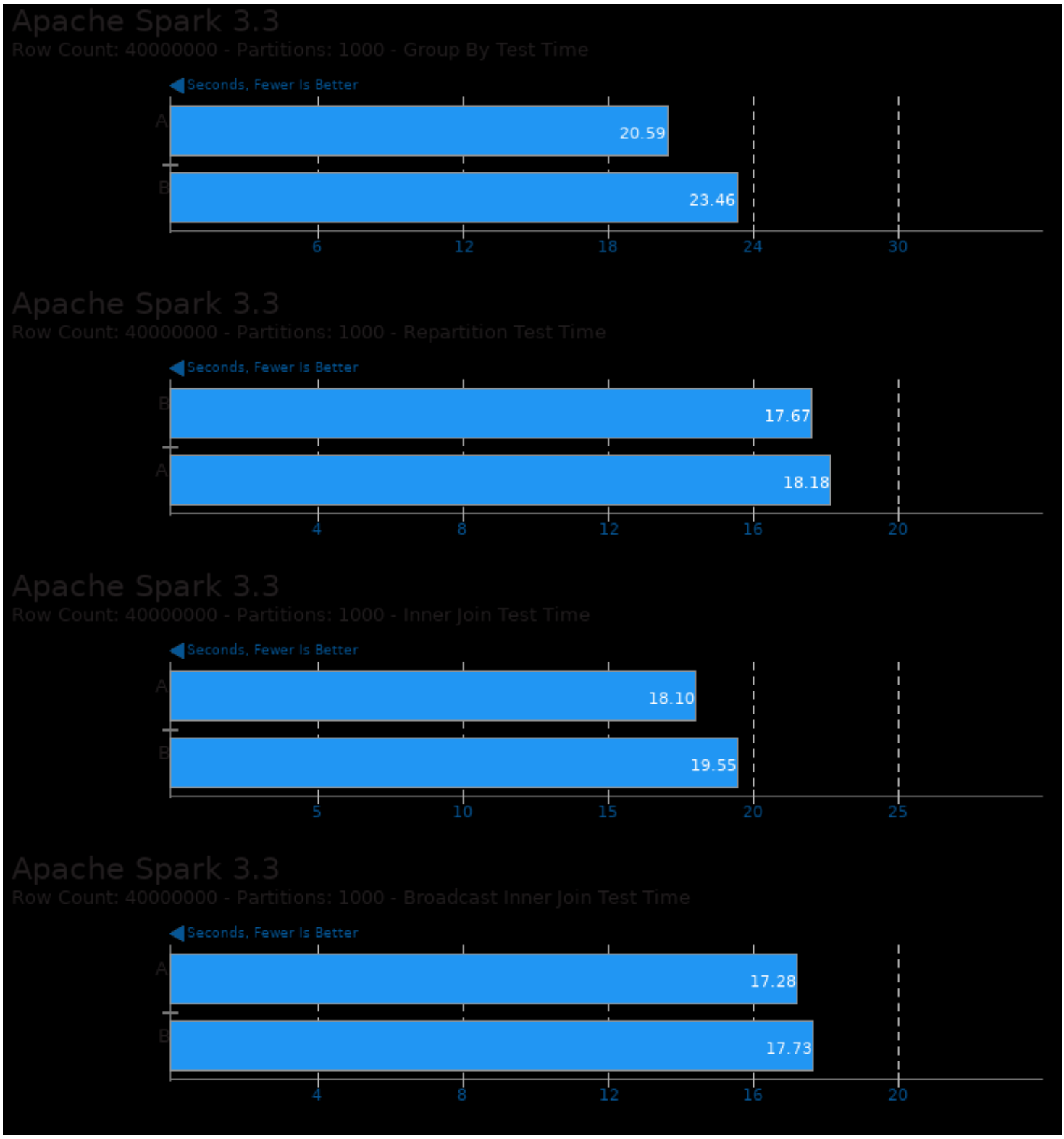
75f3 2p august



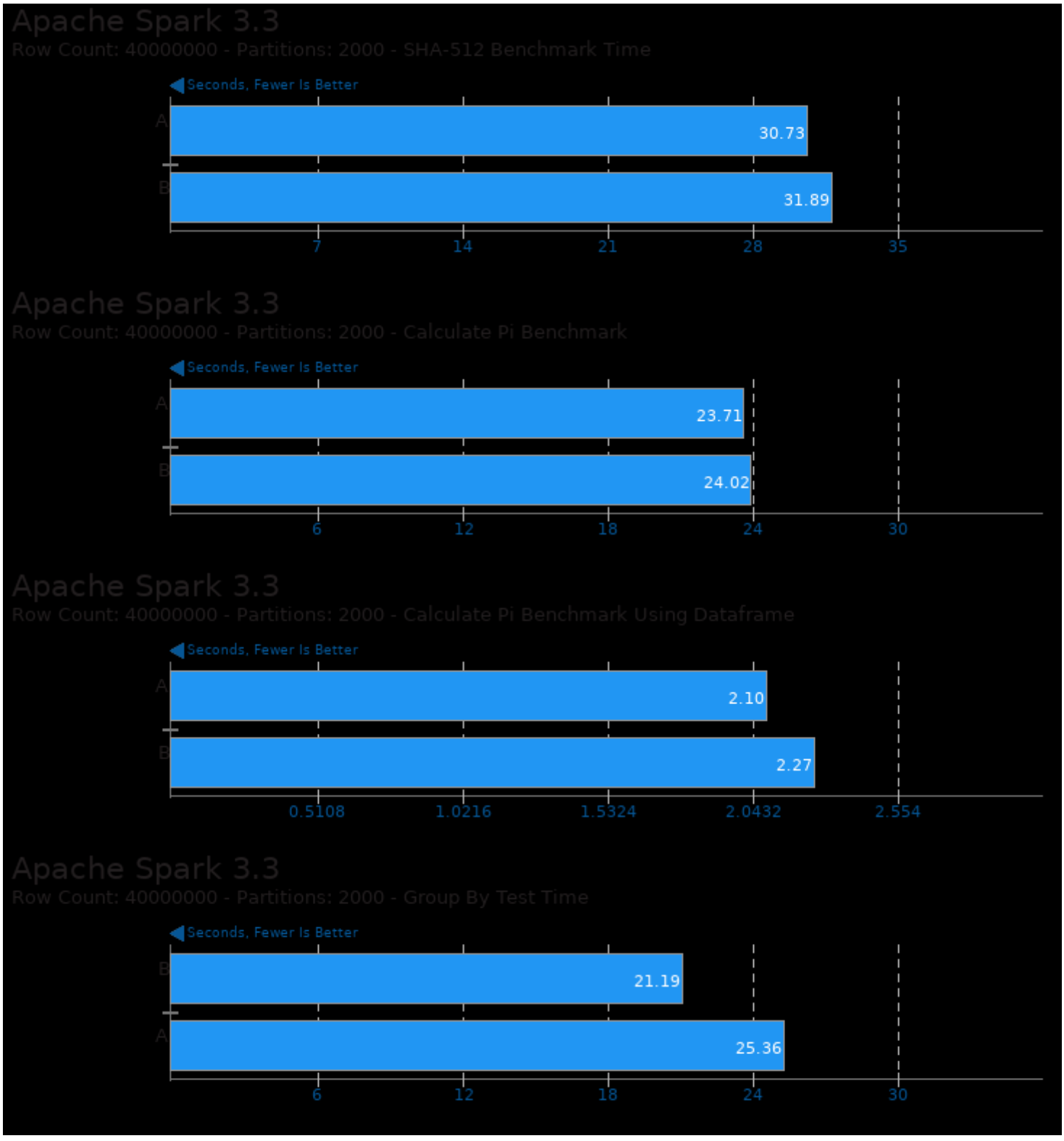
75f3 2p august



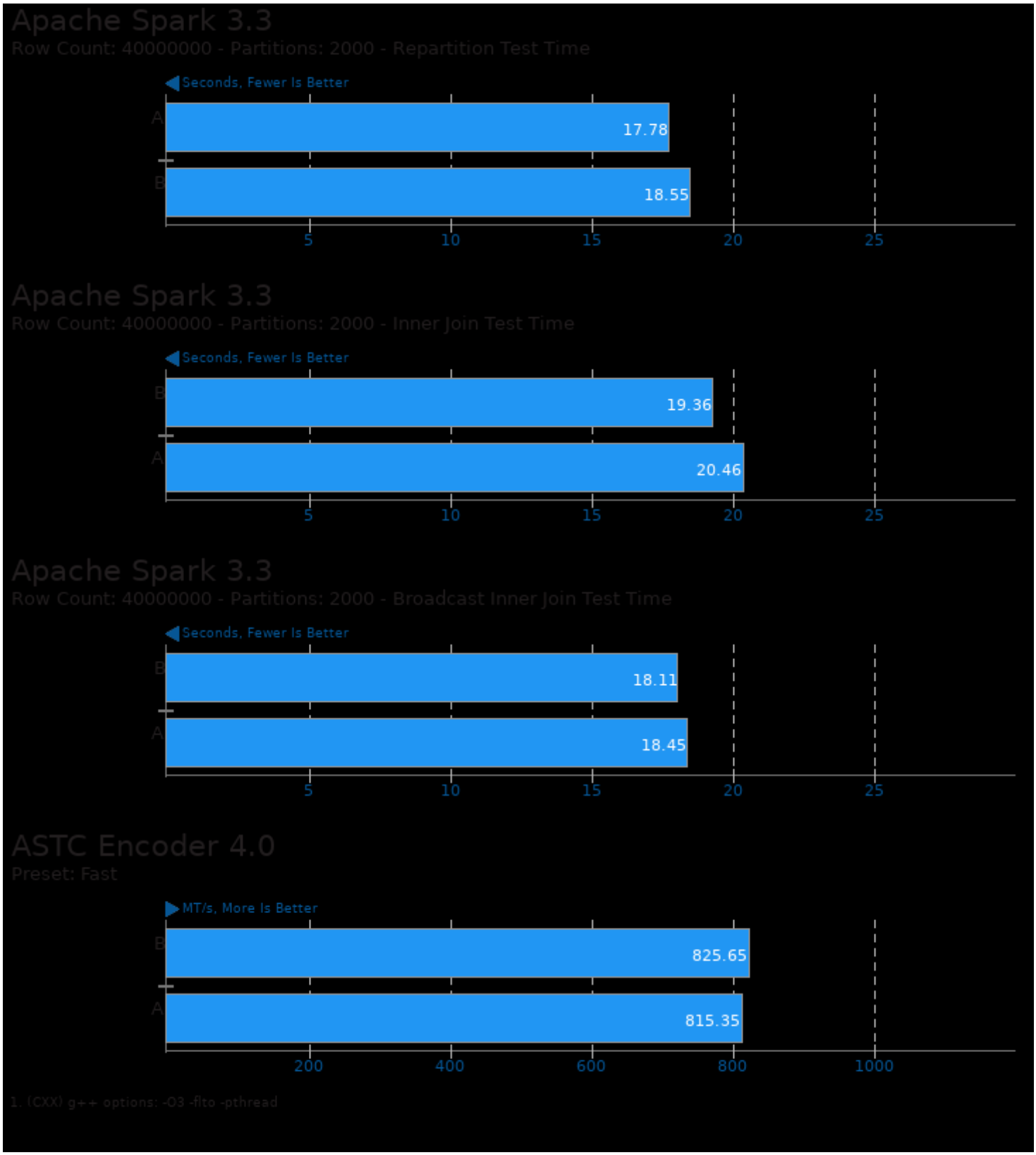
75f3 2p august



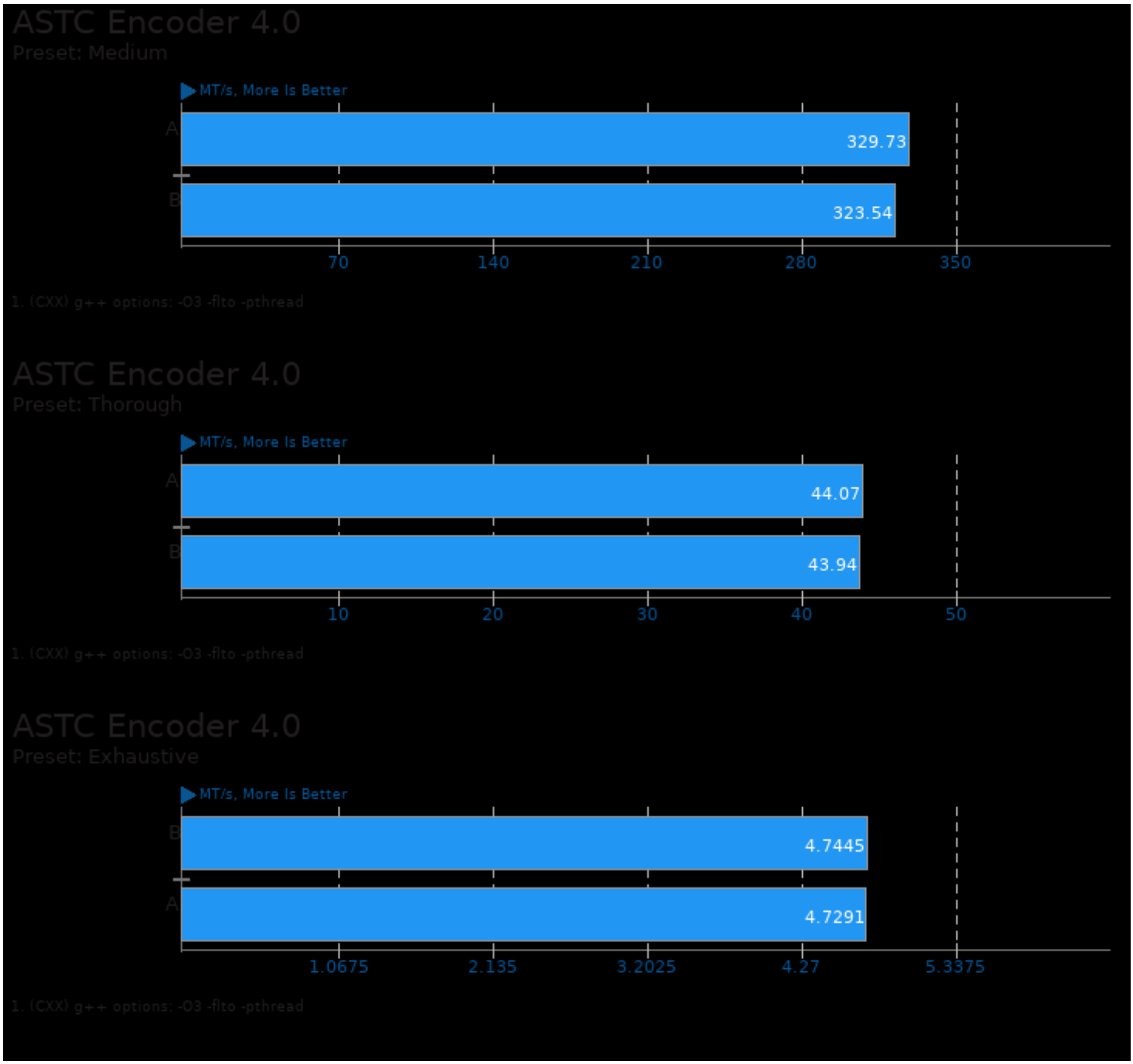
75f3 2p august



75f3 2p august



75f3 2p august

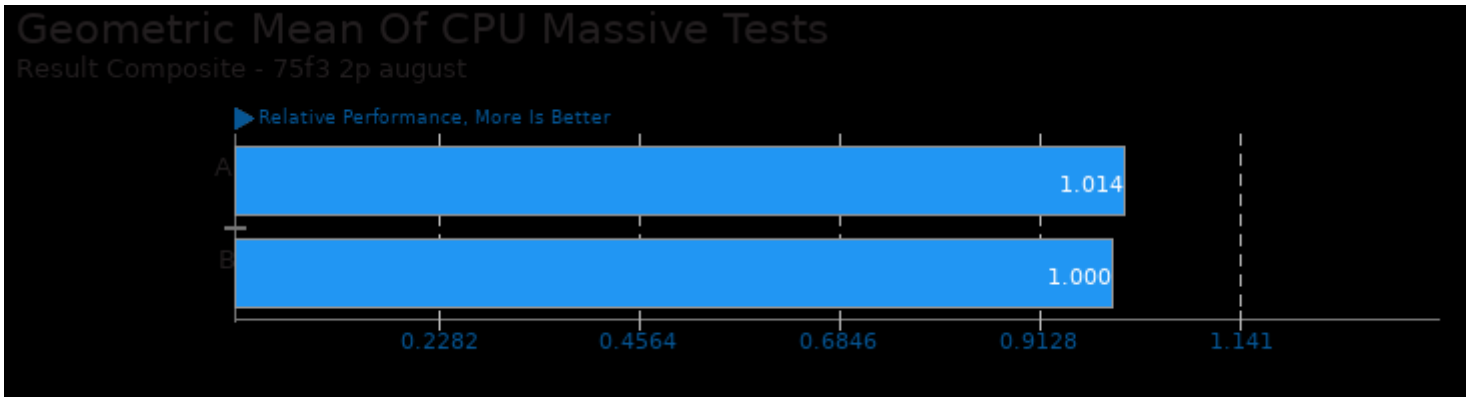


75f3 2p august

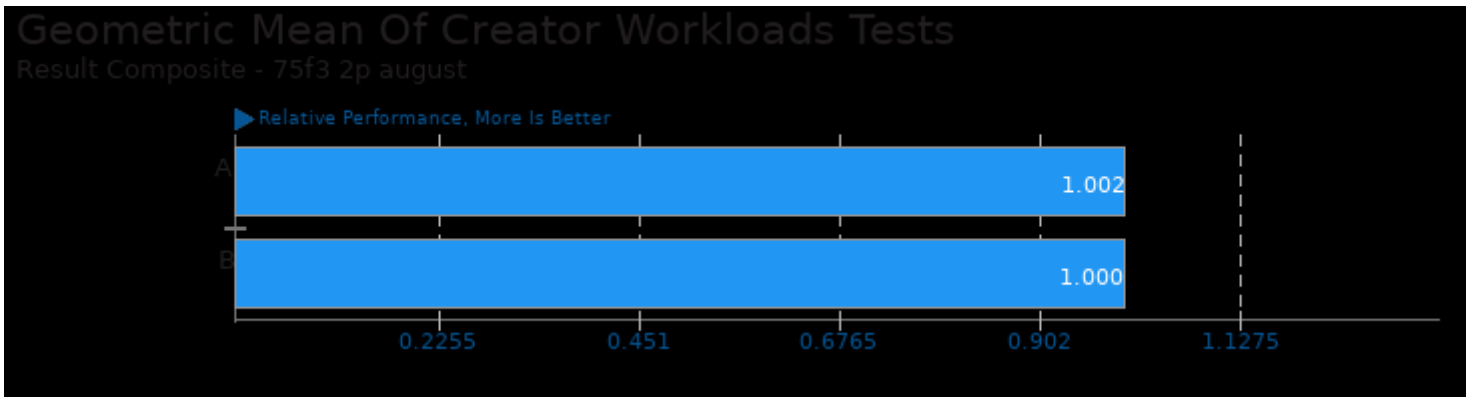
These geometric means are based upon test groupings / test suites for this result file.



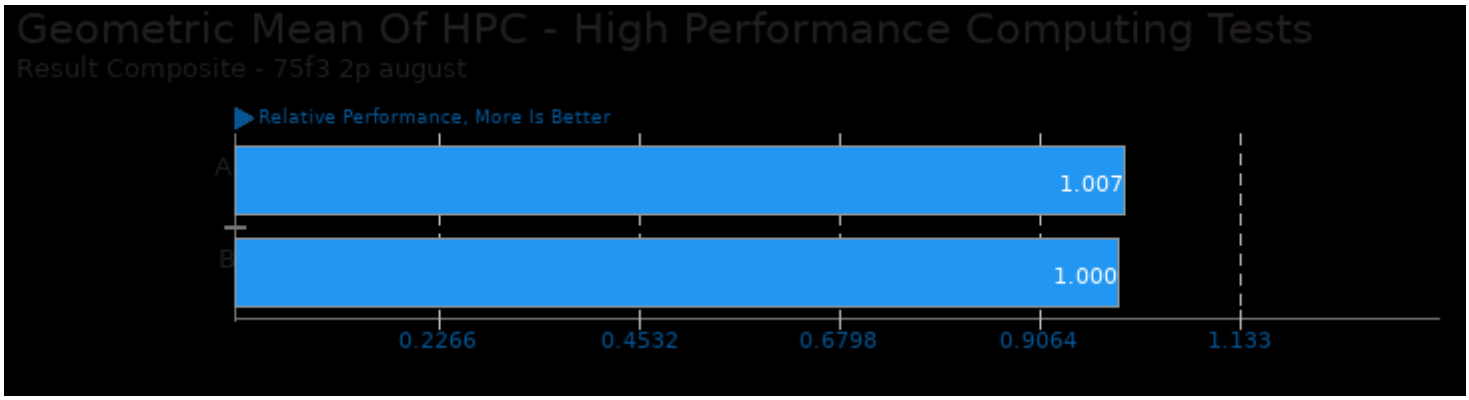
Geometric mean based upon tests: pts/lammps, pts/aircrack-ng and pts/svt-av1



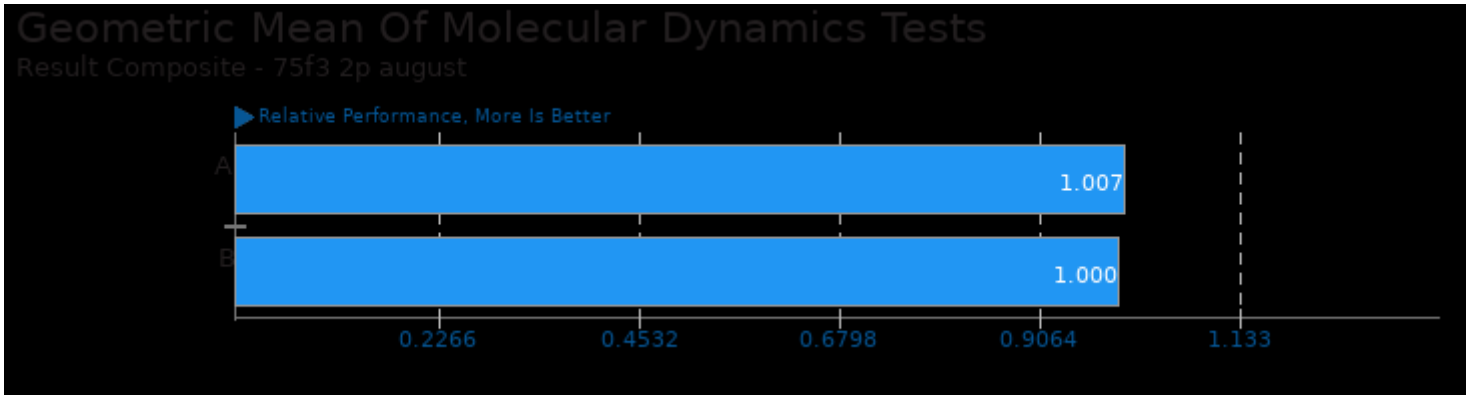
Geometric mean based upon tests: pts/svt-av1, pts/lammps and pts/primesieve



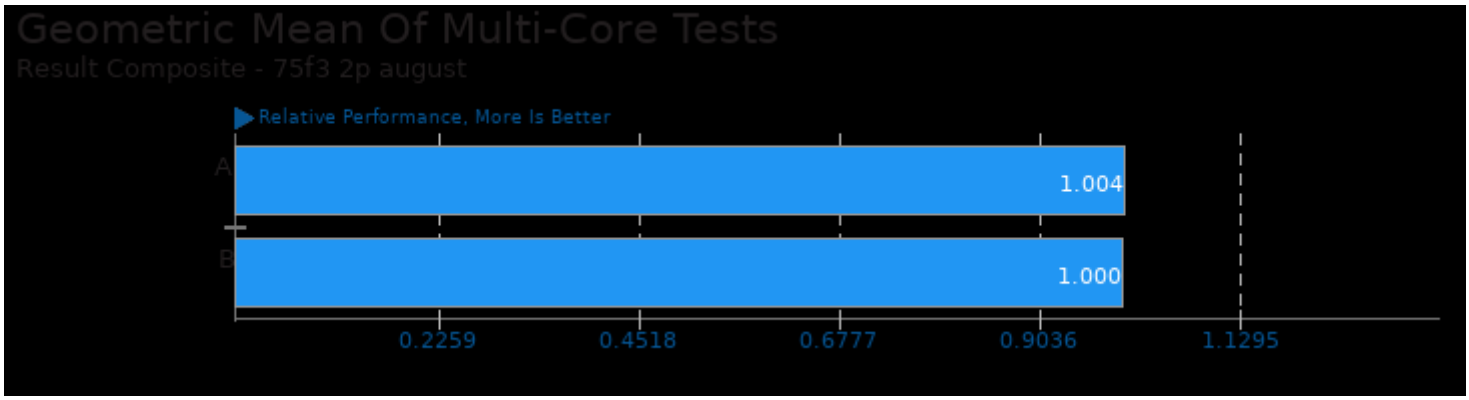
Geometric mean based upon tests: pts/ospray-studio, pts/svt-av1 and pts/astcenc



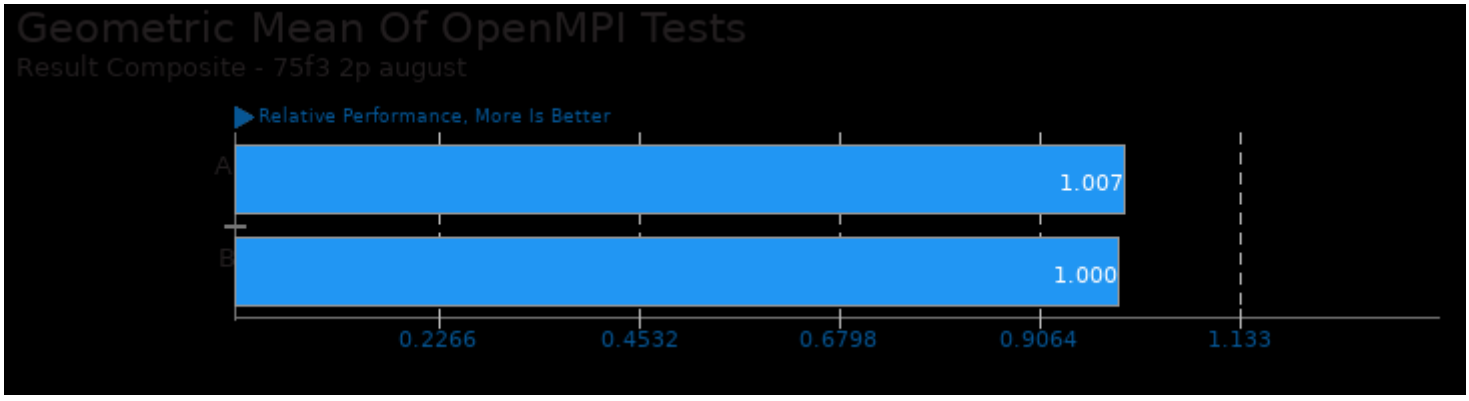
Geometric mean based upon tests: pts/lammps and pts/openfoam



Geometric mean based upon tests: pts/lammps and pts/openfoam

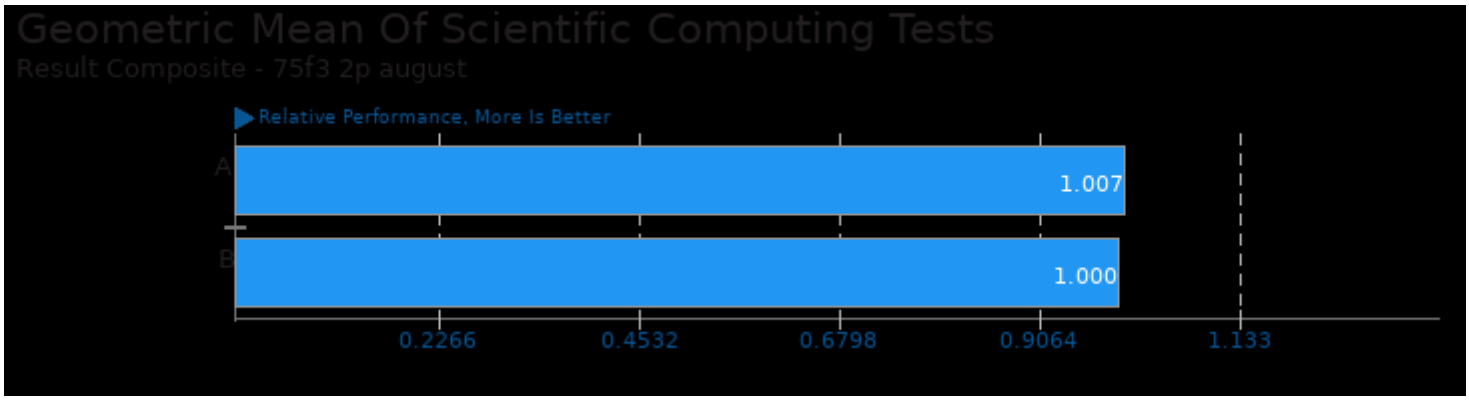


Geometric mean based upon tests: pts/ospray-studio, pts/aircrack-ng, pts/svt-av1, pts/primesieve and pts/lammps



Geometric mean based upon tests: pts/openfoam and pts/lammps

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Geometric mean based upon tests: pts/lammps and pts/openfoam



Geometric mean based upon tests: pts/node-web-tooling and pts/spark

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 00:37.