

www.phoronix-test-suite.com

apache spark icelake

Intel Core i7-1065G7 testing with a Dell 06CDVY (1.0.9 BIOS) and Intel Iris Plus ICL GT2 16GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 61% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.048x the speed of the slowest (A). B was 0.977x the speed of C and A was 0.977x the speed of B.

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

Apache Spark (Row Count: 1000000 - Partitions: 500 - Group By Test Time) at 1.323x
Apache Spark (Row Count: 1000000 - Partitions: 500 - Broadcast Inner Join Test Time) at 1.299x
Apache Spark (Row Count: 10000000 - Partitions: 1000 - Group By Test Time) at 1.224x
Apache Spark (Row Count: 1000000 - Partitions: 100 - Broadcast Inner Join Test Time) at 1.199x
Apache Spark (Row Count: 1000000 - Partitions: 2000 - SHA-512 Benchmark Time) at 1.19x
Apache Spark (Row Count: 1000000 - Partitions: 1000 - Broadcast Inner Join Test Time) at 1.188x
Apache Spark (Row Count: 1000000 - Partitions: 1000 - Inner Join Test Time) at 1.184x
Apache Spark (Row Count: 40000000 - Partitions: 500 - Group By Test Time) at 1.152x
Apache Spark (Row Count: 1000000 - Partitions: 100 - Calculate Pi Benchmark) at 1.151x

Apache Spark (Row Count: 1000000 - Partitions: 2000 - Broadcast Inner Join Test Time) at 1.145x.

Test Systems:

A

B

C

Processor: Intel Core i7-1065G7 @ 3.90GHz (4 Cores / 8 Threads), Motherboard: Dell 06CDVY (1.0.9 BIOS), Chipset: Intel Ice Lake-LP DRAM, Memory: 16GB, Disk: Toshiba KBG40ZPZ512G NVMe 512GB, Graphics: Intel Iris Plus ICL GT2 16GB (1100MHz), Audio: Realtek ALC289, Network: Intel Ice Lake-LP PCH CNVi WiFi

OS: Ubuntu 22.04, Kernel: 5.18.8-051808-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.1, Vulkan: 1.3.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1200

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xb0 - Thermald 2.4.9
Java Notes: OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.22.04.1)
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Mitigation of Clear buffers; SMT vulnerable + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

	A	B	C
Apache Spark - 1000000 - 500 - Group By Test Time (sec)	**5.91**	**7.82**	7.81
Normalized	100%	75.58%	75.67%
Apache Spark - 1000000 - 500 - B.I.J.T.T (sec)	**6.286490085**	5.66	**4.84**
Normalized	76.99%	85.51%	100%
Apache Spark - 10000000 - 1000 - Group By Test Time (sec)	**24.58**	**20.087644353**	21.86
Normalized	81.72%	100%	91.89%
Apache Spark - 1000000 - 100 - B.I.J.T.T (sec)	3.032268713	**2.87**	**3.44**
Normalized	94.65%	100%	83.43%
Apache Spark - 1000000 - 2000 - S.5.B.T	10.791488701	**12.54**	**10.54**
Normalized	97.67%	84.05%	100%
Apache Spark - 1000000 - 1000 - B.I.J.T.T	5.50	**5.88**	**4.95**
Normalized	90%	84.18%	100%
Apache Spark - 1000000 - 1000 - I.J.T.T (sec)	**6.501183247**	**7.70**	6.54
Normalized	100%	84.43%	99.41%

apache spark icelake

Apache Spark - 40000000 - 500 - Group By Test Time (sec)	**85.773888439**	**74.432861881**	76.05
Normalized	86.78%	100%	97.87%
Apache Spark - 1000000 - 100 - C.P.B (sec)	**656.977167662**	**756.272521214**	714.633339087
Normalized	100%	86.87%	91.93%
Apache Spark - 1000000 - 2000 - B.I.J.T.T	7.37	**7.98**	**6.97**
Normalized	94.57%	87.34%	100%
Apache Spark - 40000000 - 100 - Group By Test Time (sec)	**89.62**	**78.29**	79.63
Normalized	87.36%	100%	98.32%
Apache Spark - 10000000 - 1000 - S.5.B.T (sec)	**46.371588974**	**40.59**	41.86
Normalized	87.53%	100%	96.97%
Apache Spark - 20000000 - 500 - S.5.B.T	**84.595126196**	**74.355486457**	76.496092244
Normalized	87.9%	100%	97.2%
Apache Spark - 1000000 - 2000 - I.J.T.T (sec)	**8.35**	**9.47**	8.88
Normalized	100%	88.17%	94.03%
Apache Spark - 20000000 - 100 - R.T.T (sec)	**69.11422958**	68.169496225	**61.60**
Normalized	89.13%	90.36%	100%
Apache Spark - 1000000 - 2000 - R.T.T (sec)	9.77	**10.770249391**	**9.62**
Normalized	98.46%	89.32%	100%
Apache Spark - 40000000 - 500 - S.5.B.T	**159.54547467**	**142.600051266**	146.31
Normalized	89.38%	100%	97.46%
Apache Spark - 20000000 - 500 - R.T.T (sec)	**69.754054698**	66.42	**62.45**
Normalized	89.53%	94.02%	100%
Apache Spark - 20000000 - 2000 - Group By Test Time (sec)	**39.06**	**35.03**	37.38
Normalized	89.68%	100%	93.71%
Apache Spark - 10000000 - 2000 - R.T.T (sec)	**38.74102815**	**34.76**	34.82
Normalized	89.72%	100%	99.83%
Apache Spark - 20000000 - 500 - B.I.J.T.T	**74.45**	**66.80**	68.02
Normalized	89.72%	100%	98.21%
Apache Spark - 40000000 - 2000 - I.J.T.T	**166.142747806**	151.219413691	**149.071991585**
Normalized	89.73%	98.58%	100%
Apache Spark - 10000000 - 2000 - S.5.B.T (sec)	**47.27**	**42.42**	43.04
Normalized	89.74%	100%	98.56%
Apache Spark - 40000000 - 1000 - R.T.T (sec)	**132.389630627**	**119.293181443**	119.331142898
Normalized	90.11%	100%	99.97%
Apache Spark - 40000000 - 100 - S.5.B.T	**163.576097618**	**147.430565786**	149.26136547
Normalized	90.13%	100%	98.77%
Apache Spark - 40000000 - 100 - R.T.T (sec)	**133.263955872**	120.412094205	**120.315032442**
Normalized	90.28%	99.92%	100%
Apache Spark - 20000000 - 2000 - R.T.T (sec)	**67.937768058**	63.23	**61.39**
Normalized	90.36%	97.09%	100%
Apache Spark - 40000000 - 500 - R.T.T (sec)	**131.35188078**	**118.71923975**	119.480365579
Normalized	90.38%	100%	99.36%
Apache Spark - 40000000 - 1000 - Group By Test Time (sec)	**81.85**	77.14	**74.02**
Normalized	90.43%	95.96%	100%

apache spark icelake

Apache Spark - 10000000 - 2000 - Group By Test Time (sec)	**25.224830351**	**22.84**	23.23
Normalized	90.55%	100%	98.32%
Apache Spark - 20000000 - 500 - I.J.T.T (sec)	78.509005725	**79.667147516**	**72.20**
Normalized	91.96%	90.63%	100%
Apache Spark - 1000000 - 500 - S.5.B.T (sec)	9.13	**9.55**	**8.67**
Normalized	94.96%	90.79%	100%
Apache Spark - 40000000 - 1000 - I.J.T.T	**159.23714378**	147.56	**144.71**
Normalized	90.88%	98.07%	100%
Apache Spark - 20000000 - 1000 - B.I.J.T.T (sec)	**75.45**	68.66	**68.57**
Normalized	90.88%	99.87%	100%
Apache Spark - 40000000 - 500 - I.J.T.T (sec)	**158.849166297**	152.509124448	**144.381109229**
Normalized	90.89%	94.67%	100%
Apache Spark - 1000000 - 2000 - Group By Test Time (sec)	**9.736214644**	**10.71**	9.90
Normalized	100%	90.91%	98.35%
Apache Spark - 40000000 - 100 - I.J.T.T (sec)	**161.404652351**	150.730462062	**146.81646165**
Normalized	90.96%	97.4%	100%
Apache Spark - 20000000 - 100 - Group By Test Time (sec)	**36.490257948**	33.69	**33.20**
Normalized	90.98%	98.55%	100%
Apache Spark - 20000000 - 500 - Group By Test Time (sec)	**36.96**	35.668669559	**33.63**
Normalized	90.99%	94.28%	100%
Apache Spark - 10000000 - 2000 - I.J.T.T	**43.558666998**	**39.72**	39.78
Normalized	91.19%	100%	99.85%
Apache Spark - 40000000 - 100 - B.I.J.T.T	**150.511698363**	138.765601167	**137.469145149**
Normalized	91.33%	99.07%	100%
Apache Spark - 10000000 - 100 - I.J.T.T (sec)	41.40471838	**42.26**	**38.62**
Normalized	93.27%	91.39%	100%
Apache Spark - 10000000 - 500 - I.J.T.T (sec)	**40.502618181**	39.91	**37.038531086**
Normalized	91.45%	92.81%	100%
Apache Spark - 10000000 - 1000 - I.J.T.T	**41.613175023**	38.36	**38.11**
Normalized	91.58%	99.35%	100%
Apache Spark - 20000000 - 1000 - C.P.B.U.D (sec)	**38.68**	36.55	**35.51**
Normalized	91.8%	97.15%	100%
Apache Spark - 40000000 - 500 - B.I.J.T.T	**145.277407541**	134.978937018	**133.539421839**
Normalized	91.92%	98.93%	100%
Apache Spark - 10000000 - 500 - B.I.J.T.T	**37.478879572**	37.29	**34.48**
Normalized	92%	92.46%	100%
Apache Spark - 20000000 - 500 - C.P.B (sec)	**851.473091216**	**784.907582126**	803.02
Normalized	92.18%	100%	97.74%
Apache Spark - 20000000 - 2000 - S.5.B.T (sec)	**84.814532331**	79.12	**78.19**
Normalized	92.19%	98.82%	100%
Apache Spark - 40000000 - 1000 - S.5.B.T (sec)	**158.150162258**	147.596151292	**145.940465756**
Normalized	92.28%	98.88%	100%
Apache Spark - 40000000 - 2000 - R.T.T (sec)	**130.729877469**	123.722711702	**120.754963272**
Normalized	92.37%	97.6%	100%

apache spark icelake

Apache Spark - 10000000 - 100 - R.T.T (sec)	**36.92066761**	34.44	**34.123336097**
Normalized	92.42%	99.08%	100%
Apache Spark - 1000000 - 100 - I.J.T.T (sec)	**3.701479768**	**3.427888708**	3.69
Normalized	92.61%	100%	92.9%
Apache Spark - 10000000 - 1000 - B.I.J.T.T (sec)	**38.133989545**	35.88	**35.39**
Normalized	92.8%	98.63%	100%
Apache Spark - 20000000 - 1000 - I.J.T.T	**77.889132905**	72.88	**72.36**
Normalized	92.9%	99.29%	100%
Apache Spark - 20000000 - 2000 - C.P.B (sec)	**852.969777741**	803.54	**792.713391807**
Normalized	92.94%	98.65%	100%
Apache Spark - 20000000 - 2000 - I.J.T.T	**79.92**	74.51	**74.35149624**
Normalized	93.03%	99.79%	100%
Apache Spark - 20000000 - 100 - B.I.J.T.T	**73.587998852**	73.36	**68.51**
Normalized	93.1%	93.39%	100%
Apache Spark - 10000000 - 1000 - R.T.T (sec)	**35.36**	34.11	**32.92**
Normalized	93.1%	96.51%	100%
Apache Spark - 1000000 - 500 - R.T.T (sec)	**8.03**	**8.62**	8.47
Normalized	100%	93.16%	94.81%
Apache Spark - 40000000 - 2000 - B.I.J.T.T (sec)	**146.862978063**	138.55	**136.883149475**
Normalized	93.2%	98.8%	100%
Apache Spark - 40000000 - 1000 - B.I.J.T.T (sec)	**144.77612878**	137.482703518	**135.328314263**
Normalized	93.47%	98.43%	100%
Apache Spark - 10000000 - 500 - S.5.B.T	**44.786022854**	42.73	**41.92**
Normalized	93.6%	98.1%	100%
Apache Spark - 10000000 - 100 - S.5.B.T	44.592154298	**45.274790681**	**42.39**
Normalized	95.06%	93.63%	100%
Apache Spark - 40000000 - 2000 - C.P.B.U.D (sec)	38.39	**40.25**	**37.72**
Normalized	98.25%	93.71%	100%
Apache Spark - 1000000 - 1000 - R.T.T (sec)	9.26	**9.67**	**9.09**
Normalized	98.16%	94%	100%
Apache Spark - 1000000 - 100 - C.P.B.U.D (sec)	**35.819807451**	37.98	**38.098774824**
Normalized	100%	94.31%	94.02%
Apache Spark - 10000000 - 500 - R.T.T (sec)	**35.838202595**	35.595730424	**33.730534347**
Normalized	94.12%	94.76%	100%
Apache Spark - 1000000 - 100 - R.T.T (sec)	**5.342907891**	5.09	**5.03**
Normalized	94.14%	98.82%	100%
Apache Spark - 20000000 - 1000 - R.T.T (sec)	**62.964181952**	**66.79**	65.685136959
Normalized	100%	94.27%	95.86%
Apache Spark - 1000000 - 500 - I.J.T.T (sec)	**6.12**	6.11	**5.77**
Normalized	94.28%	94.44%	100%
Apache Spark - 10000000 - 2000 - B.I.J.T.T (sec)	37.43	**38.92**	**36.71**
Normalized	98.08%	94.32%	100%
Apache Spark - 40000000 - 2000 - Group By Test Time (sec)	**79.593955392**	79.05	**75.18**
Normalized	94.45%	95.1%	100%

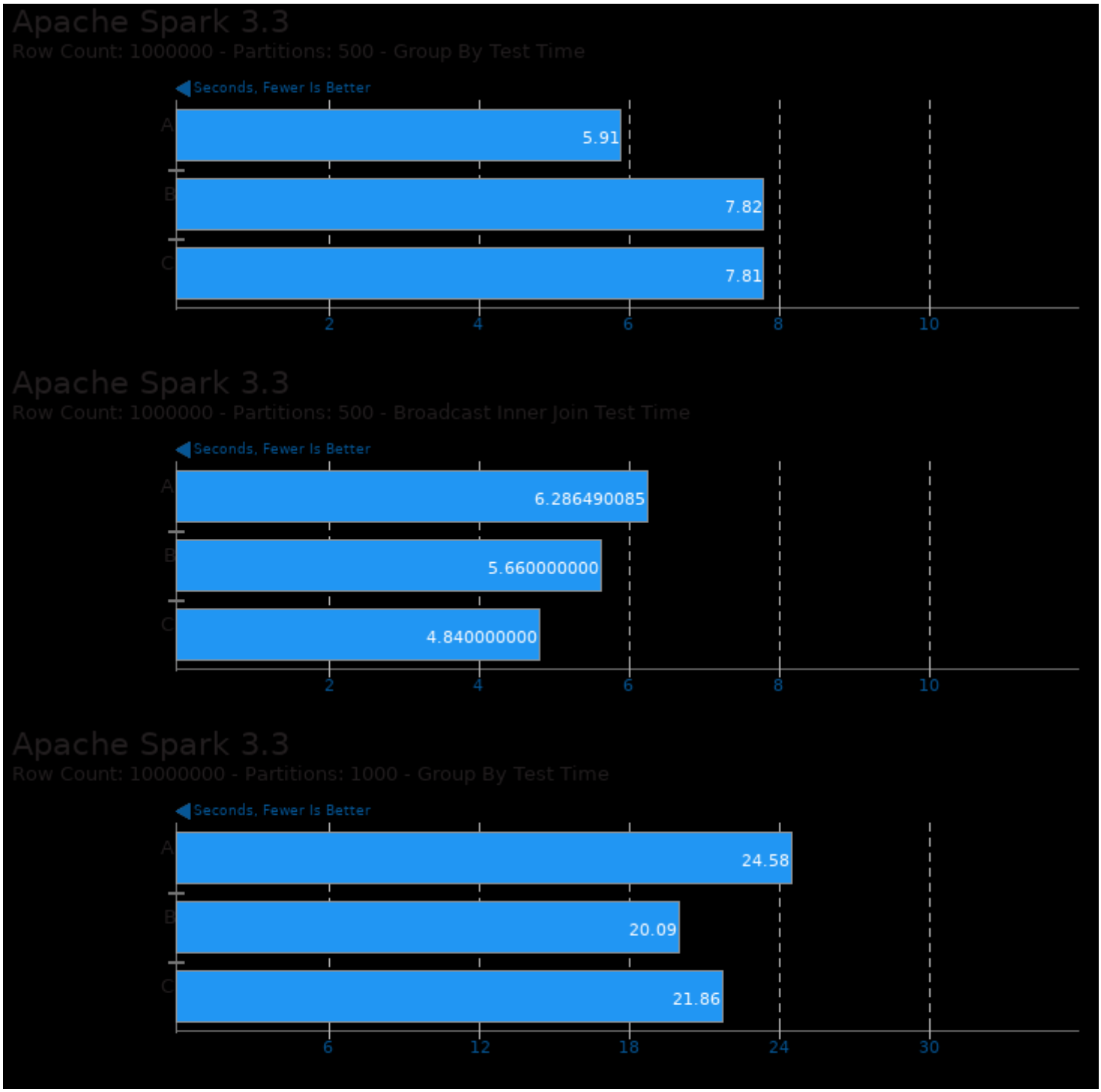
apache spark icelake

Apache Spark - 40000000 - 2000 - S.5.B.T (sec)	**158.068422266**	153.119995555	**149.685117688**
Normalized	94.7%	97.76%	100%
Apache Spark - 20000000 - 2000 - B.I.J.T.T (sec)	**73.69**	**69.81**	69.94
Normalized	94.73%	100%	99.81%
Apache Spark - 20000000 - 1000 - Group By Test Time (sec)	**36.502119941**	**34.60**	35.284636482
Normalized	94.79%	100%	98.06%
Apache Spark - 1000000 - 1000 - S.5.B.T	**9.44831342**	**9.96**	9.65
Normalized	100%	94.86%	97.91%
Apache Spark - 10000000 - 500 - Group By Test Time (sec)	**21.687867935**	**22.74**	21.78
Normalized	100%	95.37%	99.58%
Apache Spark - 1000000 - 100 - S.5.B.T (sec)	**6.049590741**	**6.34**	6.30
Normalized	100%	95.42%	96.03%
Apache Spark - 40000000 - 100 - C.P.B (sec)	**839.479059608**	**801.085672427**	801.21171681
Normalized	95.43%	100%	99.98%
Apache Spark - 20000000 - 1000 - S.5.B.T (sec)	**81.259191534**	**77.57**	77.58
Normalized	95.46%	100%	99.99%
Apache Spark - 1000000 - 500 - C.P.B (sec)	**780.338059795**	**817.019507233**	796.494586275
Normalized	100%	95.51%	97.97%
Apache Spark - 1000000 - 1000 - C.P.B.U.D (sec)	37.879221829	**38.389332534**	**36.68**
Normalized	96.83%	95.55%	100%
Apache Spark - 20000000 - 100 - S.5.B.T	**80.941820528**	80.93	**77.38**
Normalized	95.6%	95.61%	100%
Apache Spark - 1000000 - 100 - Group By Test Time (sec)	**5.005407545**	**4.79**	4.83
Normalized	95.7%	100%	99.17%
Apache Spark - 20000000 - 500 - C.P.B.U.D (sec)	**39.41**	**37.73**	38.21
Normalized	95.74%	100%	98.74%
Apache Spark - 1000000 - 1000 - C.P.B (sec)	805.216325167	**833.795673477**	**798.743946523**
Normalized	99.2%	95.8%	100%
Apache Spark - 40000000 - 500 - C.P.B (sec)	**832.455253404**	801.084068659	**797.578604278**
Normalized	95.81%	99.56%	100%
Apache Spark - 10000000 - 1000 - C.P.B.U.D (sec)	**39.34**	38.39	**37.79**
Normalized	96.06%	98.44%	100%
Apache Spark - 10000000 - 100 - Group By Test Time (sec)	20.765927601	**21.595155961**	**20.75**
Normalized	99.92%	96.09%	100%
Apache Spark - 1000000 - 500 - C.P.B.U.D (sec)	**37.297529764**	**38.75**	38.22
Normalized	100%	96.25%	97.59%
Apache Spark - 40000000 - 100 - C.P.B.U.D (sec)	**39.103291162**	**37.64**	37.76
Normalized	96.26%	100%	99.68%

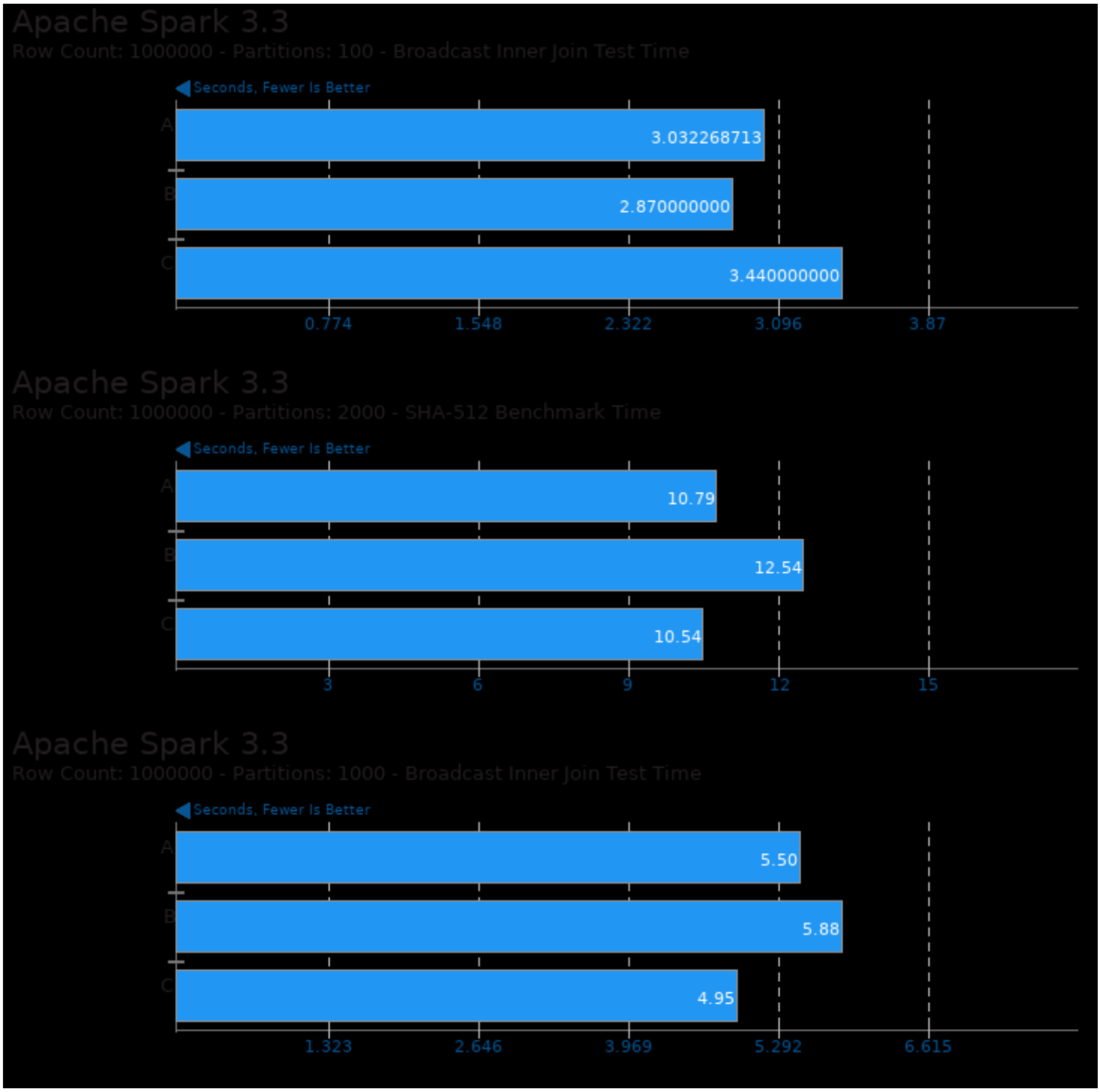
apache spark icelake

Apache Spark - 10000000 - 500 - C.P.B.U.D (sec)	**39.221685756**	38.72	**37.79**
Normalized	96.35%	97.6%	100%
Apache Spark - 1000000 - 1000 - Group By Test Time (sec)	**8.62**	8.88	**8.93**
Normalized	100%	97.07%	96.53%
Apache Spark - 10000000 - 500 - C.P.B (sec)	**834.224825936**	815.966354358	**805.280886841**
Normalized	96.53%	98.69%	100%
Apache Spark - 10000000 - 2000 - C.P.B (sec)	**822.137420573**	801.781039457	**794.367989986**
Normalized	96.62%	99.08%	100%
Apache Spark - 20000000 - 2000 - C.P.B.U.D (sec)	**39.01**	**37.70**	38.03
Normalized	96.64%	100%	99.13%
Apache Spark - 20000000 - 1000 - C.P.B (sec)	**818.243225423**	802.187302839	**791.658712313**
Normalized	96.75%	98.69%	100%
Apache Spark - 10000000 - 1000 - C.P.B (sec)	**819.955939424**	804.483681087	**793.881532479**
Normalized	96.82%	98.68%	100%
Apache Spark - 1000000 - 2000 - C.P.B (sec)	797.262329906	**820.186780864**	**795.781426828**
Normalized	99.81%	97.02%	100%
Apache Spark - 40000000 - 2000 - C.P.B (sec)	**817.877180085**	805.078697098	**796.05**
Normalized	97.33%	98.88%	100%
Apache Spark - 40000000 - 1000 - C.P.B.U.D (sec)	**38.74**	37.79	**37.760739792**
Normalized	97.47%	99.92%	100%
Apache Spark - 20000000 - 100 - C.P.B (sec)	817.003402582	**822.653222251**	**802.029896509**
Normalized	98.17%	97.49%	100%
Apache Spark - 40000000 - 1000 - C.P.B (sec)	**825.830341009**	807.061667554	**805.3988434**
Normalized	97.53%	99.79%	100%
Apache Spark - 10000000 - 100 - C.P.B (sec)	819.853400677	**823.828782247**	**805.054762338**
Normalized	98.19%	97.72%	100%
Apache Spark - 40000000 - 500 - C.P.B.U.D (sec)	**38.75**	38.03	**37.88**
Normalized	97.75%	99.61%	100%
Apache Spark - 10000000 - 100 - B.I.J.T.T	37.884062556	**38.23134337**	**37.43**
Normalized	98.8%	97.9%	100%
Apache Spark - 20000000 - 100 - C.P.B.U.D (sec)	**38.607960476**	38.21	**37.82**
Normalized	97.96%	98.98%	100%
Apache Spark - 10000000 - 100 - C.P.B.U.D (sec)	**38.824599743**	38.18	**38.14**
Normalized	98.24%	99.9%	100%
Apache Spark - 20000000 - 100 - I.J.T.T (sec)	**75.944871034**	**74.6362243**	74.85
Normalized	98.28%	100%	99.71%
Apache Spark - 10000000 - 2000 - C.P.B.U.D (sec)	**38.271783864**	**37.69**	37.82
Normalized	98.48%	100%	99.66%
Apache Spark - 1000000 - 2000 - C.P.B.U.D (sec)	**37.984363801**	**38.36**	38.21
Normalized	100%	99.02%	99.41%

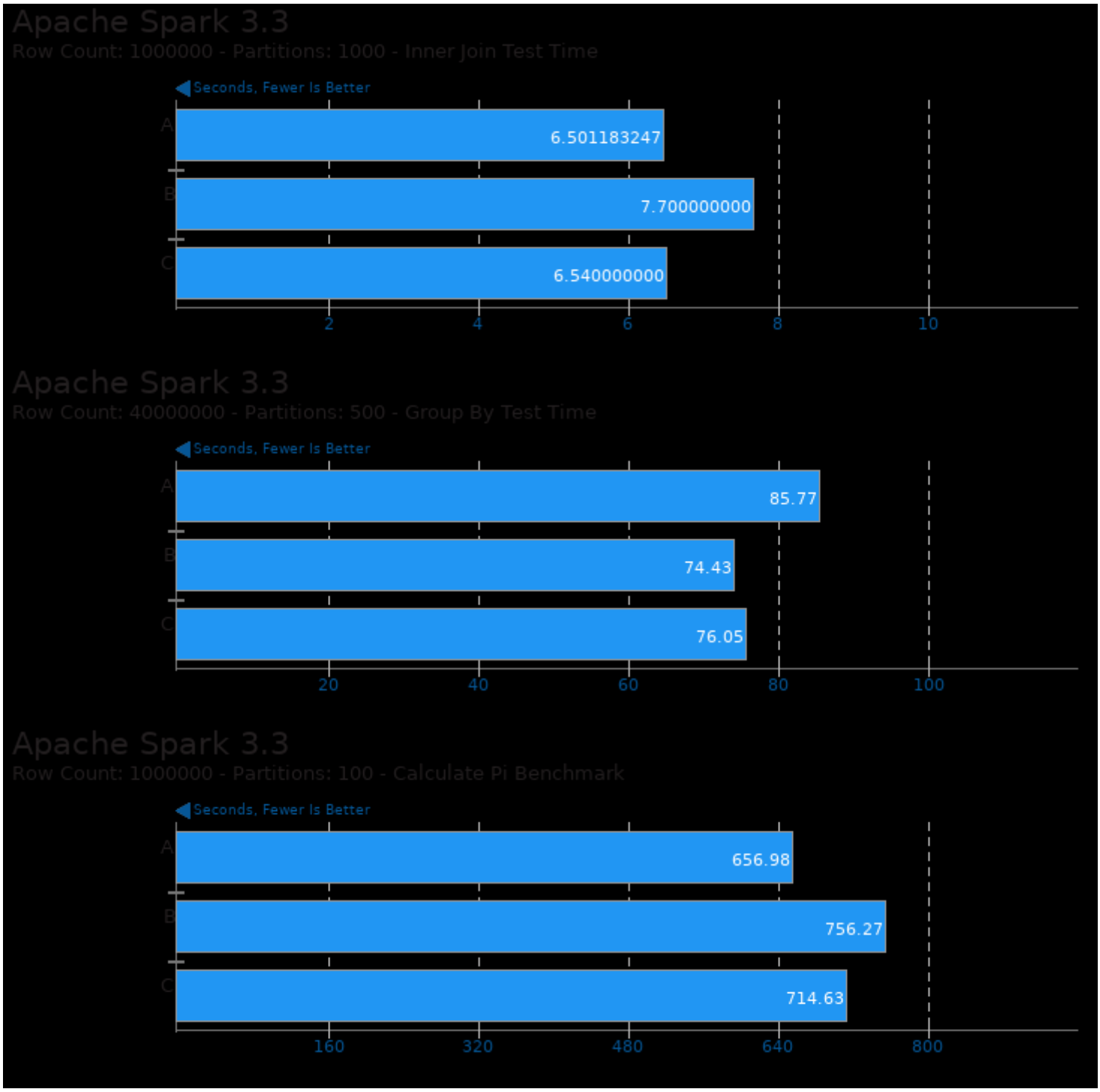
apache spark icelake



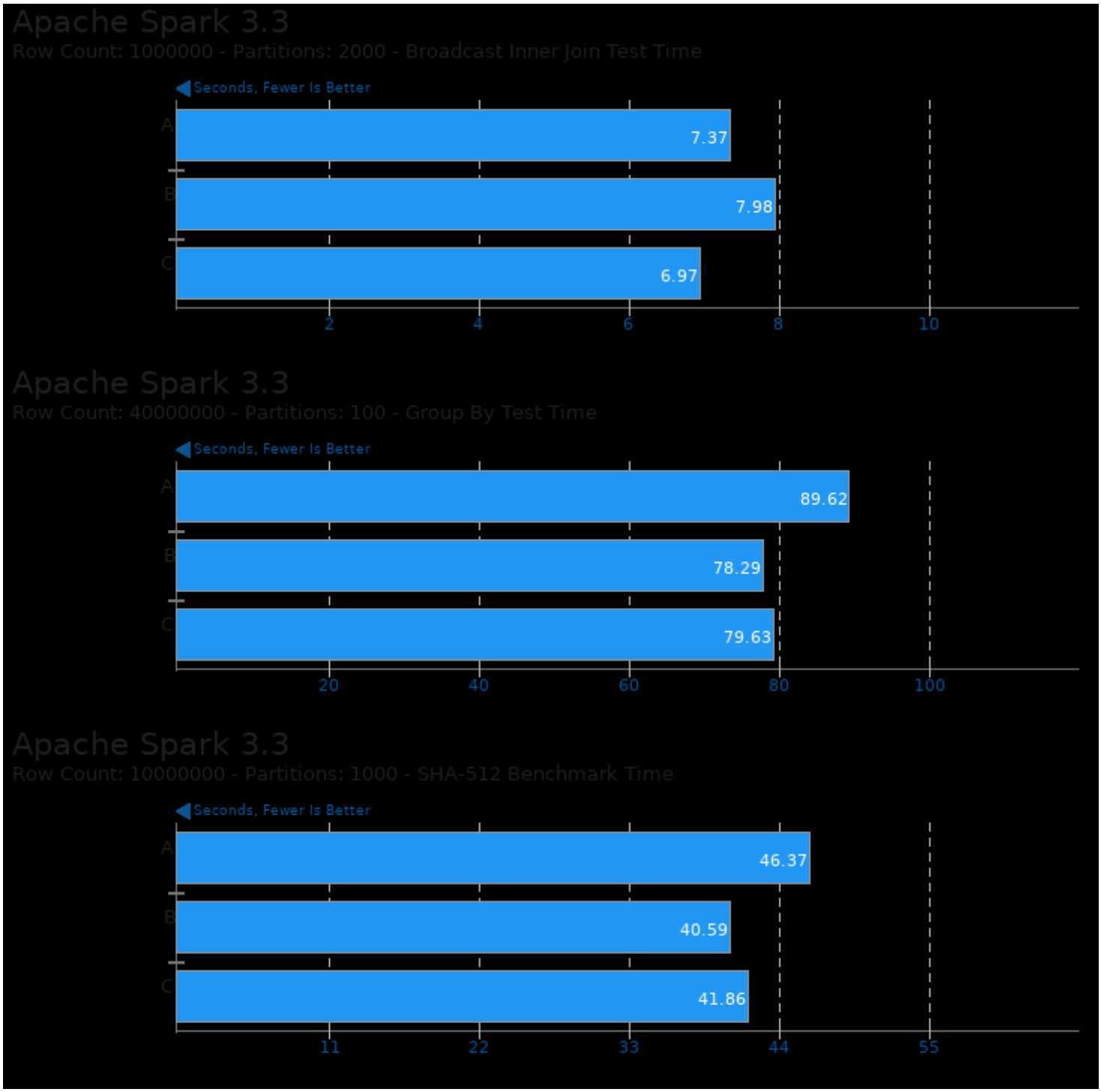
apache spark icelake



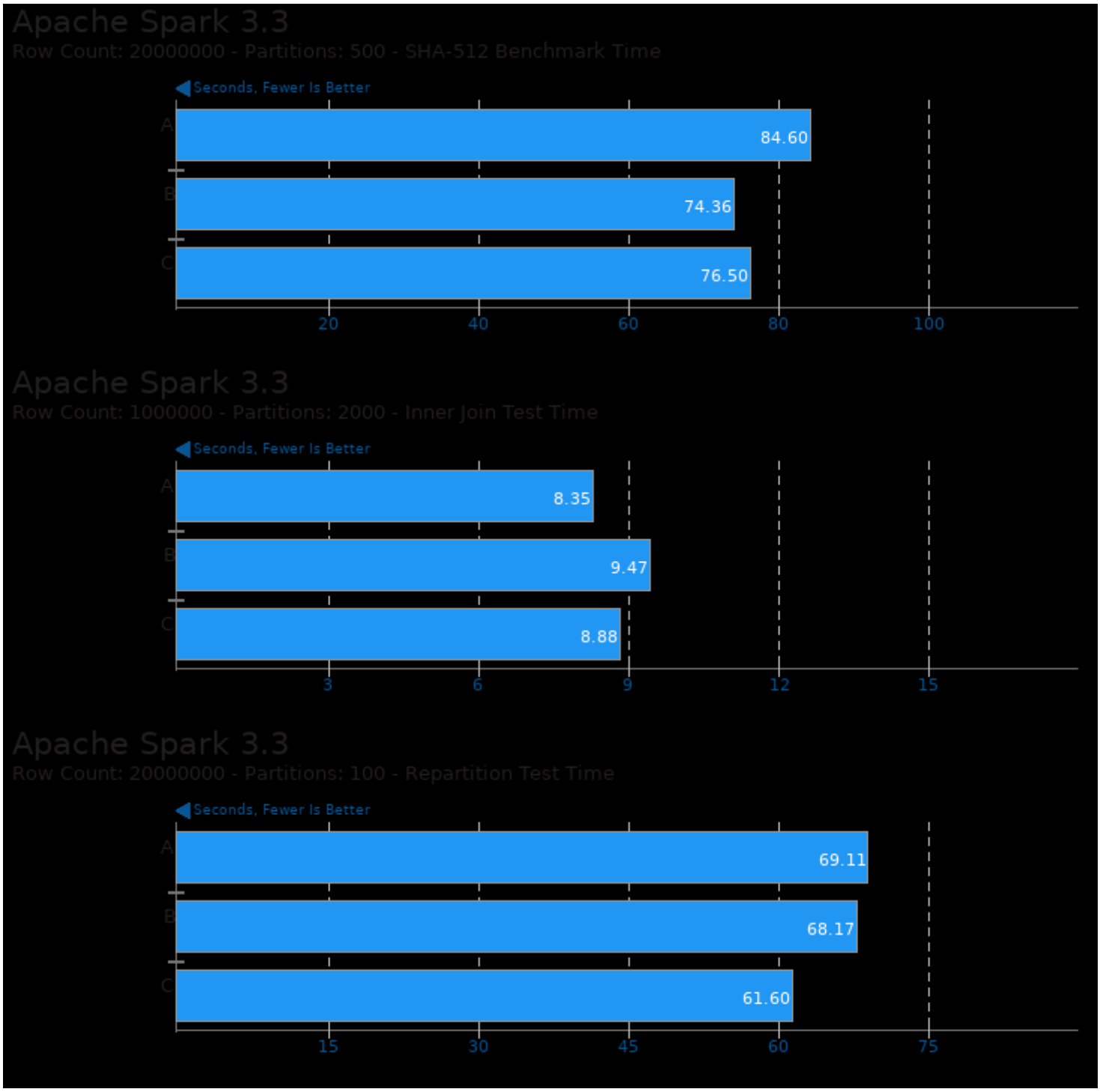
apache spark icelake



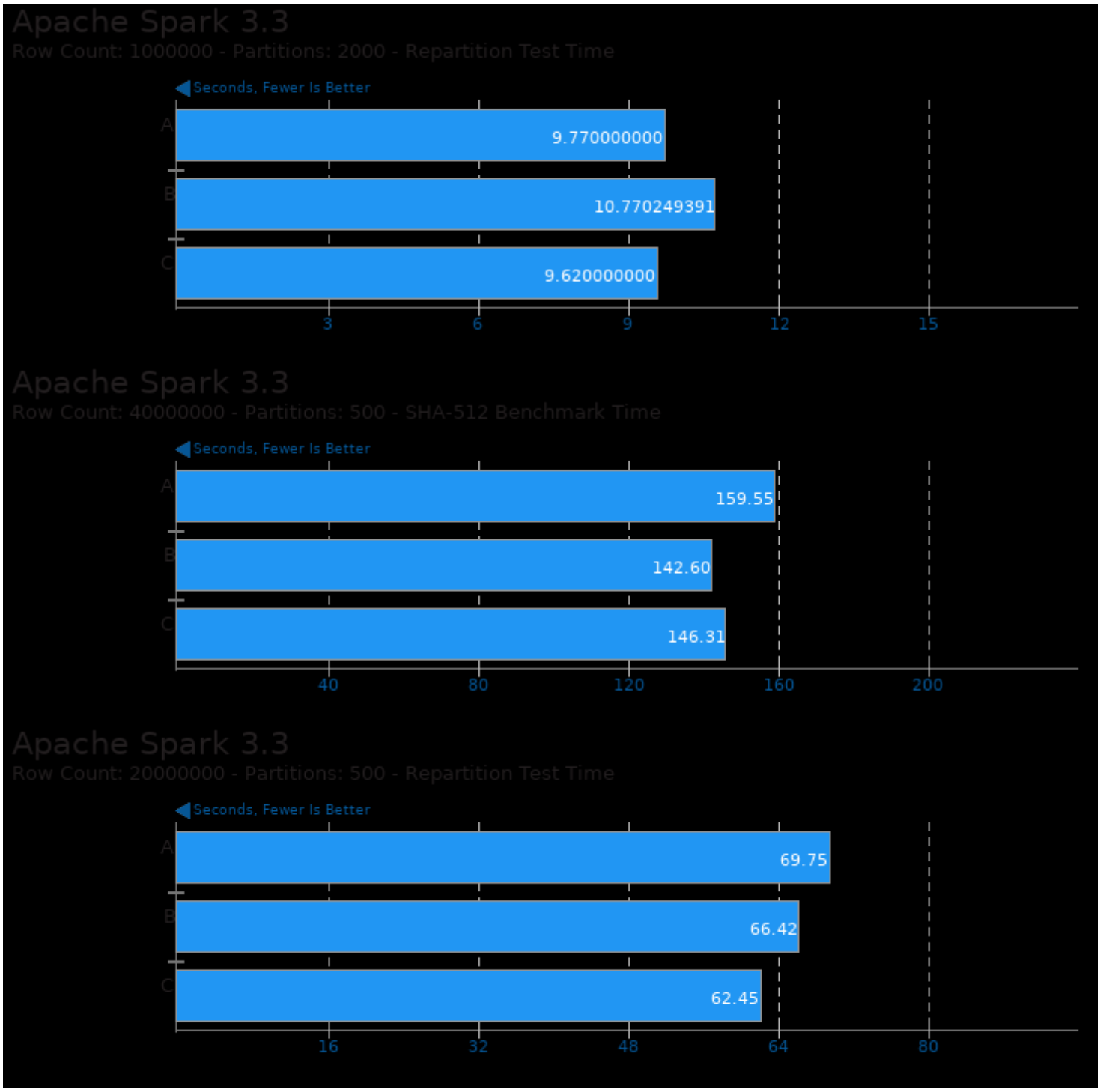
apache spark icelake



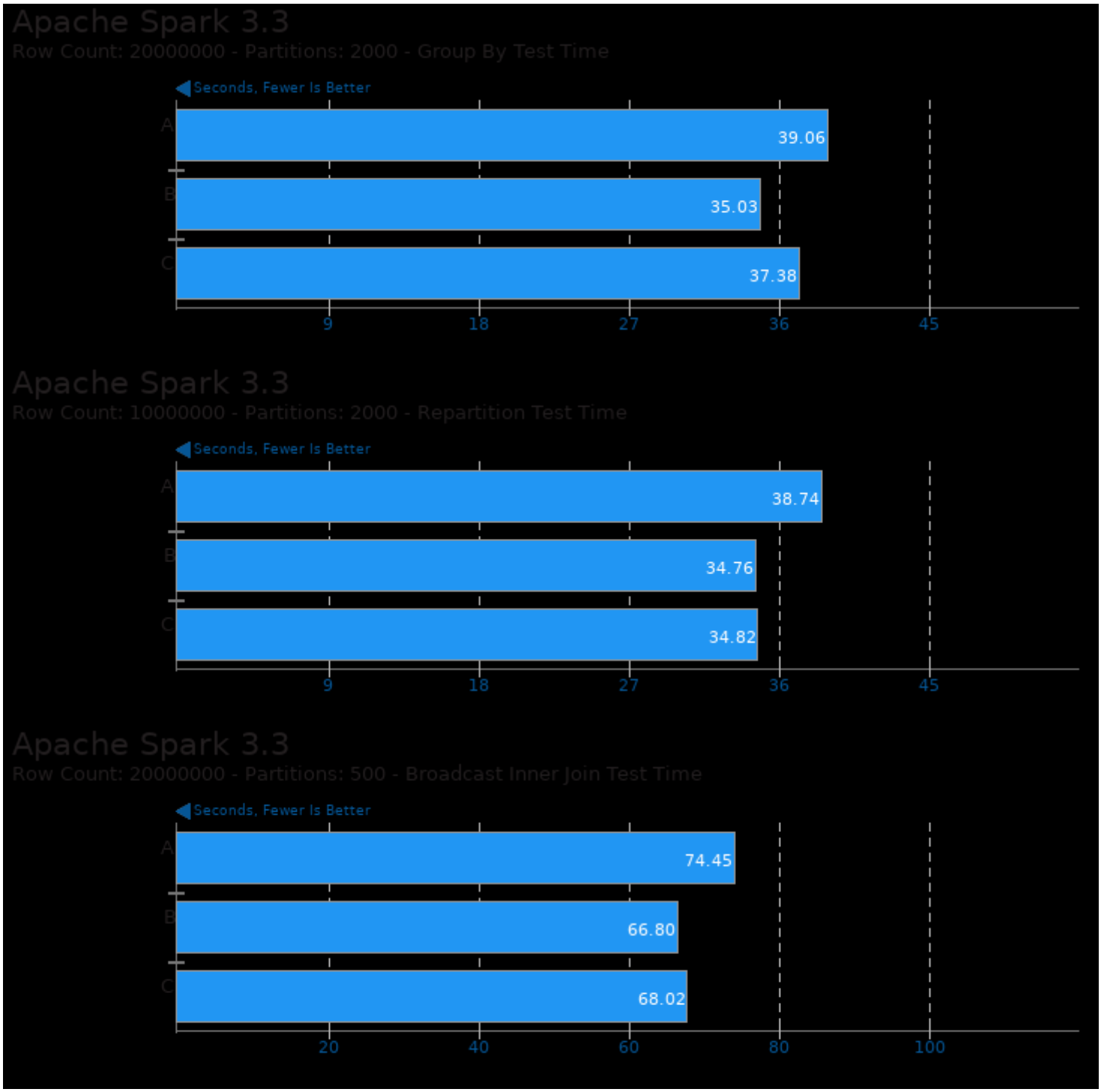
apache spark icelake



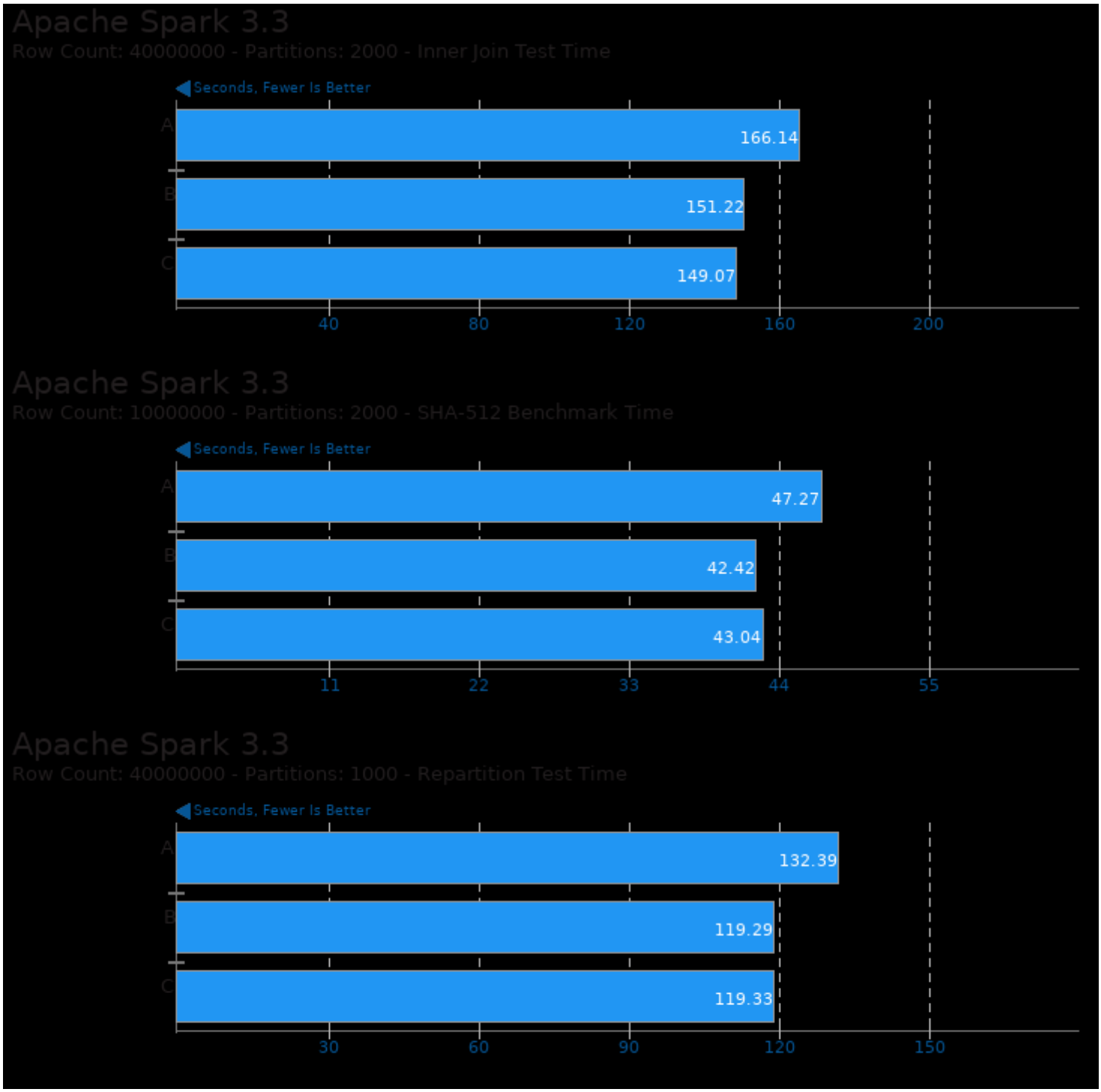
apache spark icelake



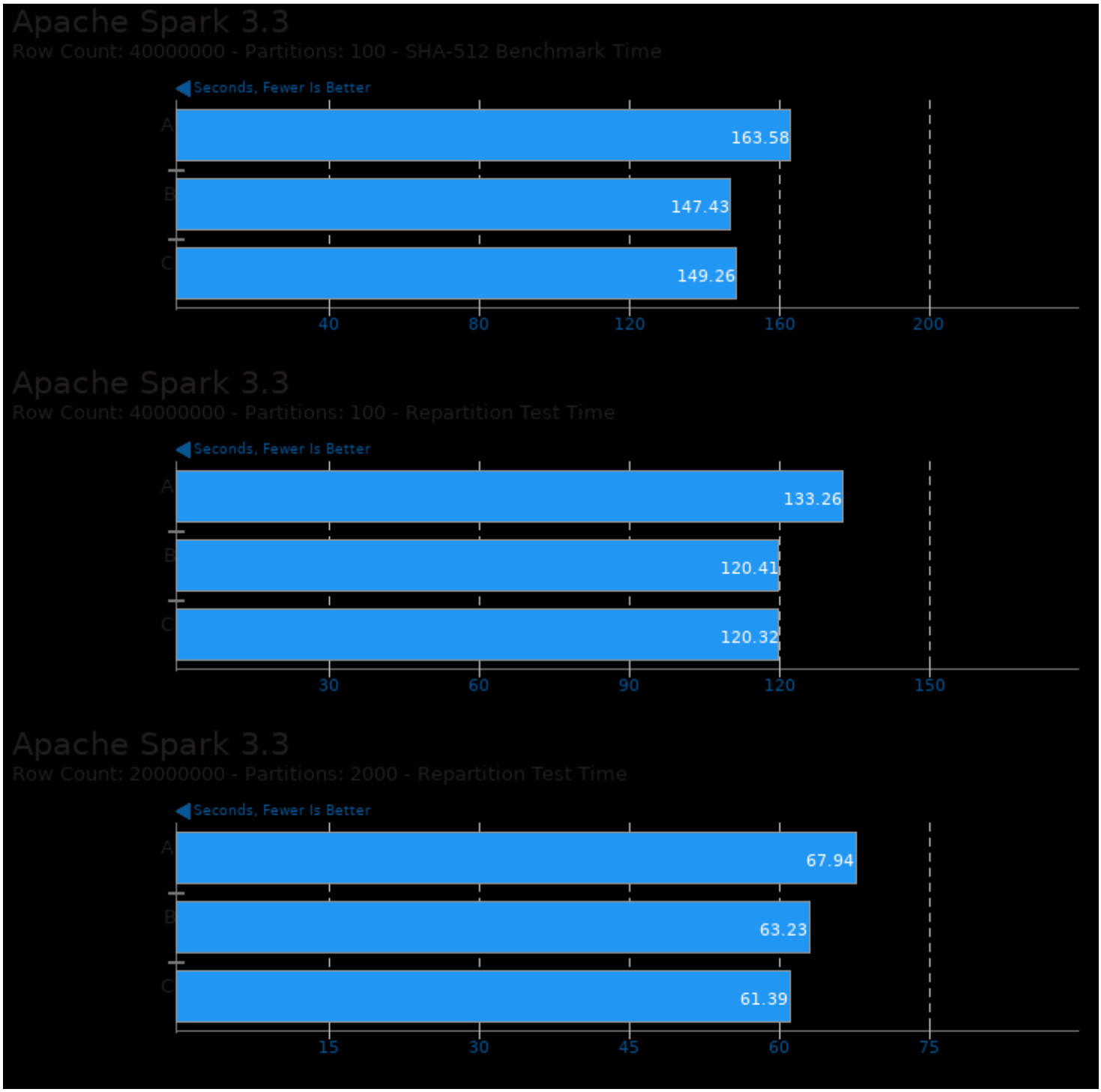
apache spark icelake



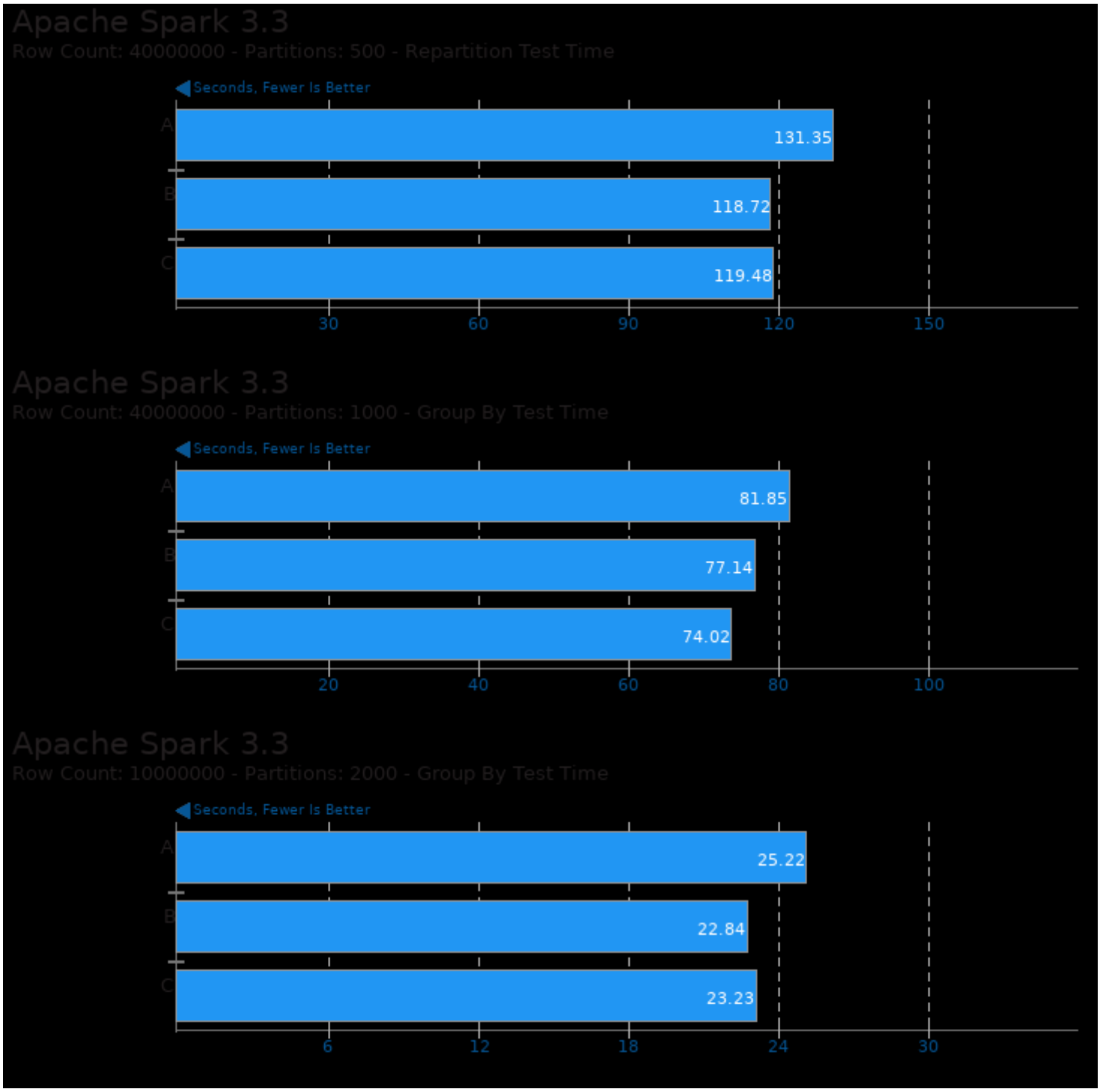
apache spark icelake



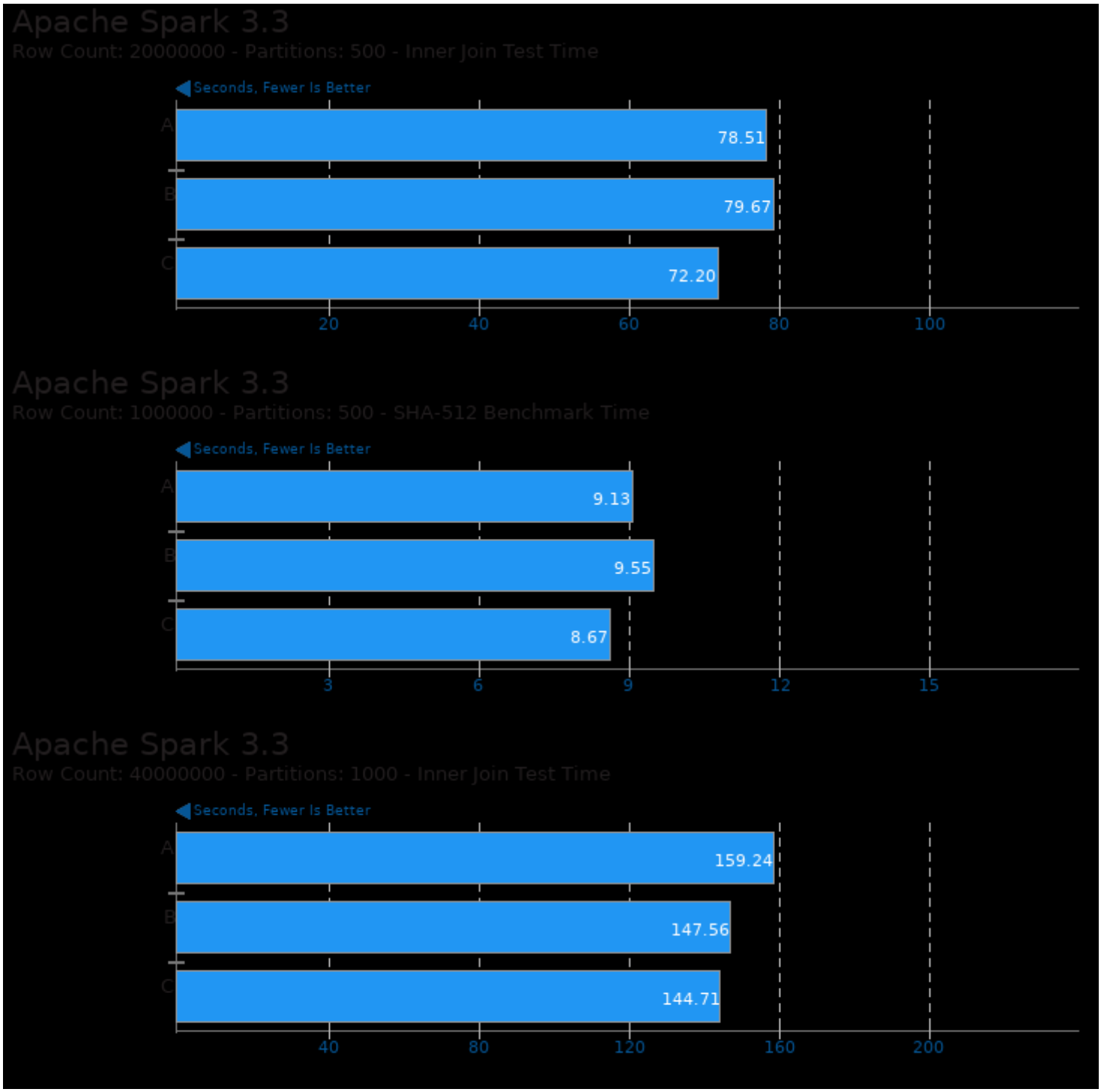
apache spark icelake



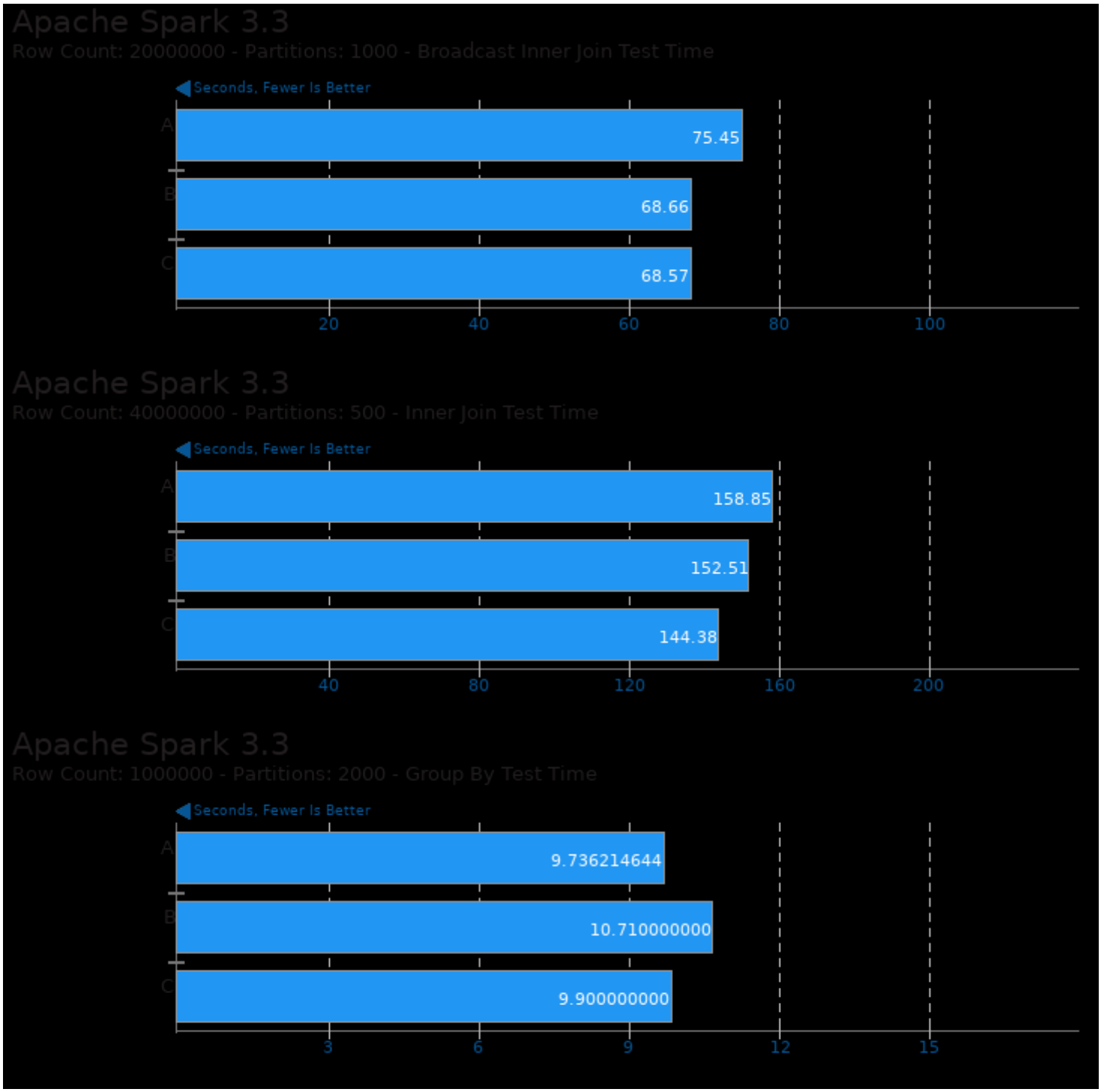
apache spark icelake



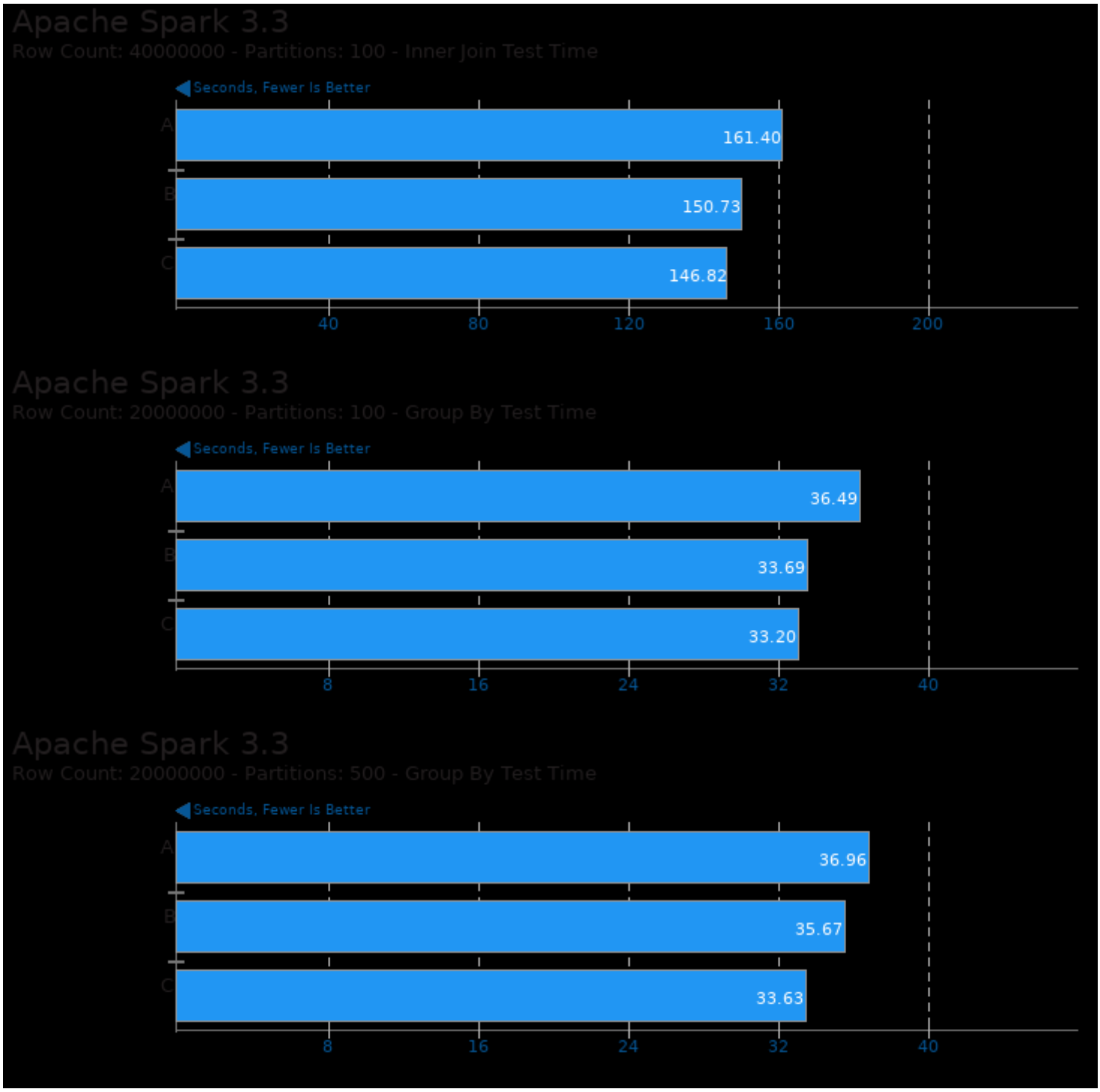
apache spark icelake



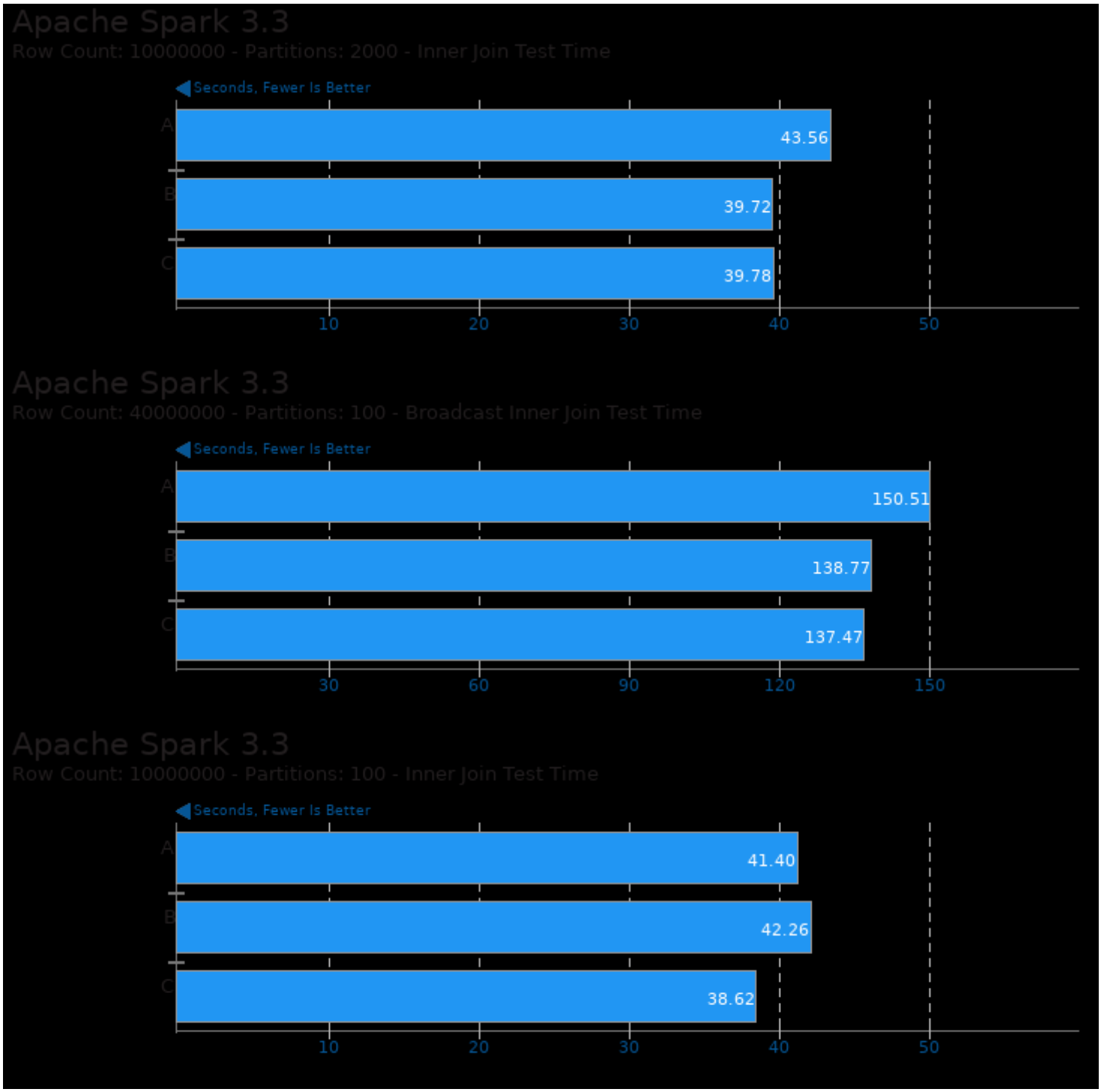
apache spark icelake



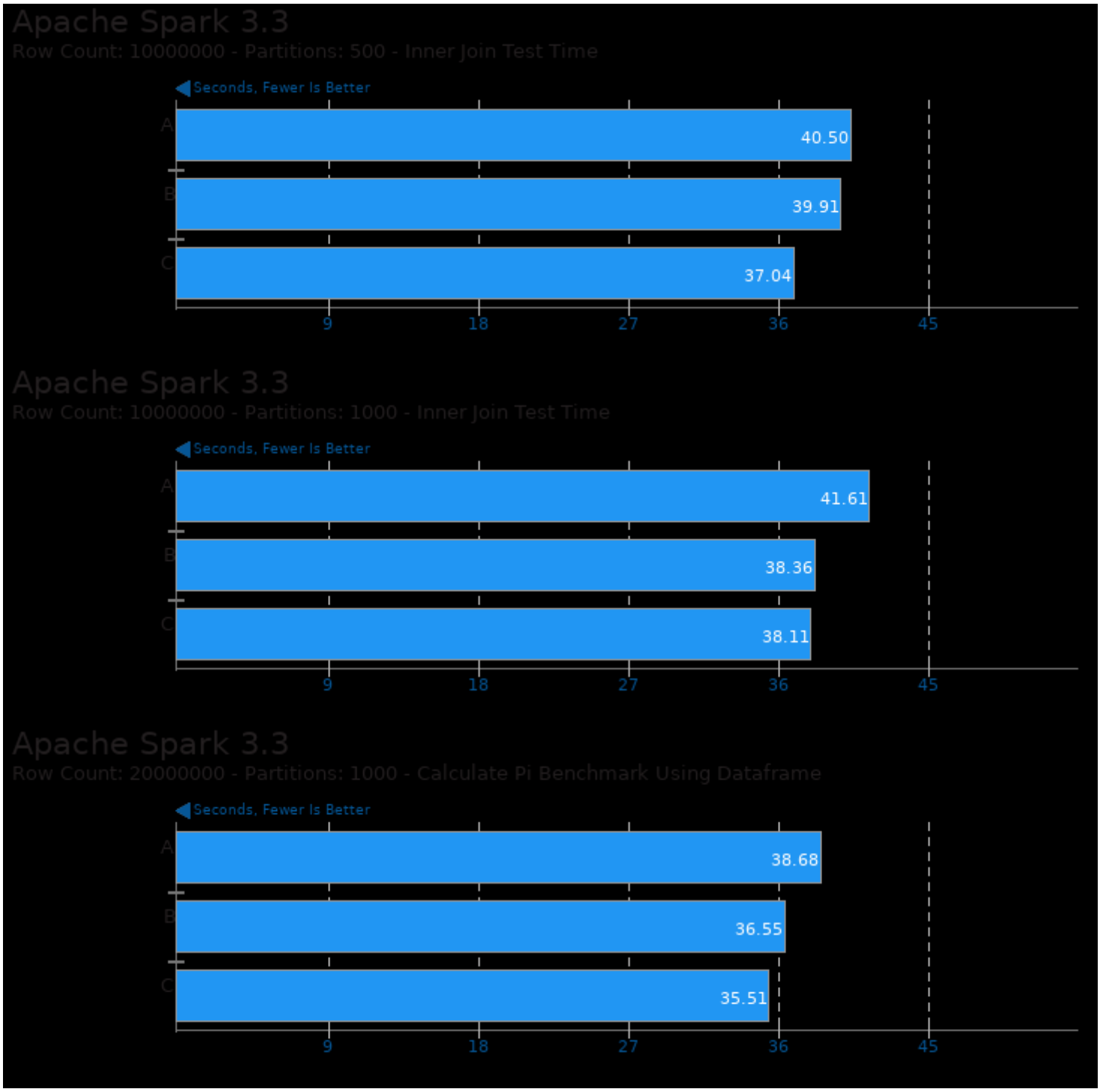
apache spark icelake



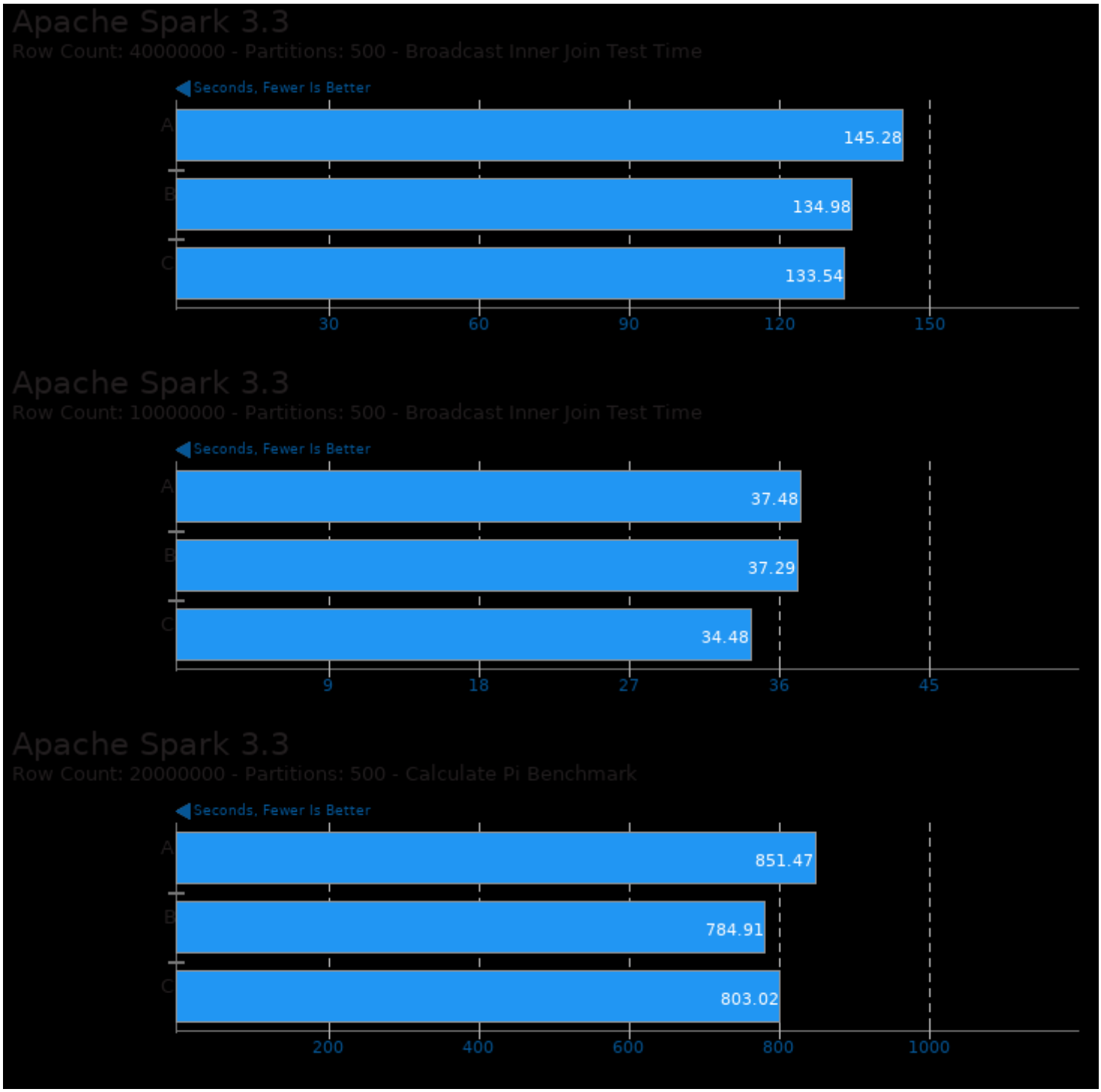
apache spark icelake



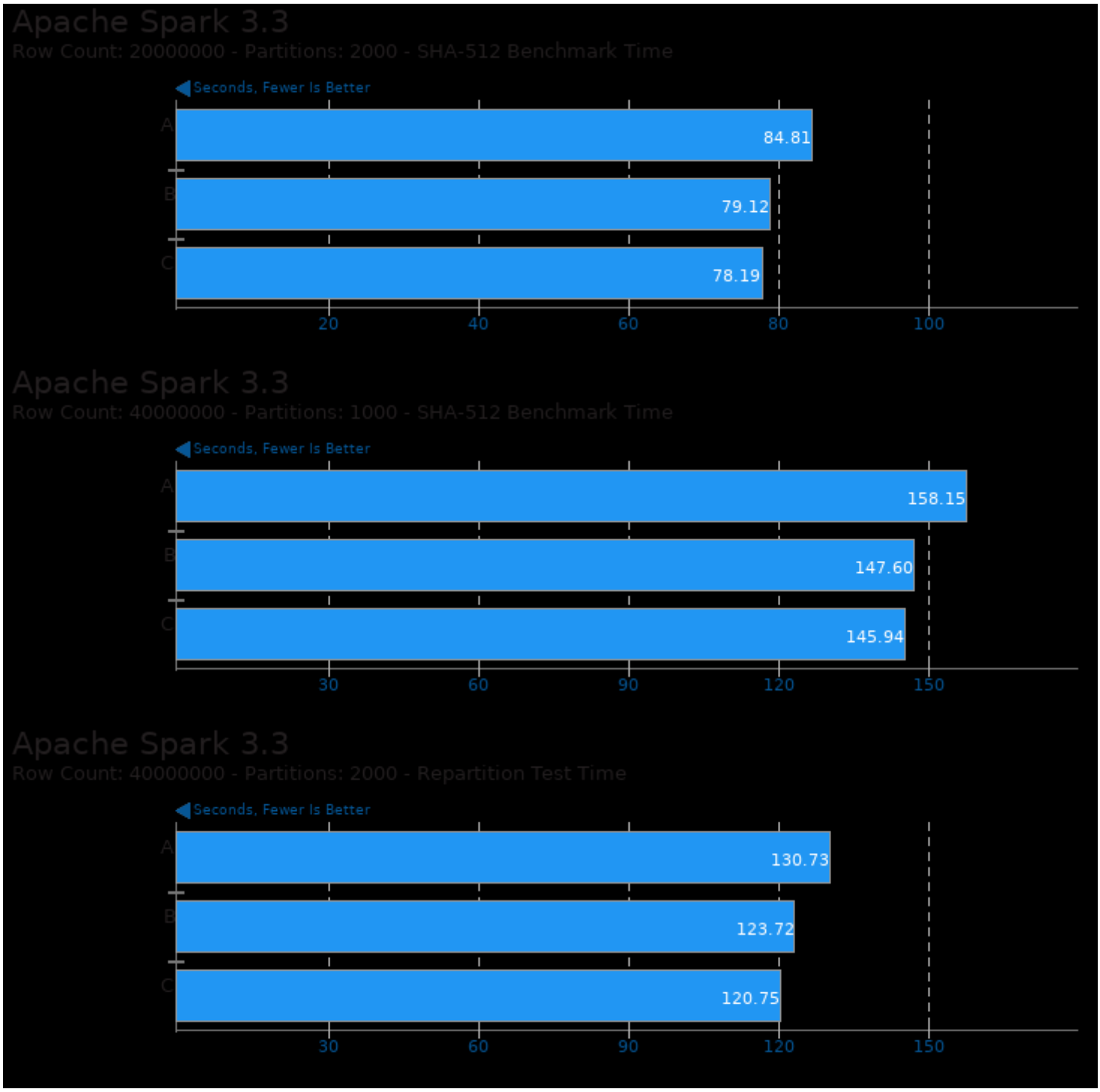
apache spark icelake



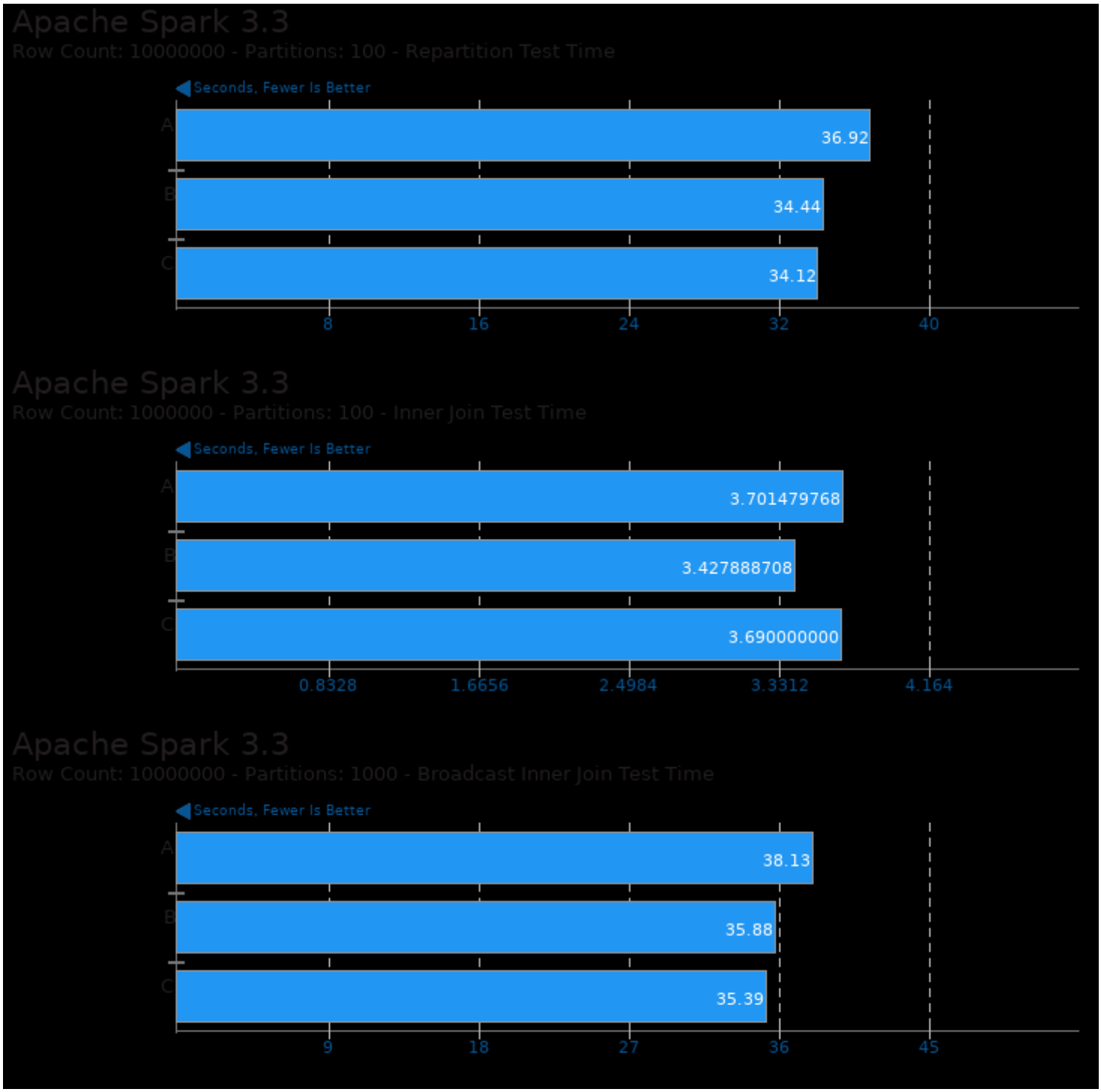
apache spark icelake



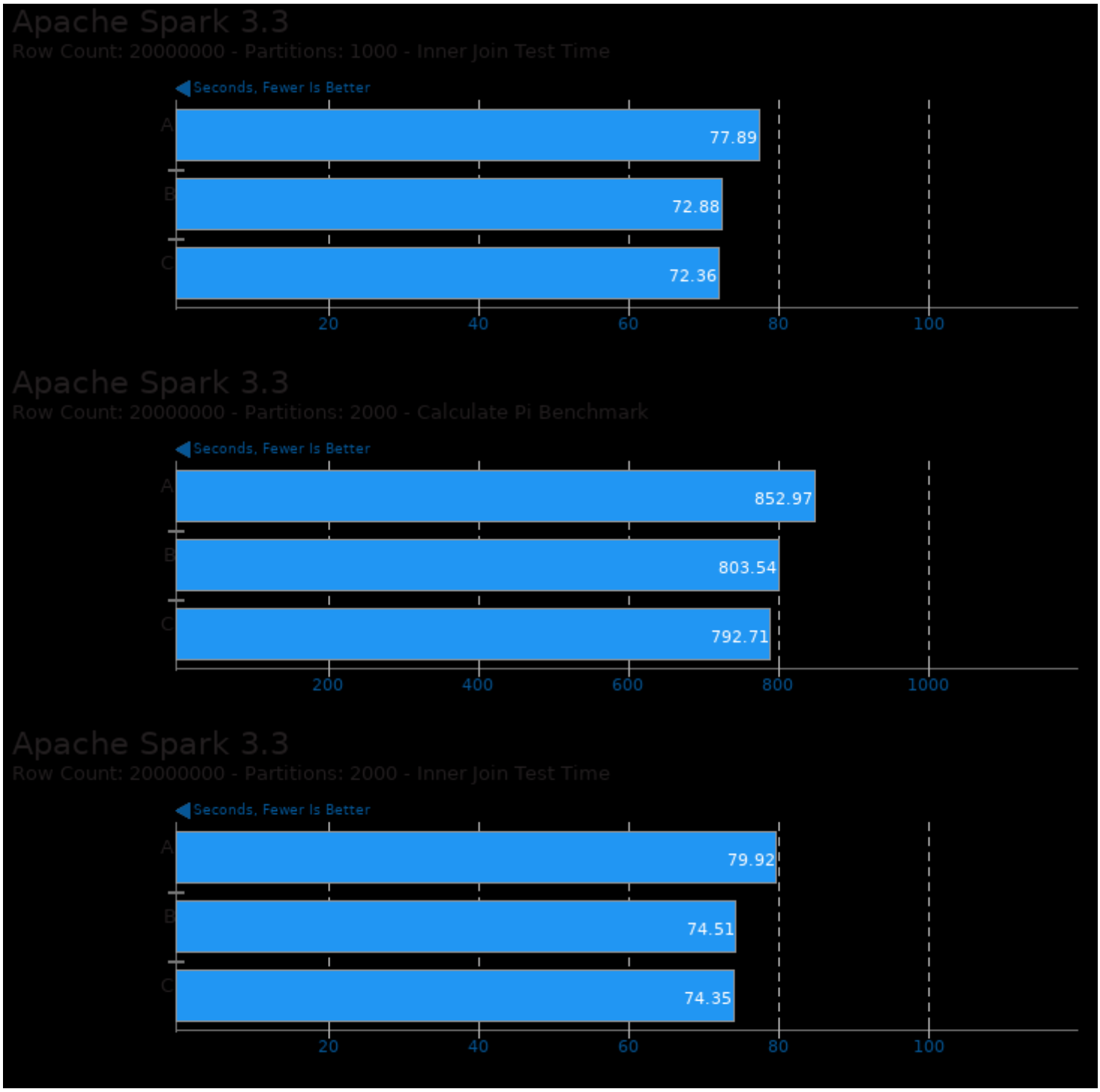
apache spark icelake



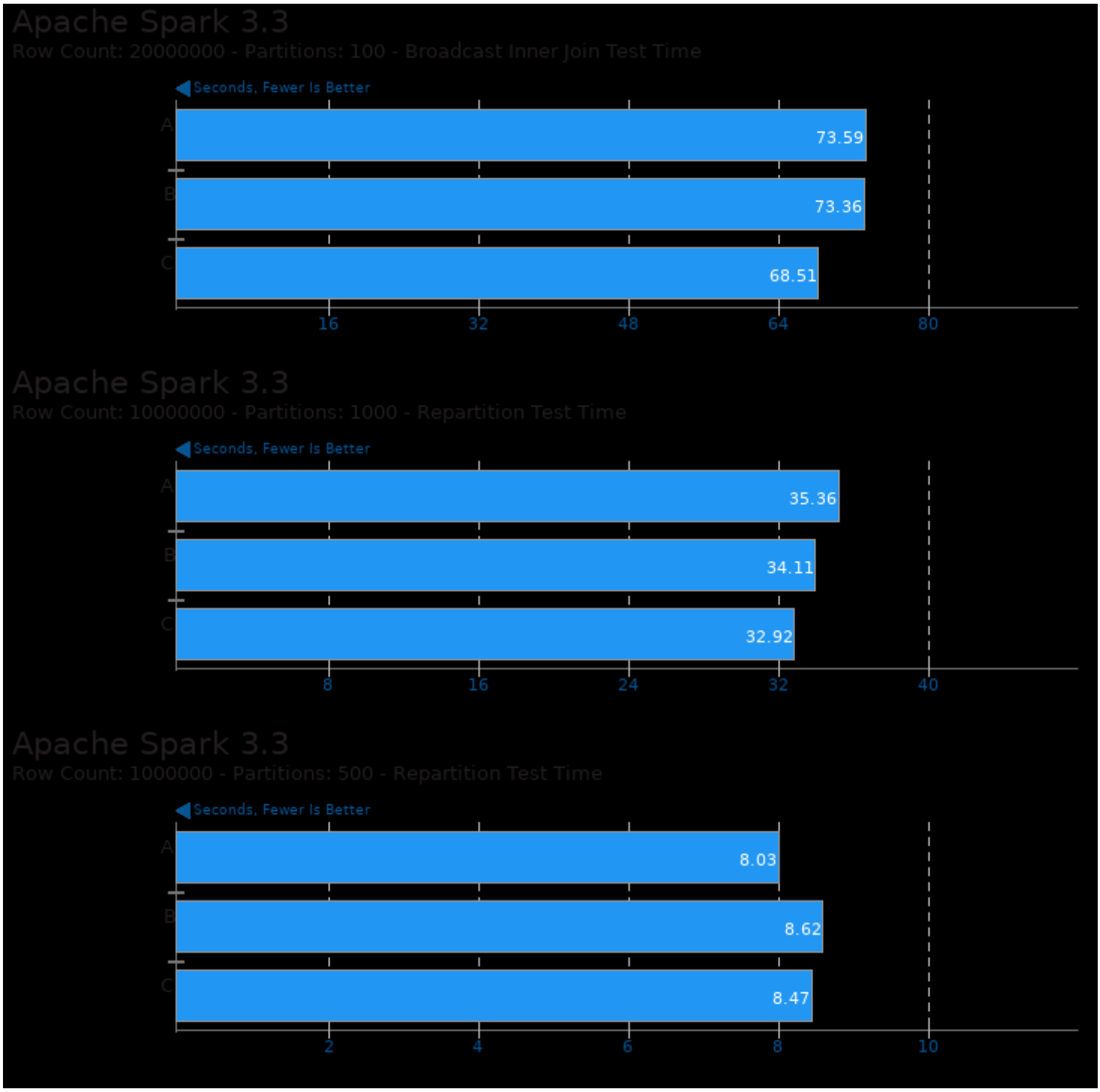
apache spark icelake



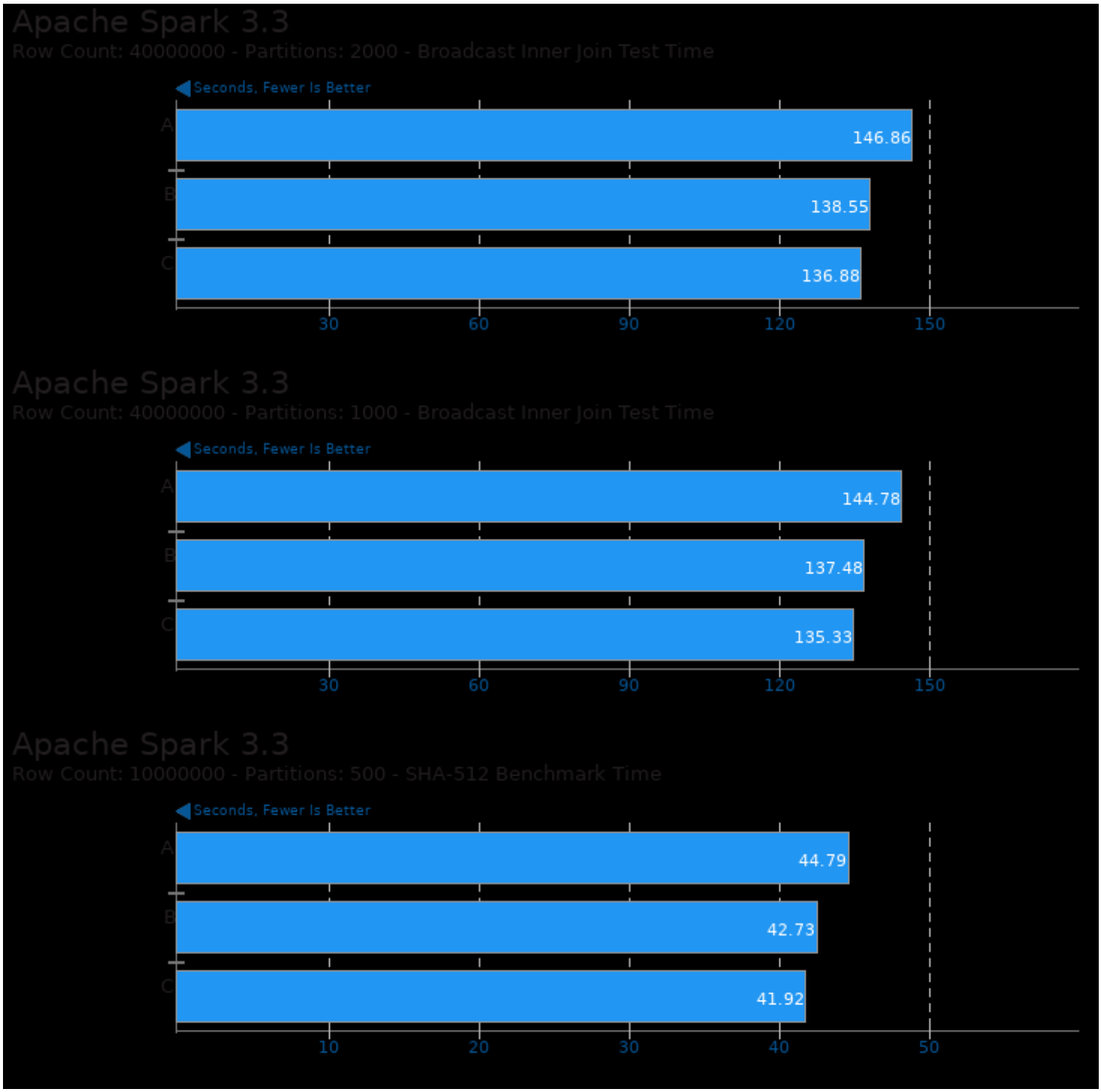
apache spark icelake



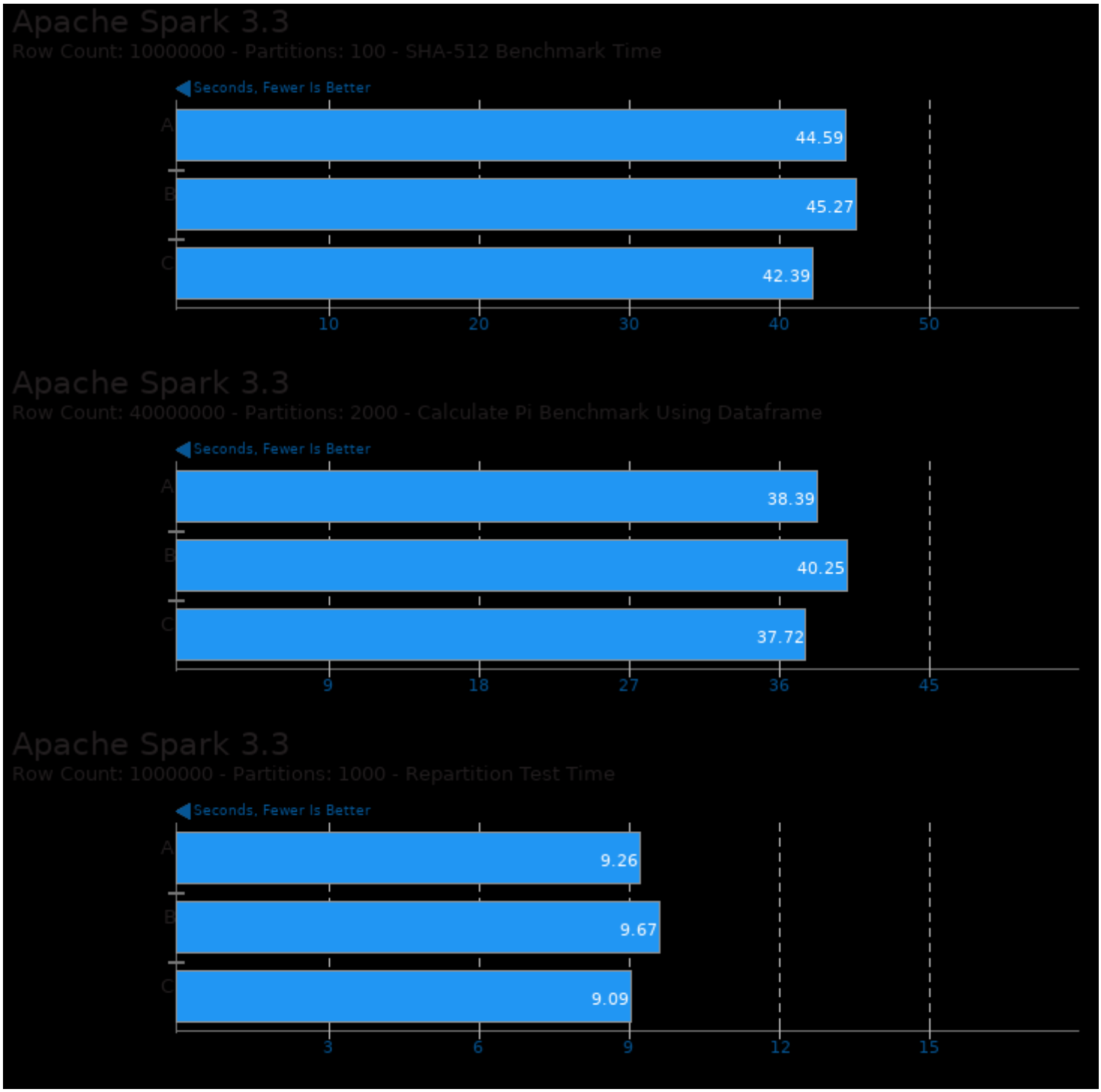
apache spark icelake



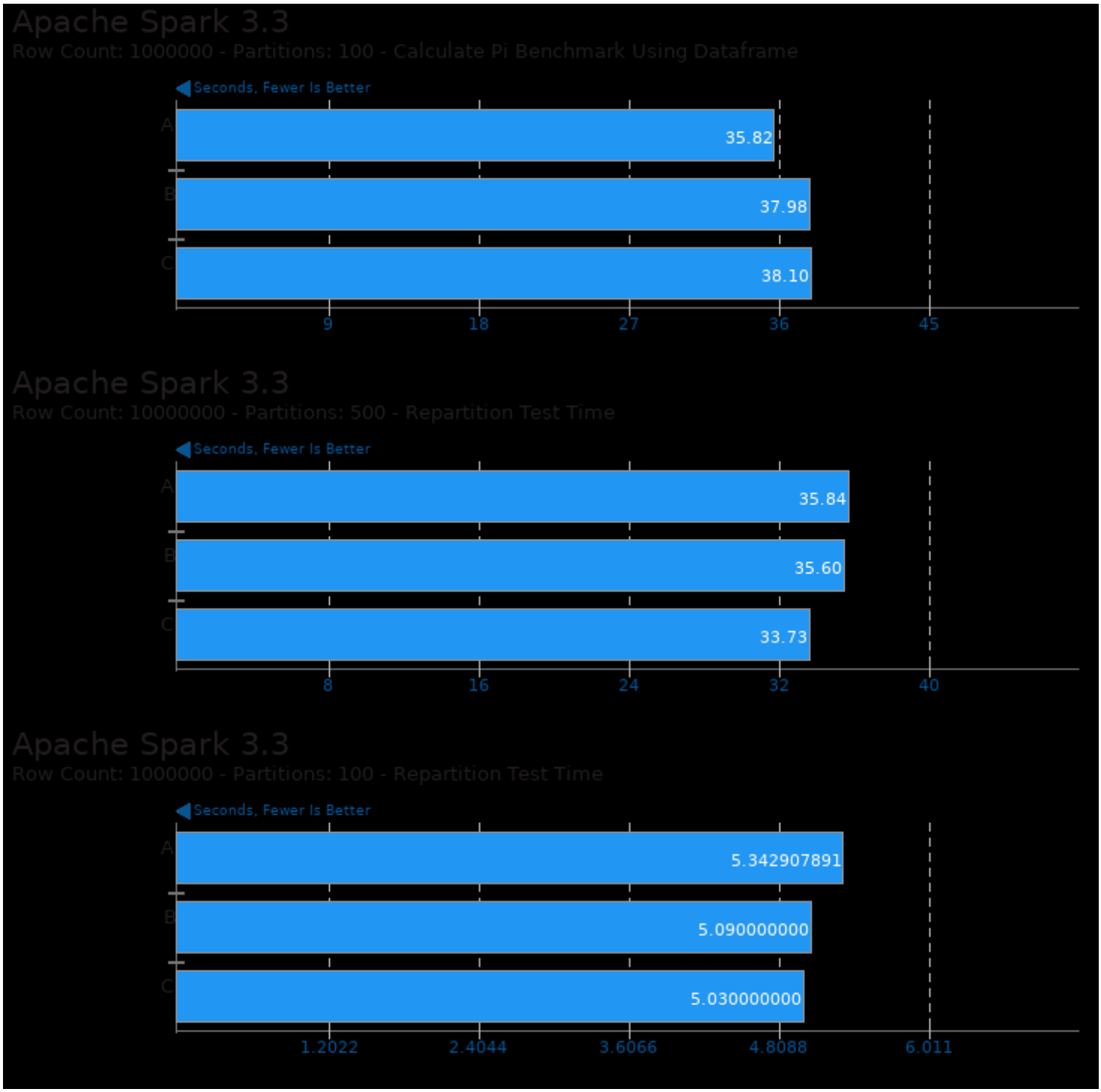
apache spark icelake



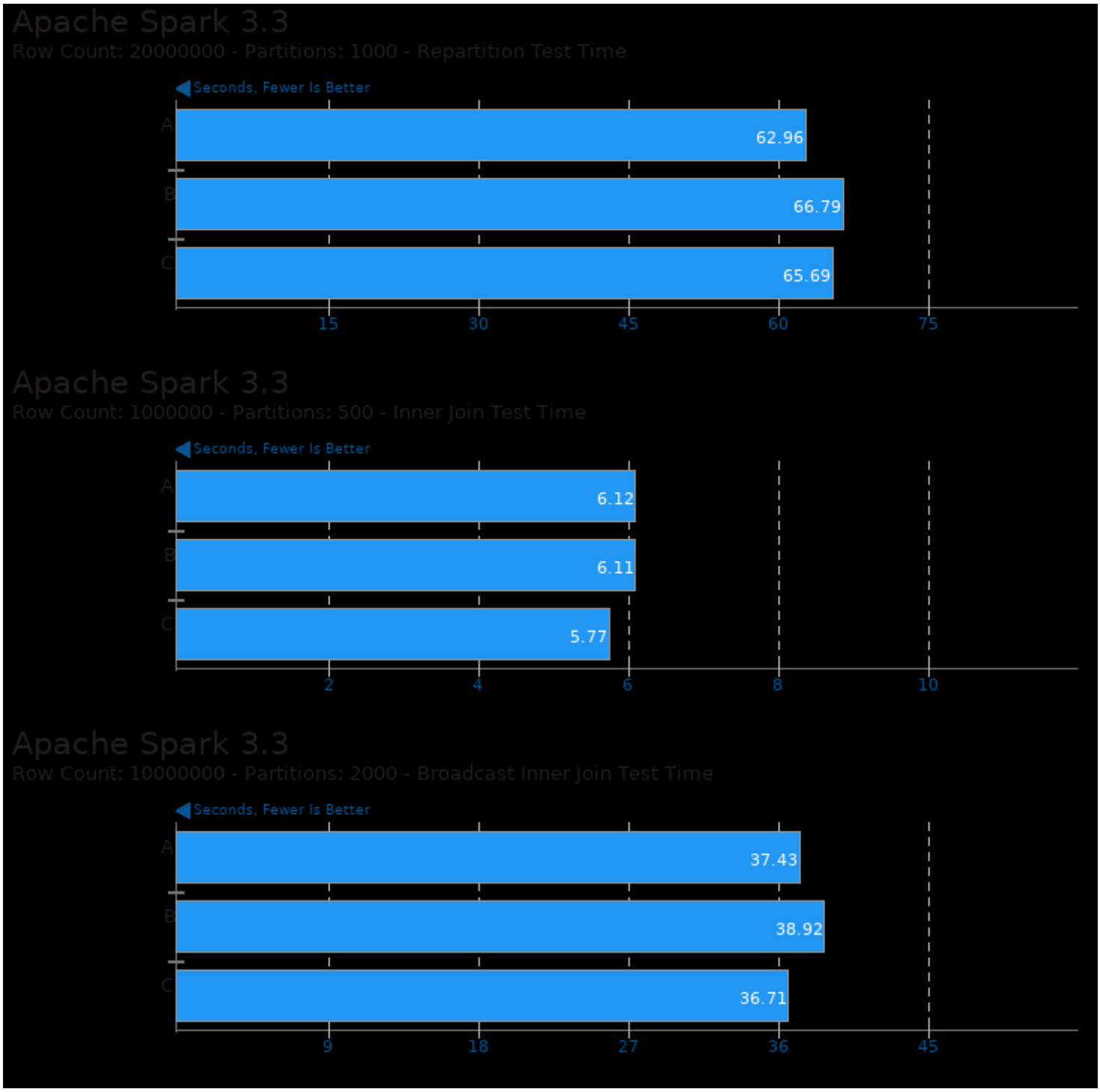
apache spark icelake



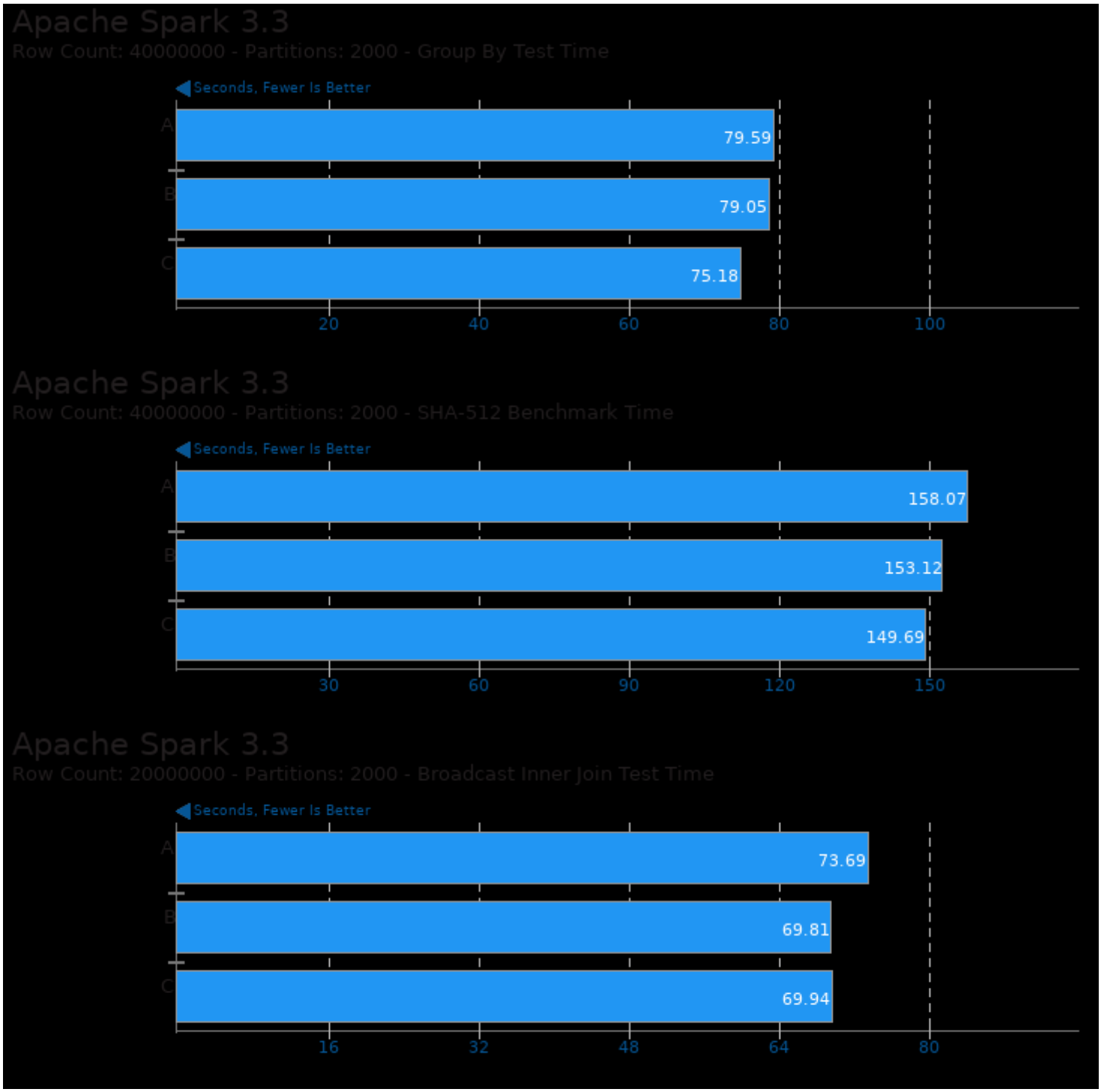
apache spark icelake



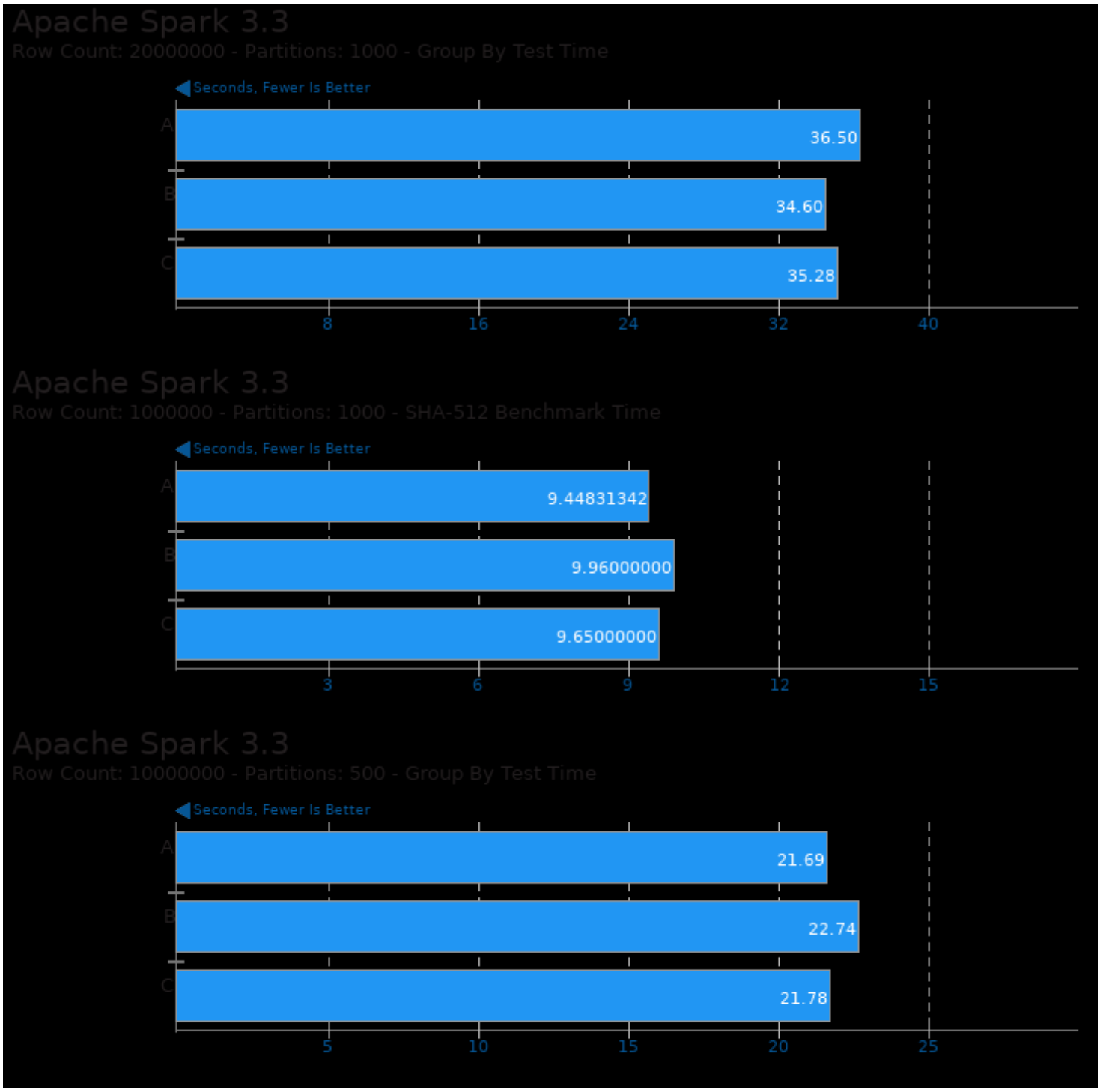
apache spark icelake



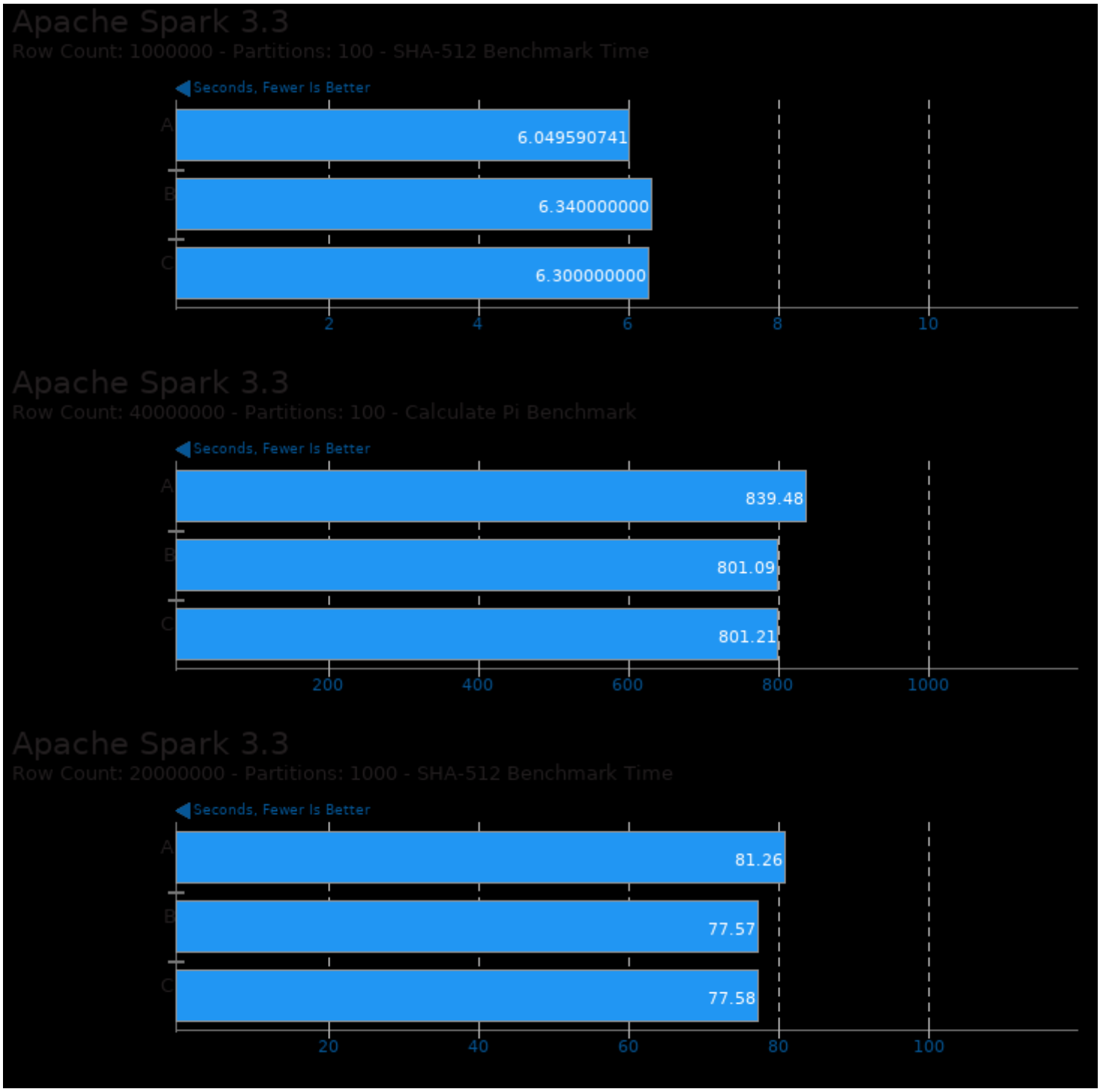
apache spark icelake



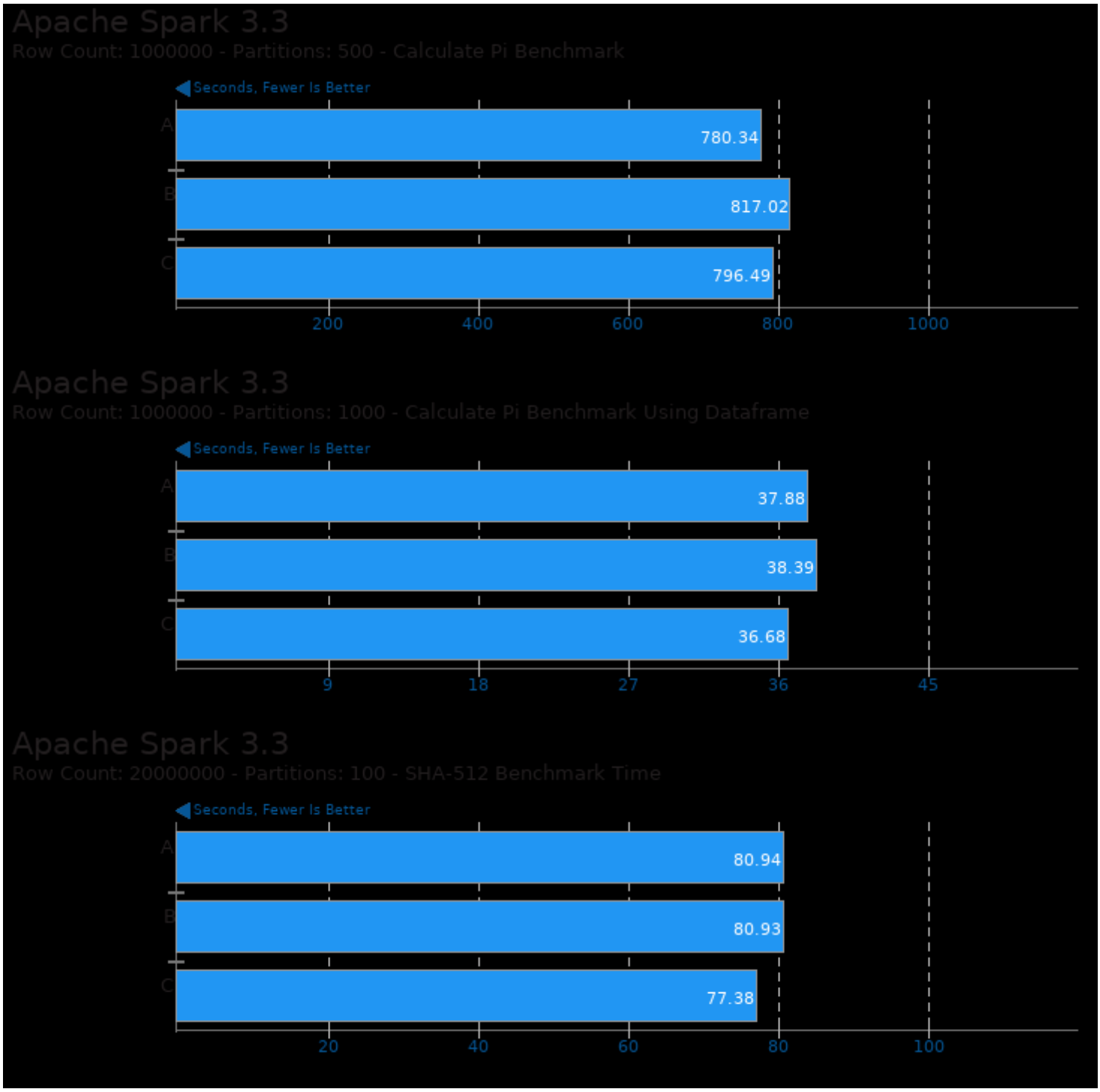
apache spark icelake



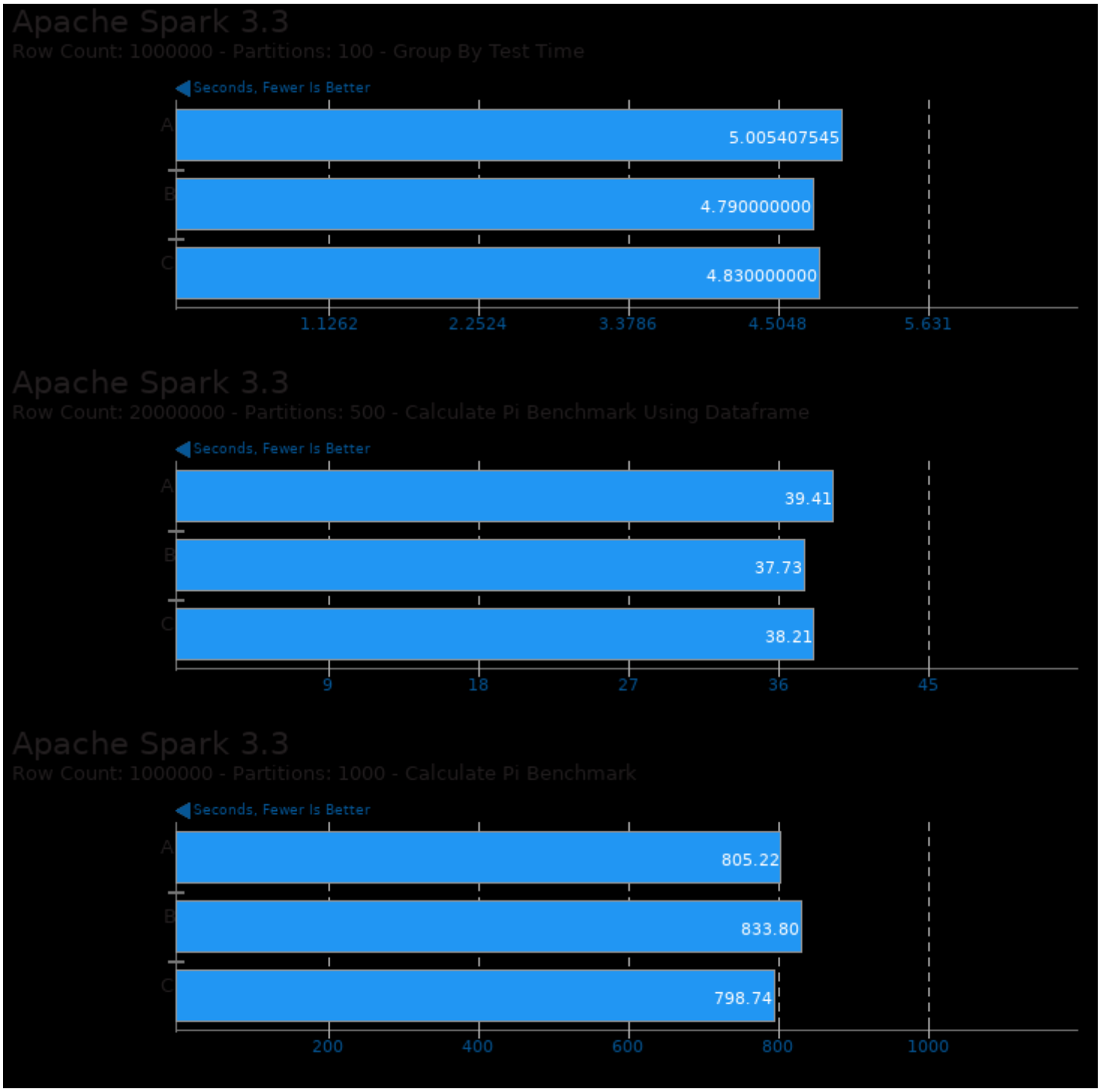
apache spark icelake



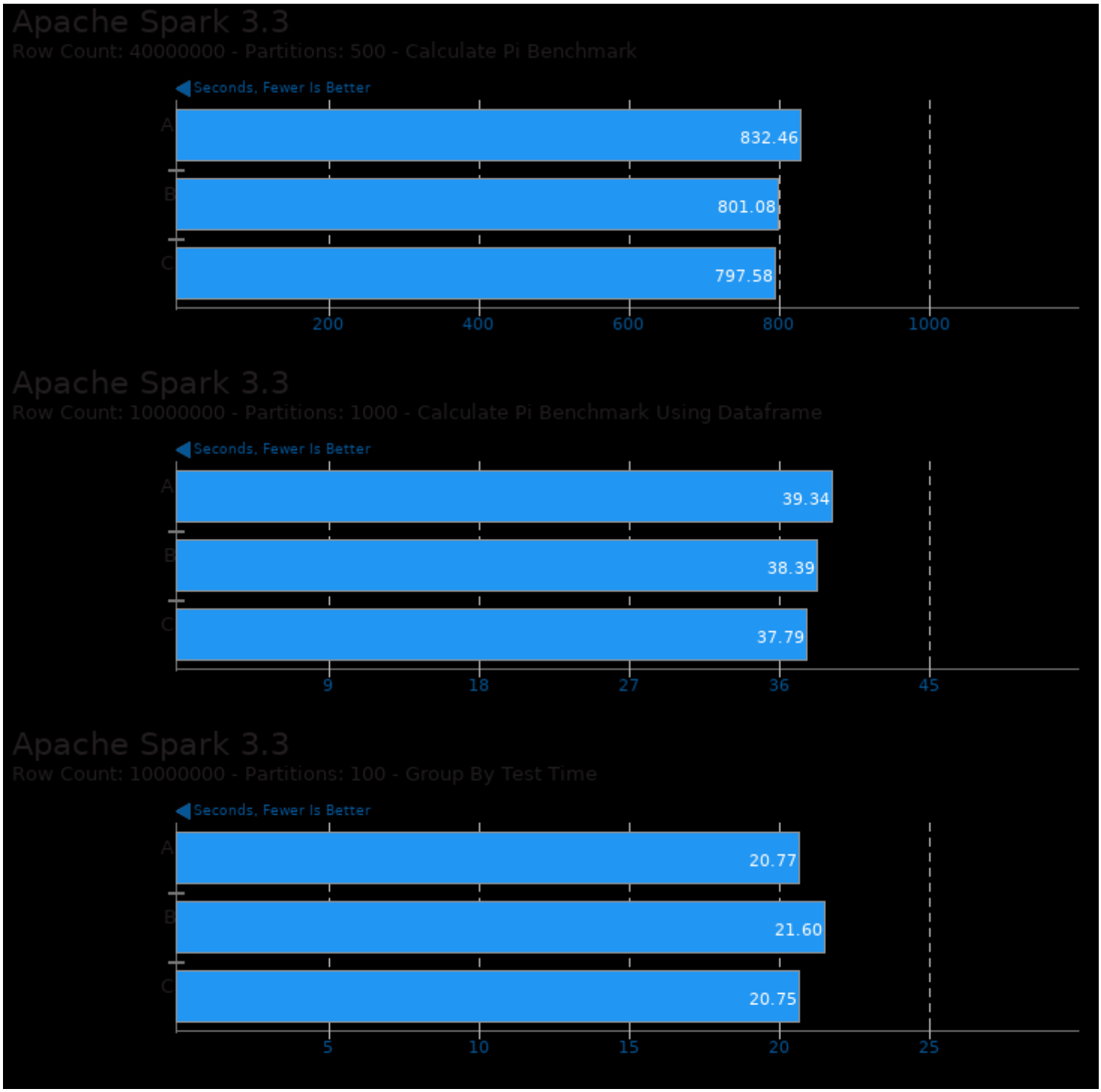
apache spark icelake



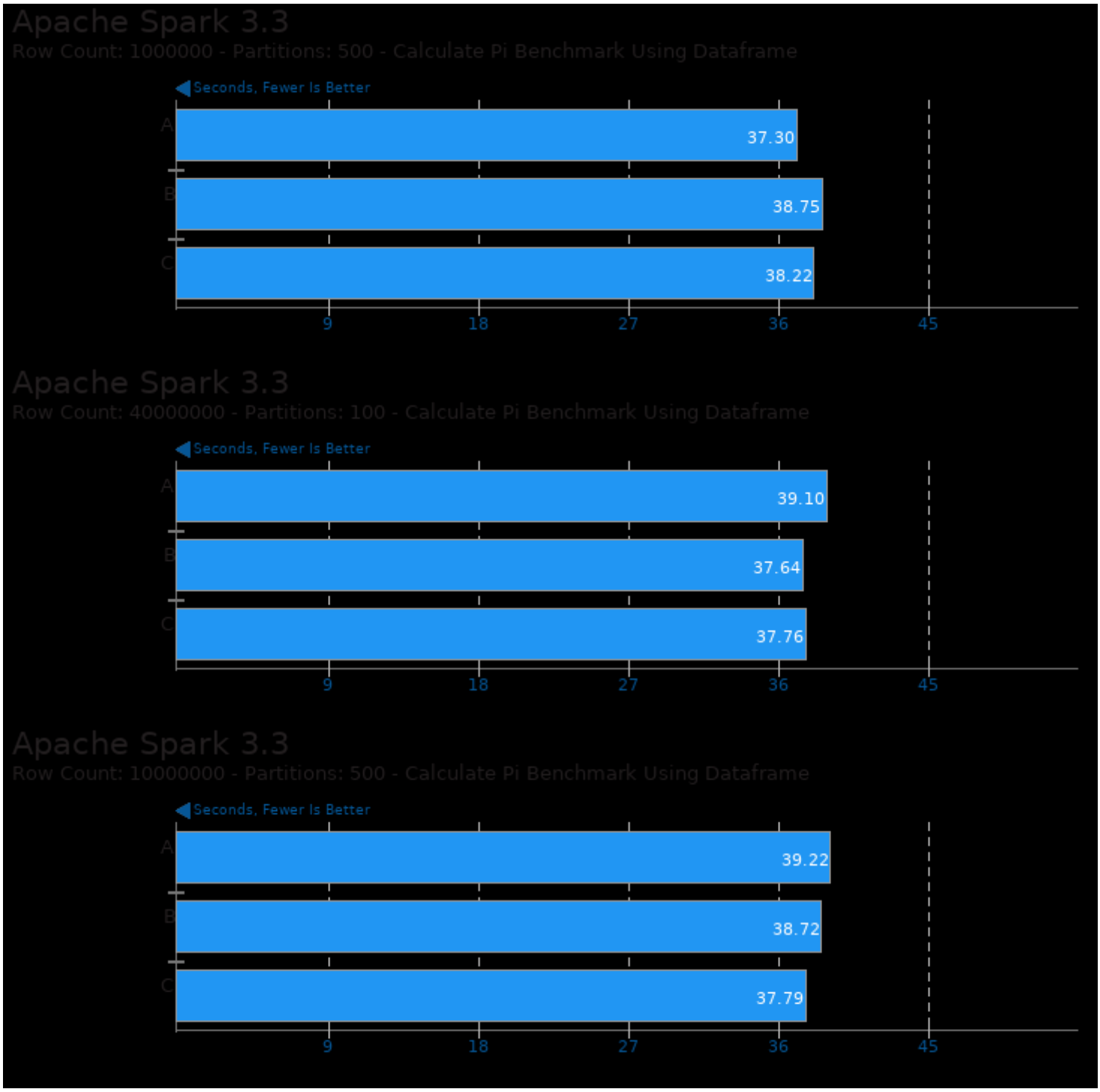
apache spark icelake



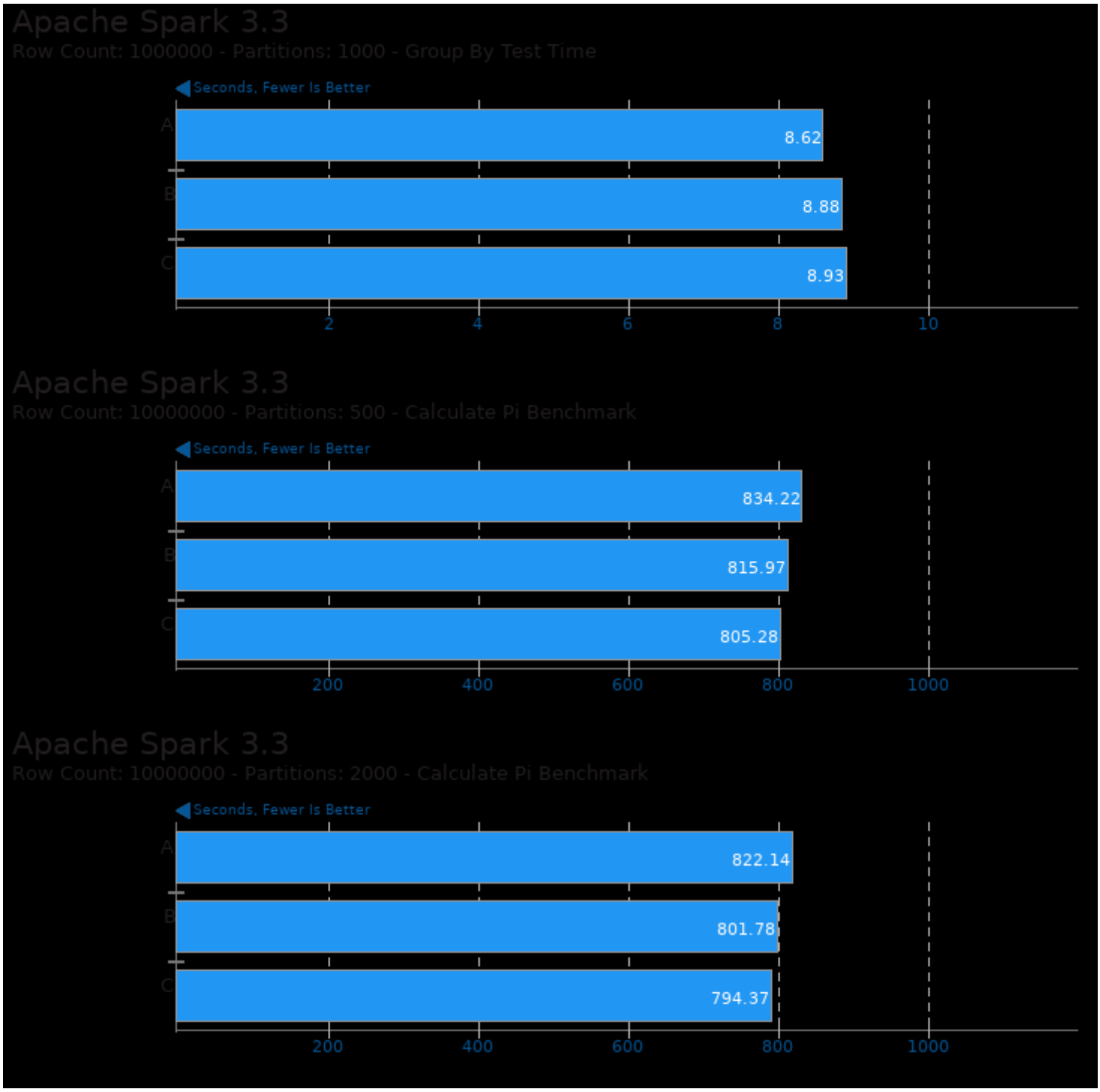
apache spark icelake



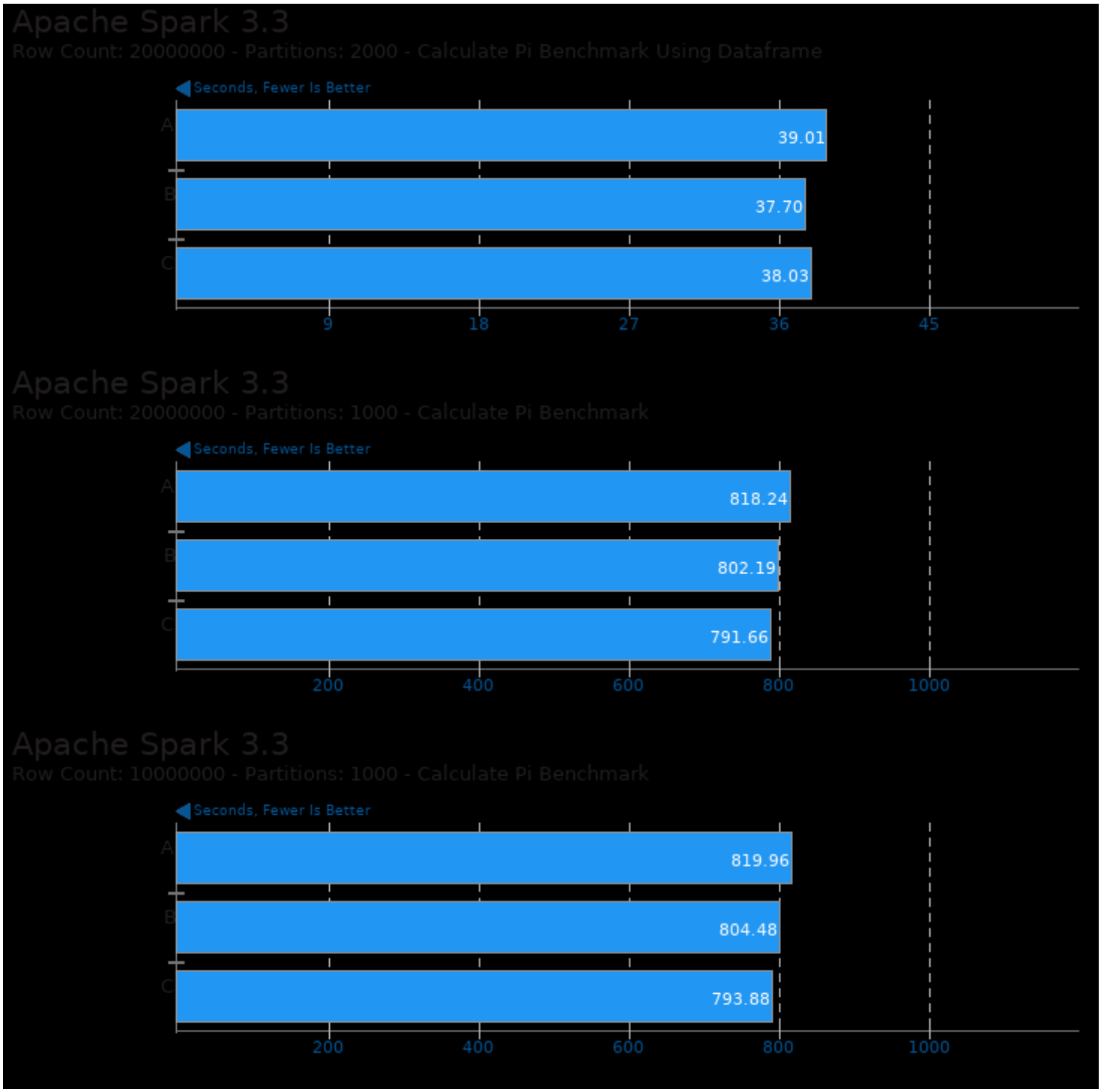
apache spark icelake



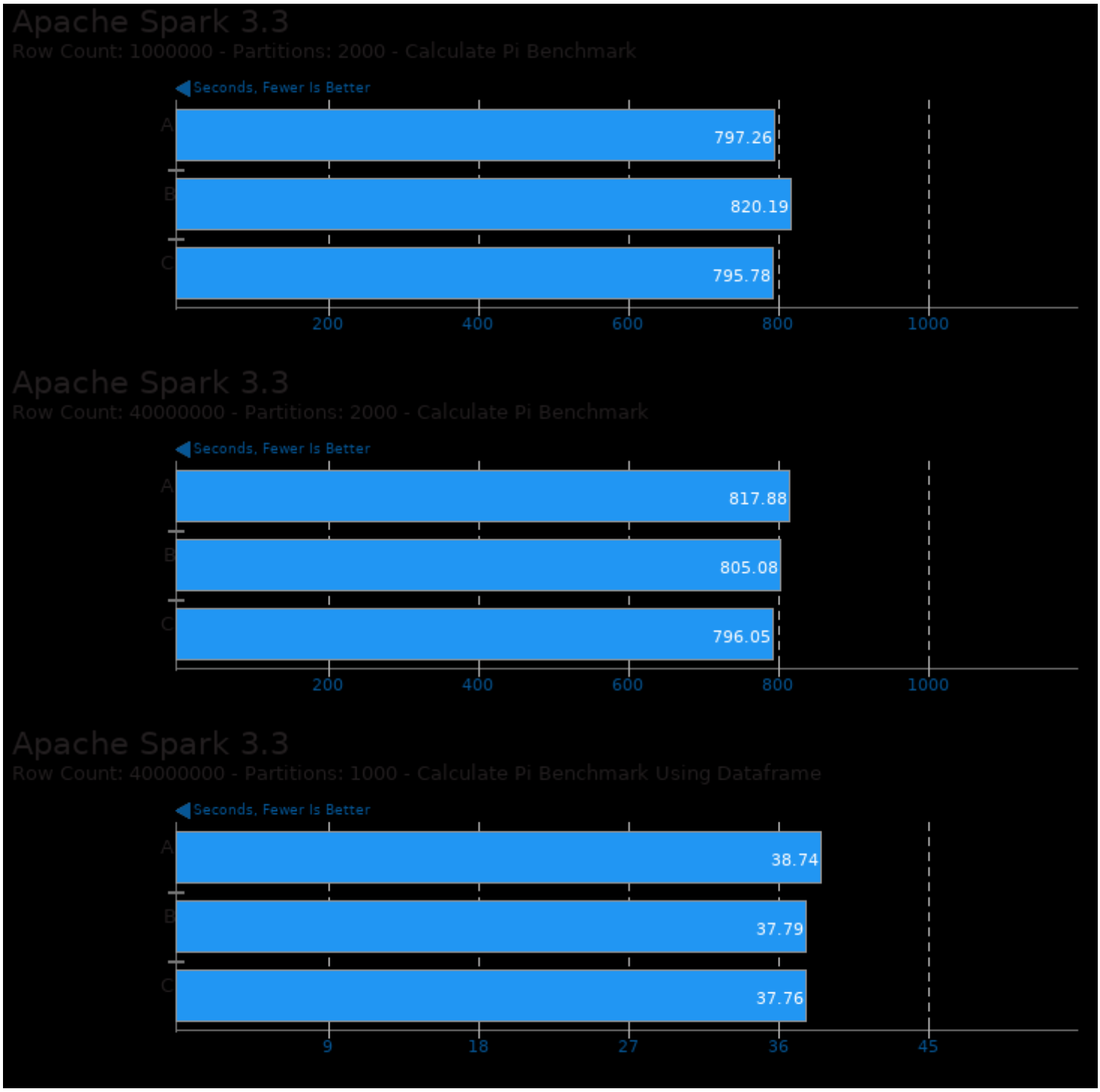
apache spark icelake



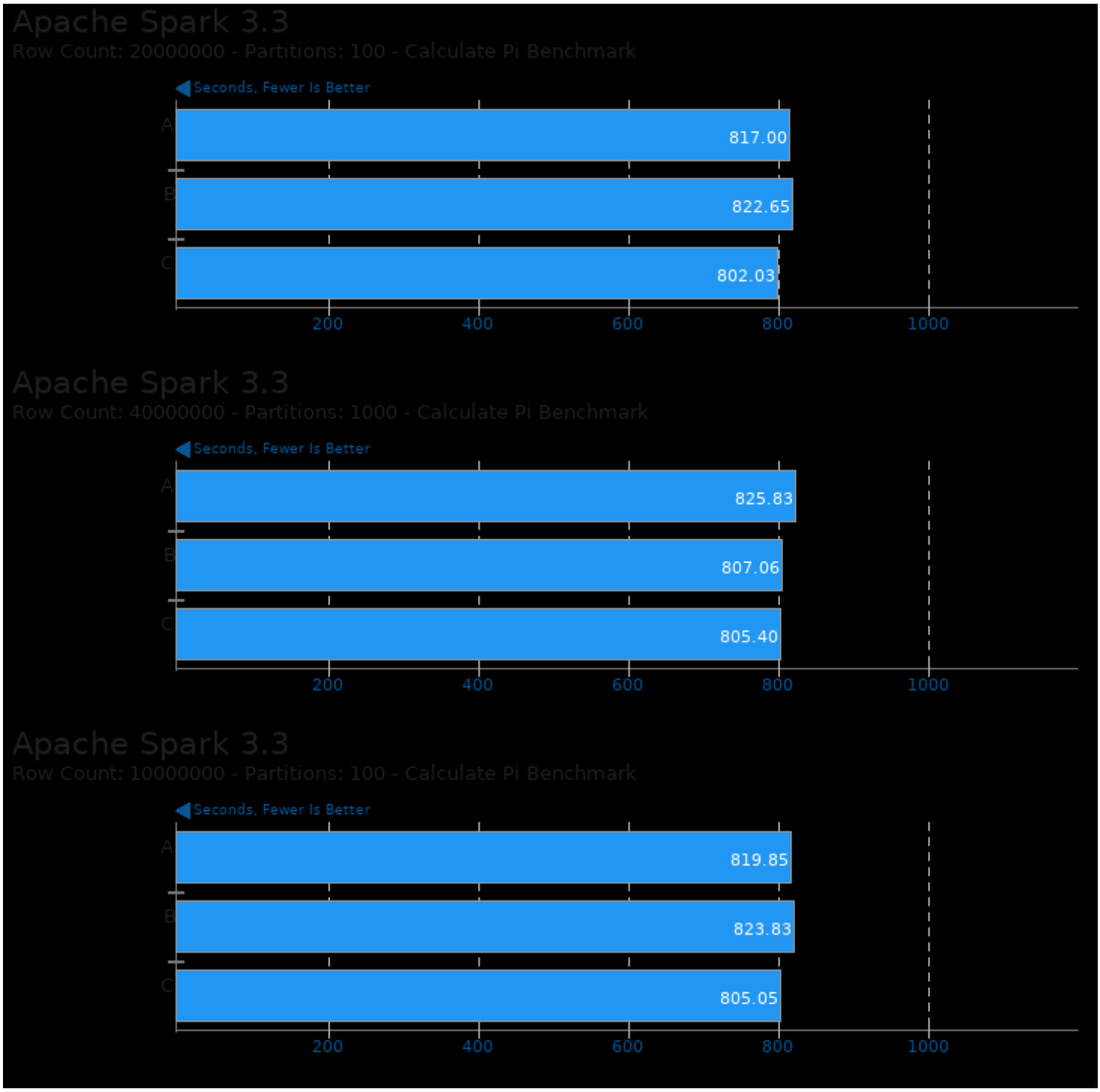
apache spark icelake



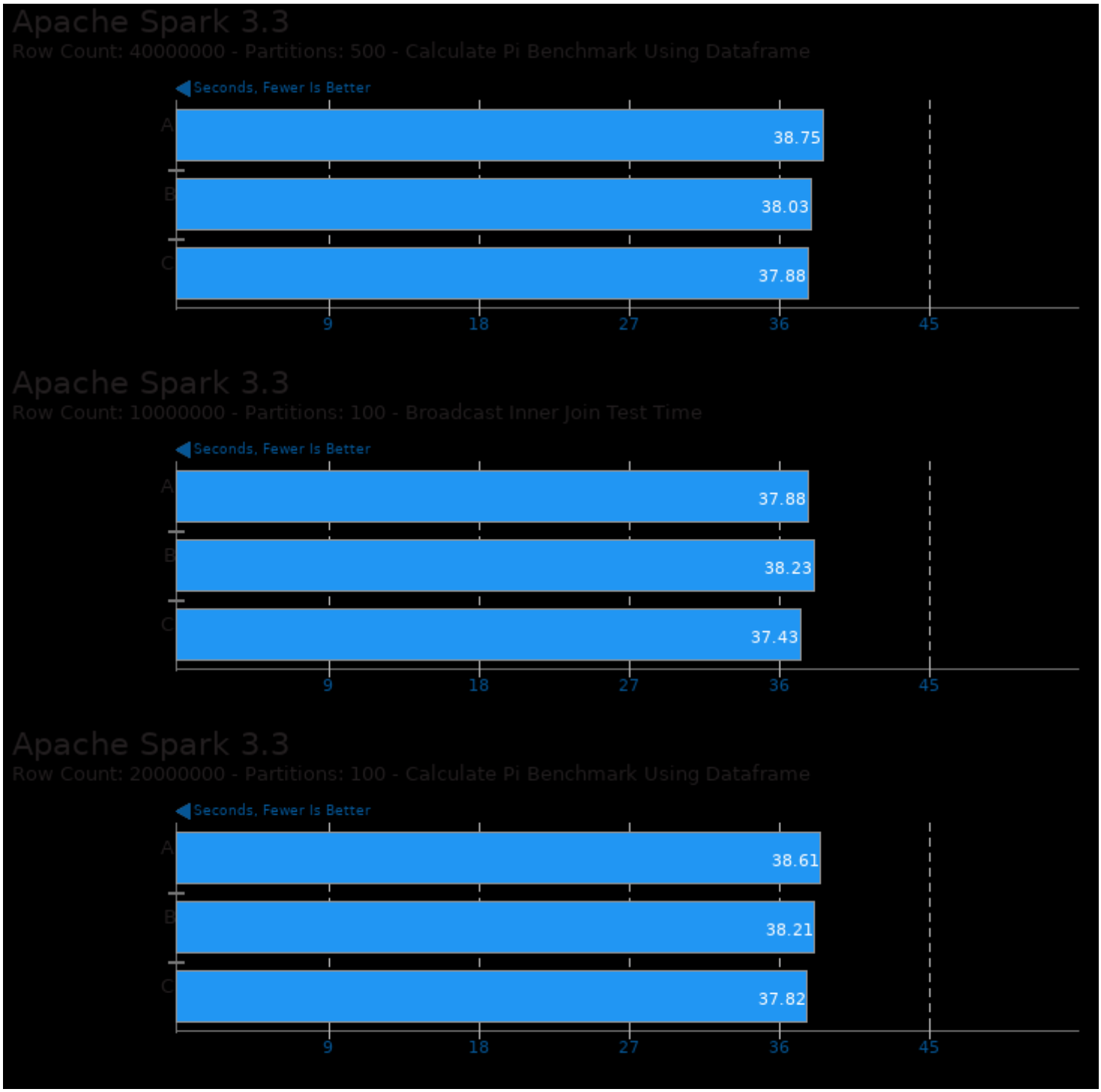
apache spark icelake



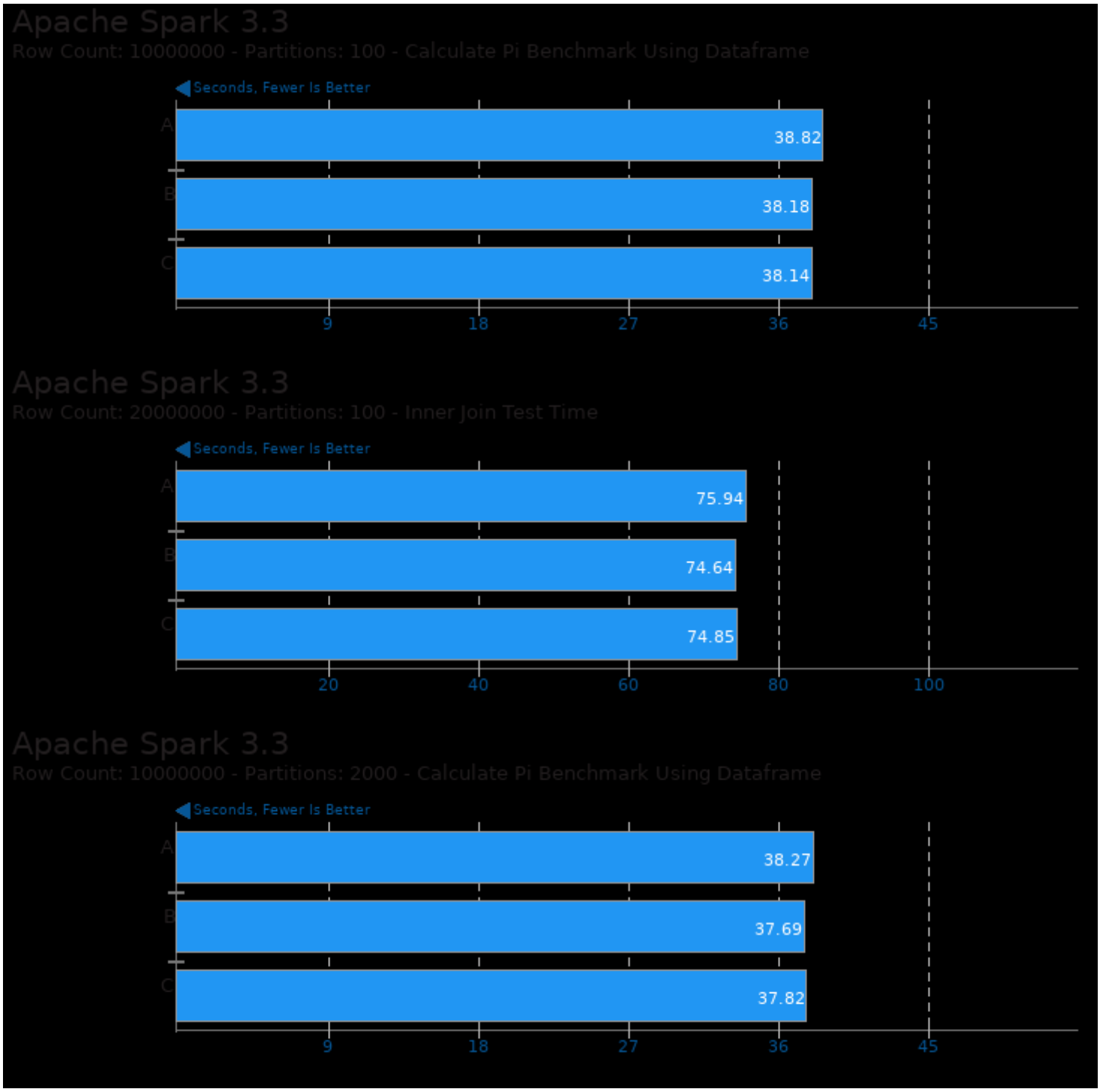
apache spark icelake



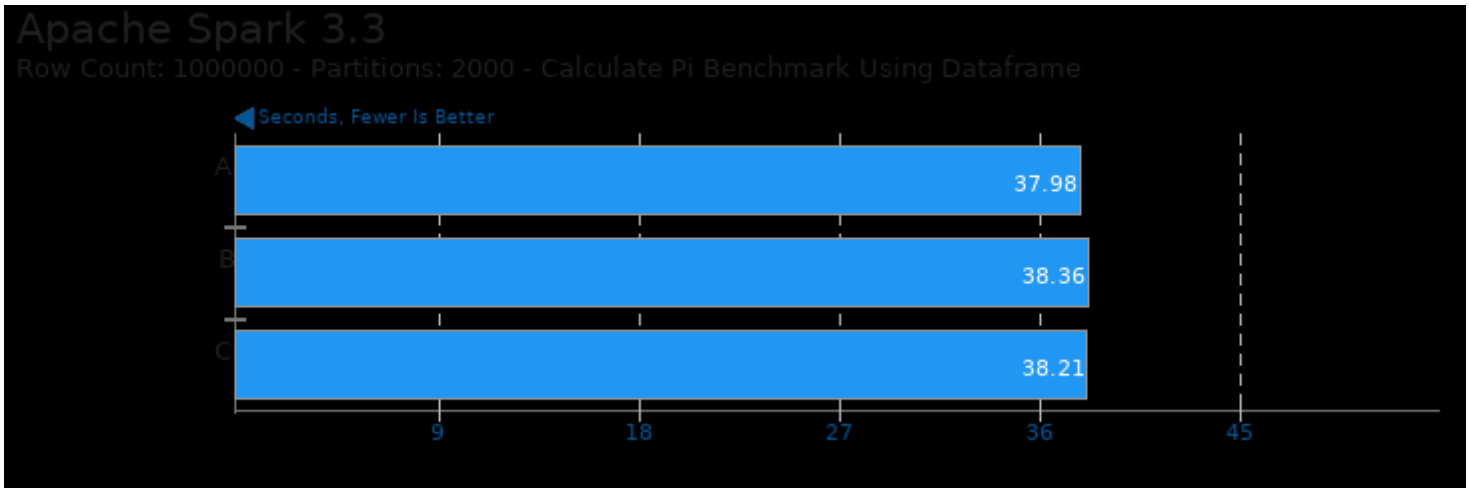
apache spark icelake



apache spark icelake



apache spark icelake



This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 04:56.