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sat-xeon-eo-ap

Intel Xeon E-2288G testing with a Compulab SBC-ATCFL v1.2 (ATOP3.PRD.0.29.2 BIOS) and NVIDIA Quadro RTX 4000 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 38% of the tests.

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

Ethr (Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 8) at 2.534x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 32) at 1.139x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1) at 1.113x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 16) at 1.085x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 64) at 1.064x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 2) at 1.054x
Ethr (Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 4) at 1.052x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 4) at 1.041x
Ethr (Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 2) at 1.038x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8) at 1.027x.

Test Systems:

A

AA

B

C

Processor: Intel Xeon E-2288G @ 5.00GHz (8 Cores / 16 Threads), Motherboard: Compulab SBC-ATCFL v1.2 (ATOP3.PRD.0.29.2 BIOS), Chipset: Intel Cannon Lake PCH, Memory: 2 x 32 GB DDR4-2667MT/s Samsung M378A4G43MB1-CTD, Disk: Samsung SSD 970 EVO Plus 250GB, Graphics: NVIDIA Quadro RTX 4000 8GB, Audio: Intel Cannon Lake PCH cAVS, Network: Intel I219-LM + Intel I210

OS: Ubuntu 20.10, Kernel: 5.8.0-63-generic (x86_64), Desktop: GNOME Shell 3.38.3, Display Server: X Server 1.20.9, Display Driver: NVIDIA, OpenCL: OpenCL 1.2 CUDA 11.2.162, Vulkan: 1.2.155, Compiler: GCC 12.0.1 20220125, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --disable-multilib --enable-checking=release --enable-languages=c,c++,fortran
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xea - Thermald 2.3
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Mitigation of TSX disabled + tsx_async_abort: Mitigation of TSX disabled

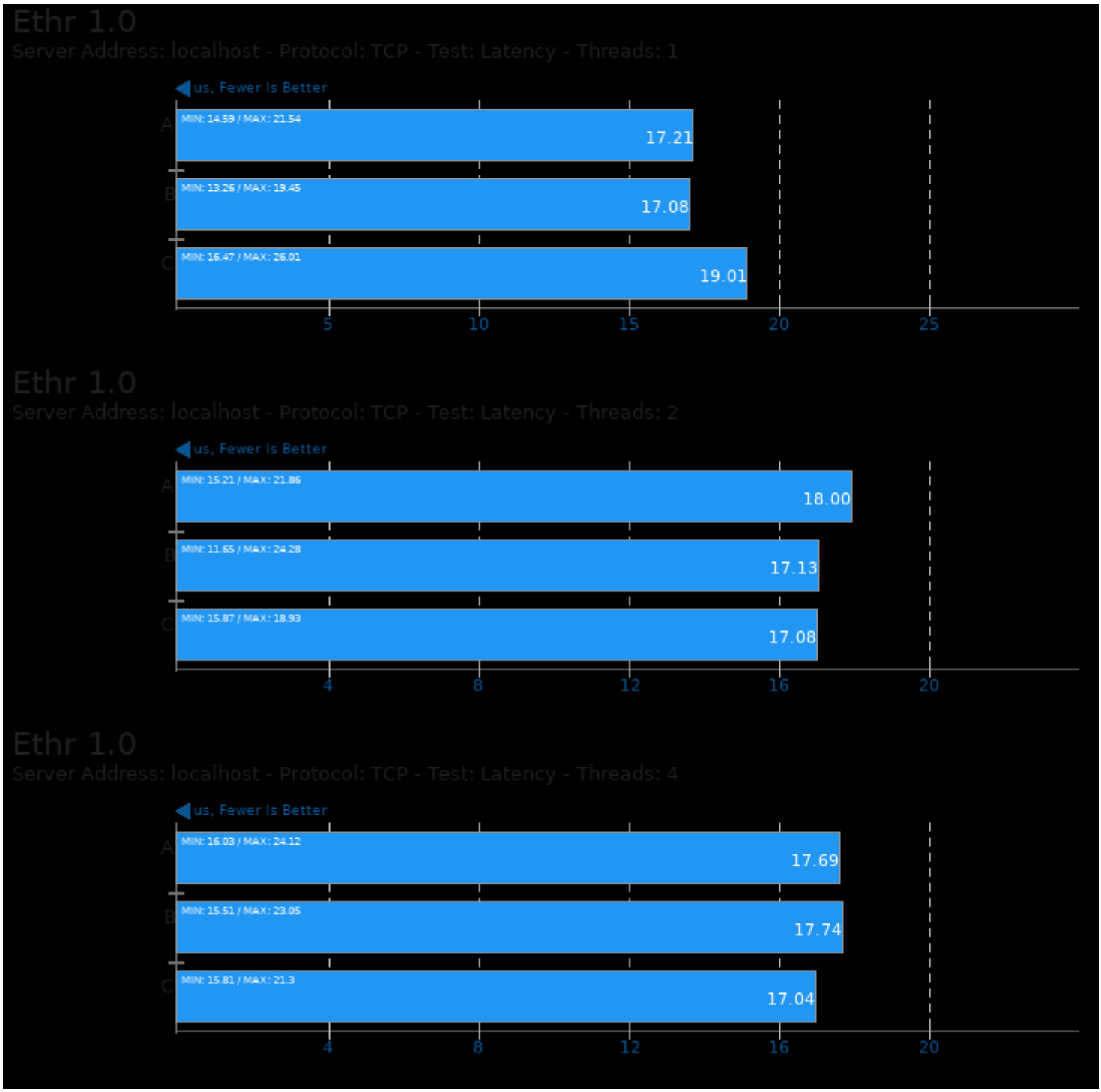
	A	AA	B	C
Ethr - TCP - Latency - 1 (us)	17.206		**17.076**	**19.011**
Normalized	99.24%		100%	89.82%
Ethr - TCP - Latency - 2 (us)	**17.997**		17.126	**17.075**
Normalized	94.88%		99.7%	100%
Ethr - TCP - Latency - 4 (us)	17.686		**17.74**	**17.039**
Normalized	96.34%		96.05%	100%
Ethr - TCP - Latency - 8 (us)	**17.349**		**17.82**	17.444
Normalized	100%		97.36%	99.46%
Ethr - TCP - Latency - 16 (us)	**18.399**		17.856	**16.959**
Normalized	92.17%		94.98%	100%
Ethr - TCP - Latency - 32 (us)	**17.09**		**19.465**	17.939
Normalized	100%		87.8%	95.27%
Ethr - TCP - Latency - 64 (us)	**18.275**		**17.179**	17.615
Normalized	94%		100%	97.52%
Ethr - TCP - Bandwidth - 1 (Gbits/sec)	**40.74**		40.71	**40.57**
Normalized	100%		99.93%	99.58%
Ethr - TCP - Bandwidth - 2 (Gbits/sec)	**48.5**		48.07	**46.74**
Normalized	100%		99.11%	96.37%
Ethr - TCP - Bandwidth - 4 (Gbits/sec)	**38.64**		**39.48**	39.14
Normalized	97.87%		100%	99.14%
Ethr - TCP - Bandwidth - 8 (Gbits/sec)	**23.91**		**24.05**	23.96
Normalized	99.42%		100%	99.63%

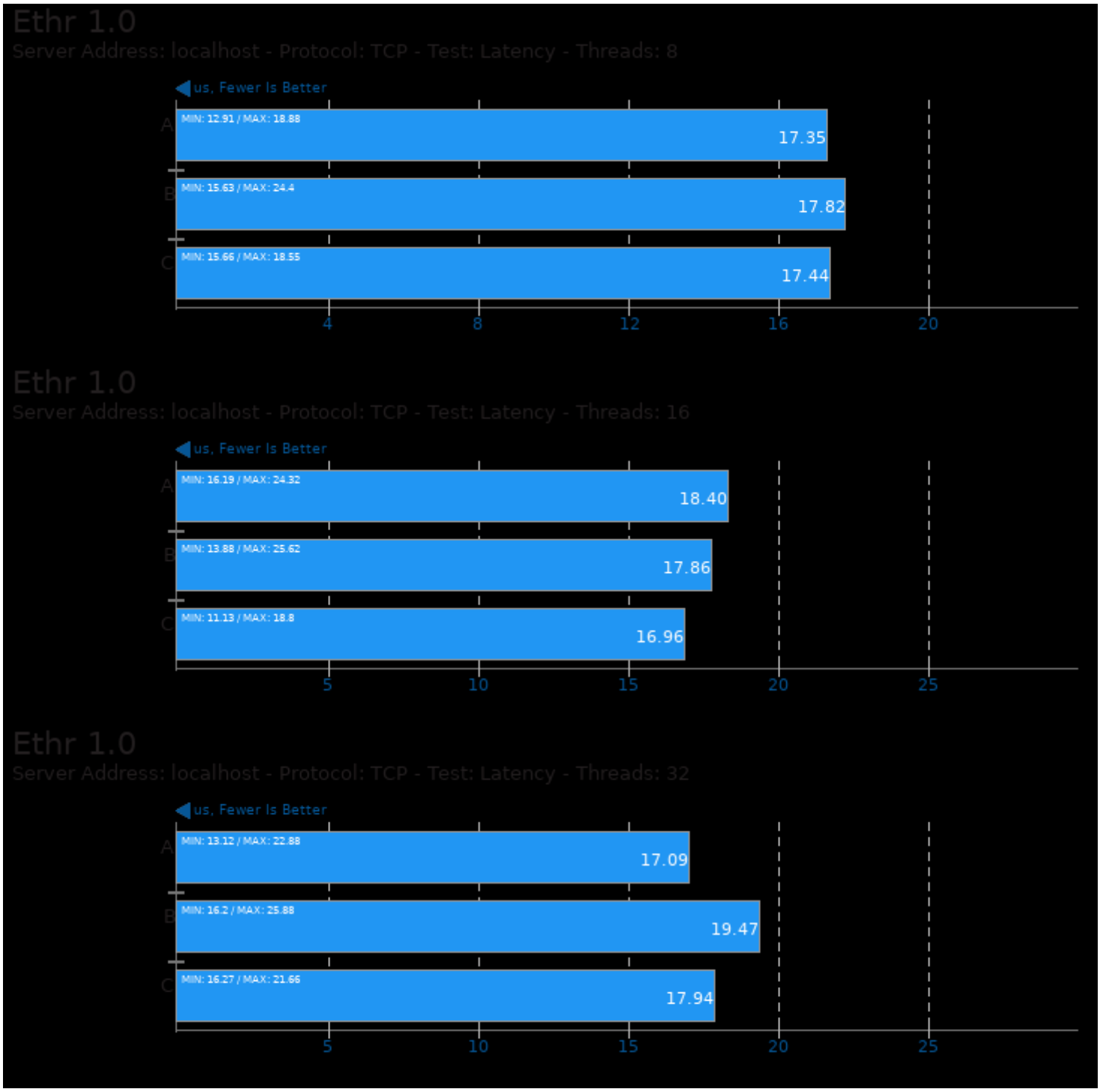
sat-xeon-eo-ap

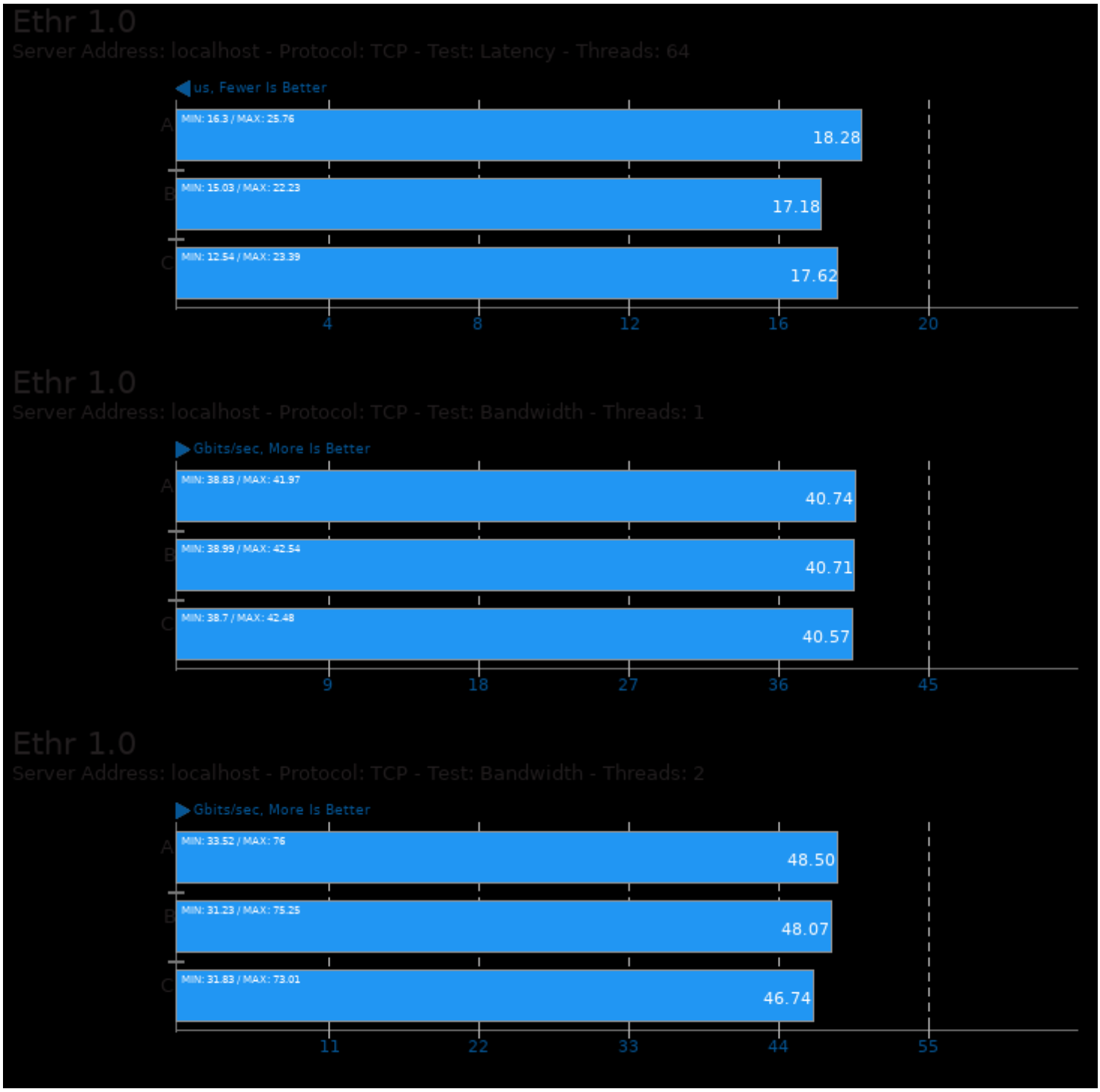
Ethr - UDP - Bandwidth - 1 (Gbits/sec)	43.31	**43.34**	**42.63**
Normalized	99.93%	100%	98.36%
Ethr - UDP - Bandwidth - 2 (Gbits/sec)	**54.38**	**55.64**	55.03
Normalized	97.74%	100%	98.9%
Ethr - UDP - Bandwidth - 2	**635822**	**651109**	643656
Normalized	97.65%	100%	98.86%
Ethr - UDP - Bandwidth - 4 (Gbits/sec)	**2413**	2327	**2293**
Normalized	100%	96.45%	95.05%
Ethr - UDP - Bandwidth - 4	**1272800**	**1268000**	1269200
Normalized	100%	99.62%	99.72%
Ethr - UDP - Bandwidth - 8 (Gbits/sec)	**55.79**	**57.22**	56.62
Normalized	97.5%	100%	98.95%
Ethr - UDP - Bandwidth - 8	**1924800**	**1971600**	1949600
Normalized	97.63%	100%	98.88%
Ethr - TCP - Bandwidth - 16	**13.32**	**13.43**	13.42
Normalized	99.18%	100%	99.93%
Ethr - TCP - Bandwidth - 32	**6.6**	**6.58**	**6.6**
Normalized	100%	99.7%	100%
Ethr - TCP - Bandwidth - 64	**3.3**	3.29	**3.27**
Normalized	100%	99.7%	99.09%
Ethr - UDP - Bandwidth - 16	38.57	**38.49**	**38.72**
Normalized	99.61%	99.41%	100%
Ethr - UDP - Bandwidth - 16 (Packets/sec)	**2538000**	**2514400**	2524000
Normalized	100%	99.07%	99.45%
Ethr - UDP - Bandwidth - 32	**20.5**	20.59	**20.64**
Normalized	99.32%	99.76%	100%
Ethr - UDP - Bandwidth - 32 (Packets/sec)	**2585200**	**2603200**	2592400
Normalized	99.31%	100%	99.59%
Ethr - UDP - Bandwidth - 64	**10.95**	10.88	**10.83**
Normalized	100%	99.36%	98.9%
Ethr - UDP - Bandwidth - 64 (Packets/sec)	**2716400**	**2692400**	2696400
Normalized	100%	99.12%	99.26%
Ethr - TCP - Connections/s - 1 (Connections/sec)	1010	1010	1010
Ethr - TCP - Connections/s - 2 (Connections/sec)	1010		1010
Ethr - TCP - Connections/s - 4 (Connections/sec)	1010		1010
Ethr - TCP - Connections/s - 8 (Connections/sec)	**1638**		**4150**
Normalized	39.47%		100%
Ethr - TCP - Connections/s - 16 (Connections/sec)	2057		
Ethr - TCP - Connections/s - 32 (Connections/sec)	4150		
Ethr - TCP - Connections/s - 64 (Connections/sec)	2810		

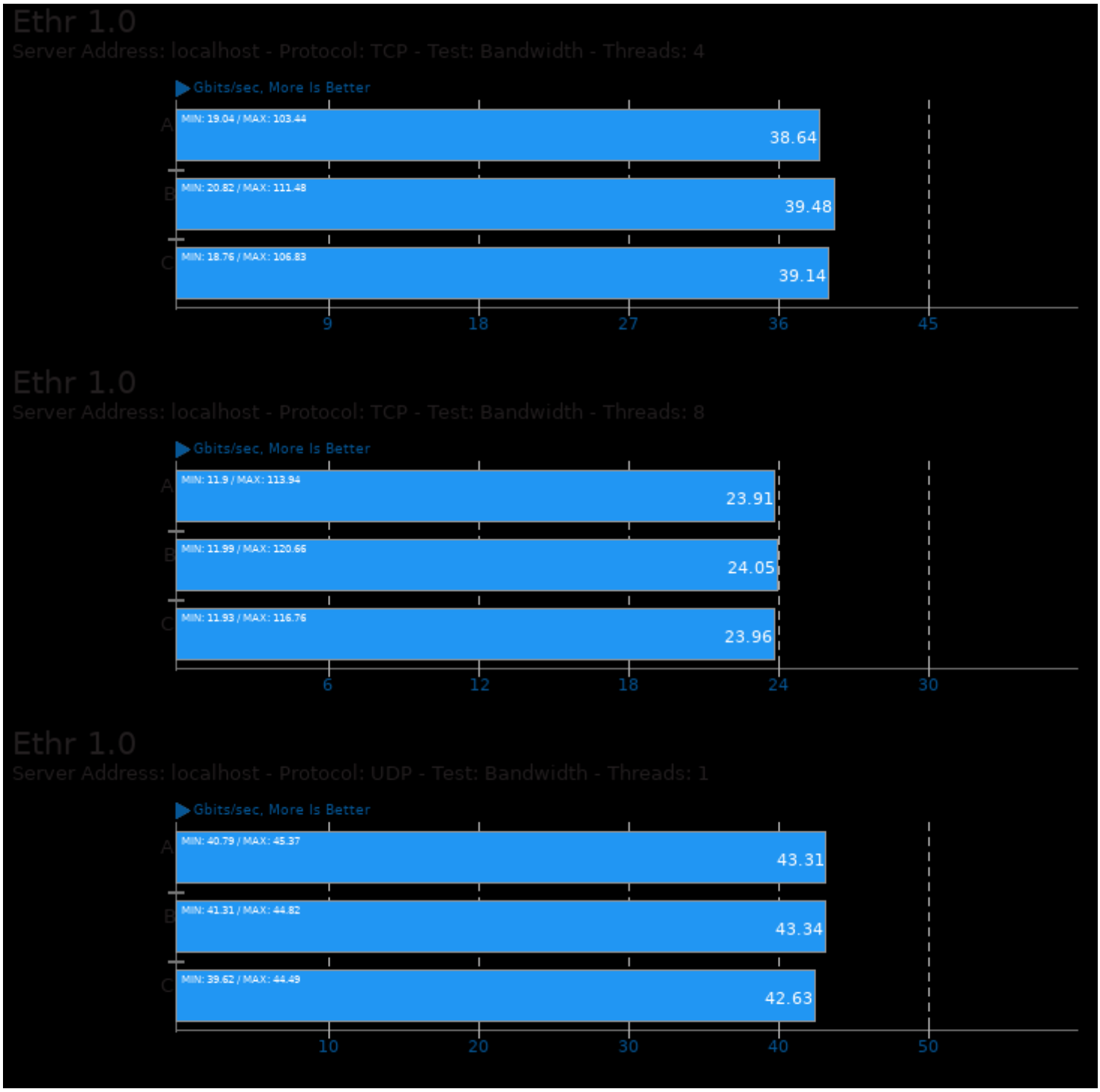
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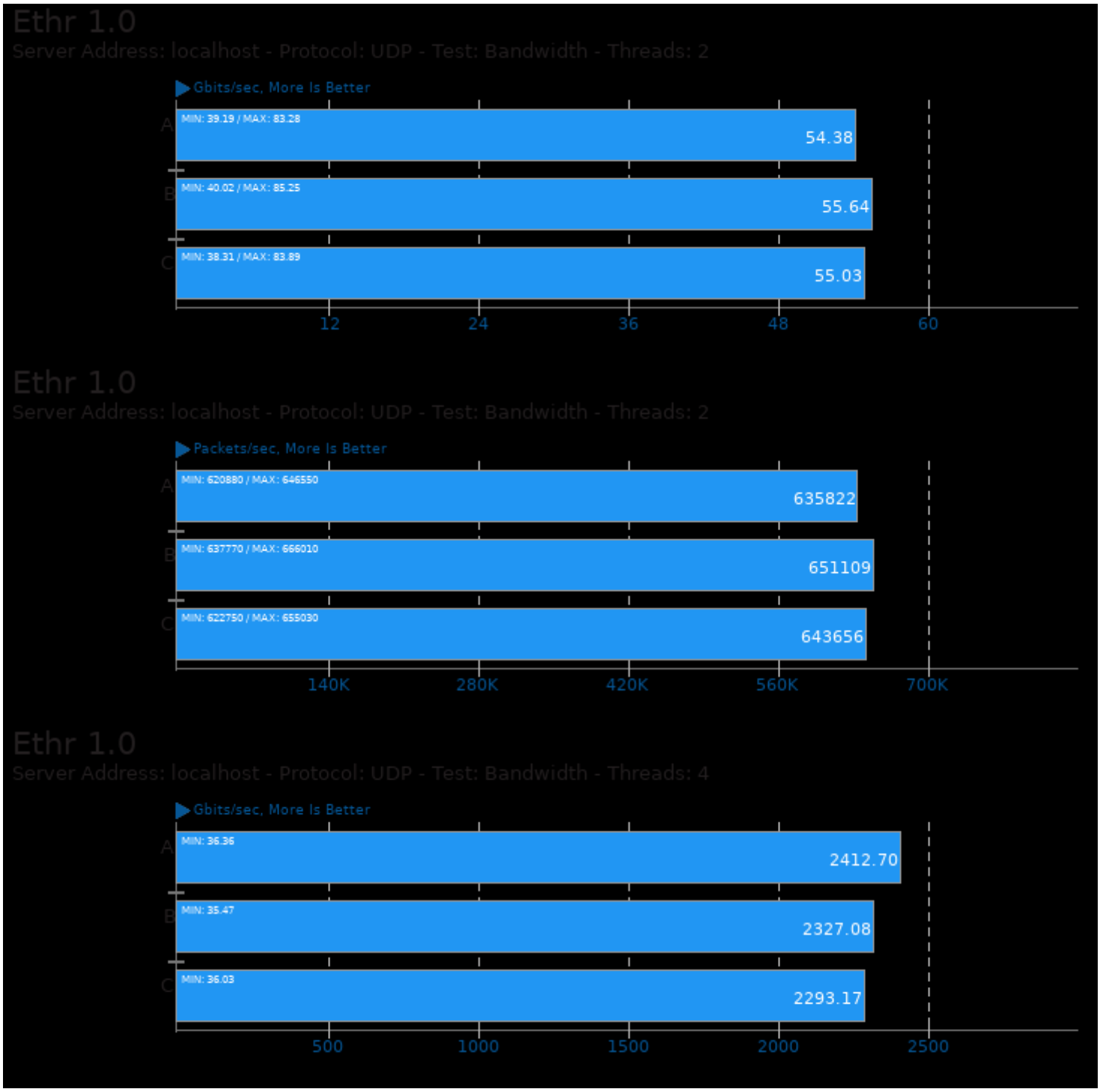
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	**1.54**	1.548	**1.549**
Normalized	99.42%	99.94%	100%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	22.273	**22.646**	**22.247**
Normalized	98.35%	100%	98.24%
SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)	**66.758**	67.605	**68.019**
Normalized	98.15%	99.39%	100%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	**95.314**	96.624	**96.936**
Normalized	98.33%	99.68%	100%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	**4.746**	4.774	**4.78**
Normalized	99.29%	99.87%	100%

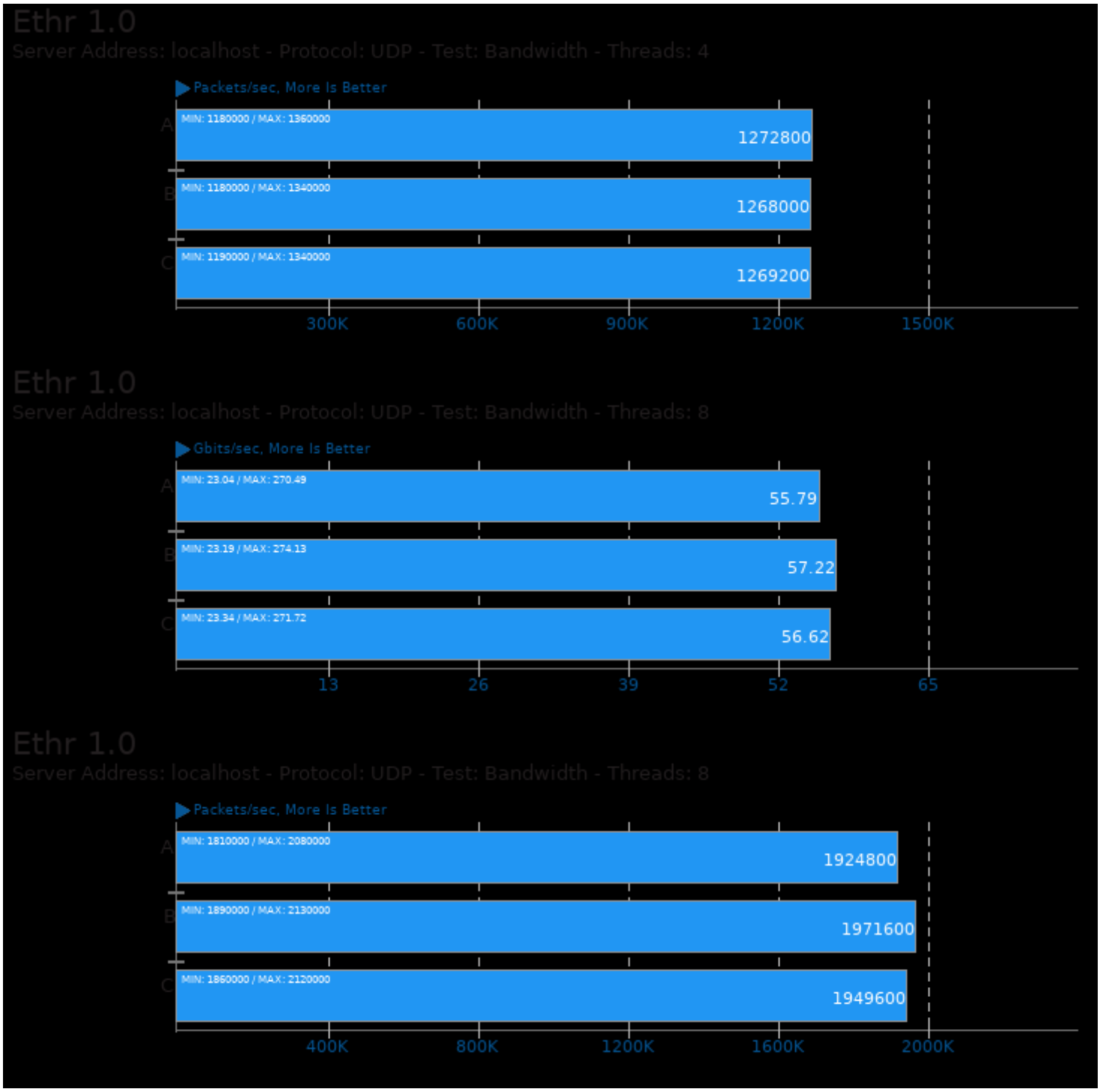

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1
us, Fewer Is Better
A
MIN: 14.59 / MAX: 21.54
17.21
B
MIN: 13.26 / MAX: 19.45
17.08
C
MIN: 16.47 / MAX: 26.01
19.01
5
10
15
20
25
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 2
us, Fewer Is Better
A
MIN: 15.21 / MAX: 21.86
18.00
B
MIN: 11.65 / MAX: 24.28
17.13
C
MIN: 15.87 / MAX: 18.93
17.08
4
8
12
16
20
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 4
us, Fewer Is Better
A
MIN: 16.03 / MAX: 24.12
17.69
B
MIN: 15.51 / MAX: 23.05
17.74
C
MIN: 15.81 / MAX: 21.3
17.04
4
8
12
16
20

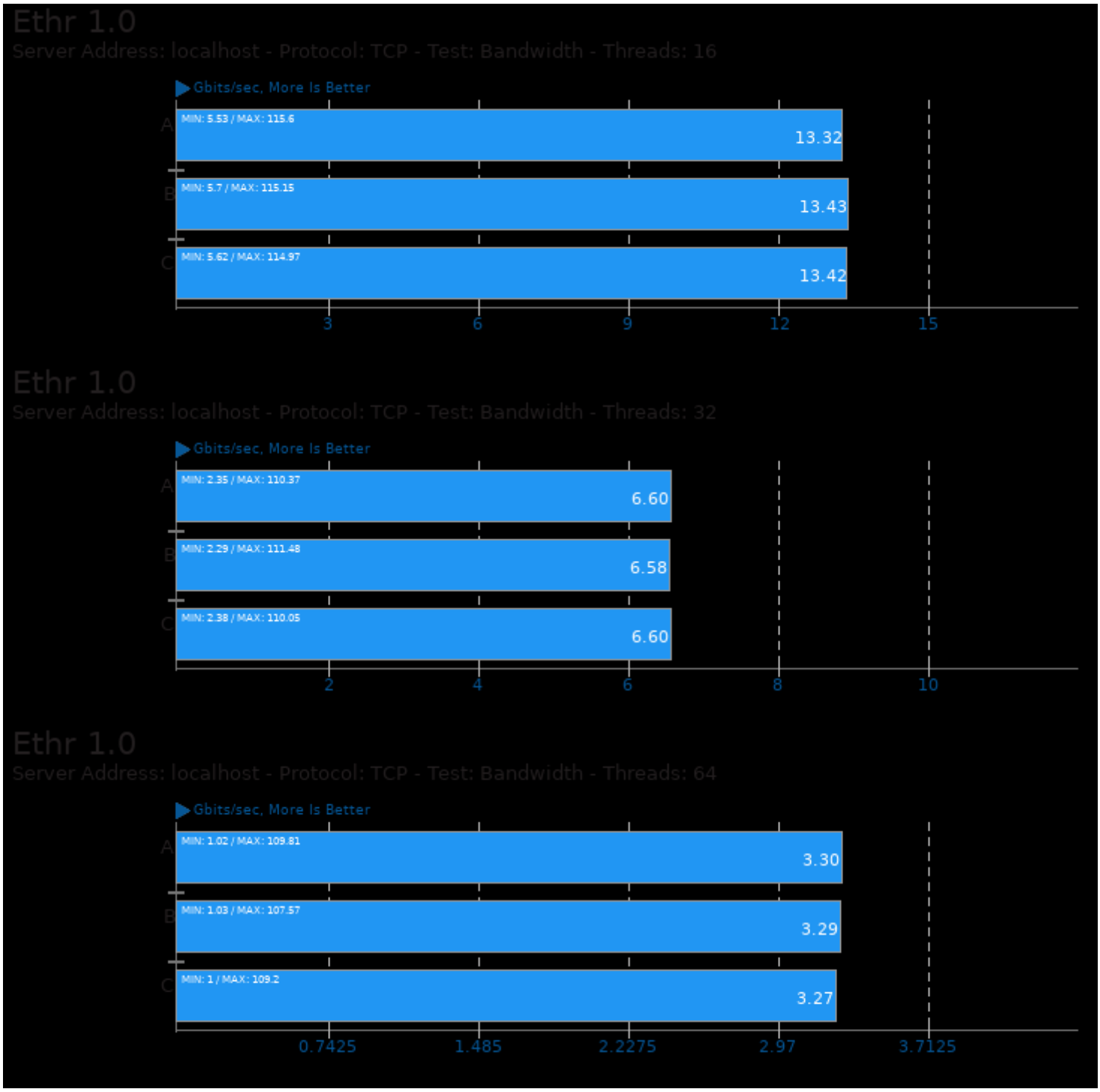

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8
us, Fewer Is Better
A
MIN: 12.91 / MAX: 18.88
17.35
B
MIN: 15.63 / MAX: 24.4
17.82
C
MIN: 15.66 / MAX: 18.55
17.44
4
8
12
16
20
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 16
us, Fewer Is Better
A
MIN: 16.19 / MAX: 24.32
18.40
B
MIN: 13.88 / MAX: 25.62
17.86
C
MIN: 11.13 / MAX: 18.8
16.96
5
10
15
20
25
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 32
us, Fewer Is Better
A
MIN: 13.12 / MAX: 22.88
17.09
B
MIN: 16.2 / MAX: 25.88
19.47
C
MIN: 16.27 / MAX: 21.66
17.94
5
10
15
20
25

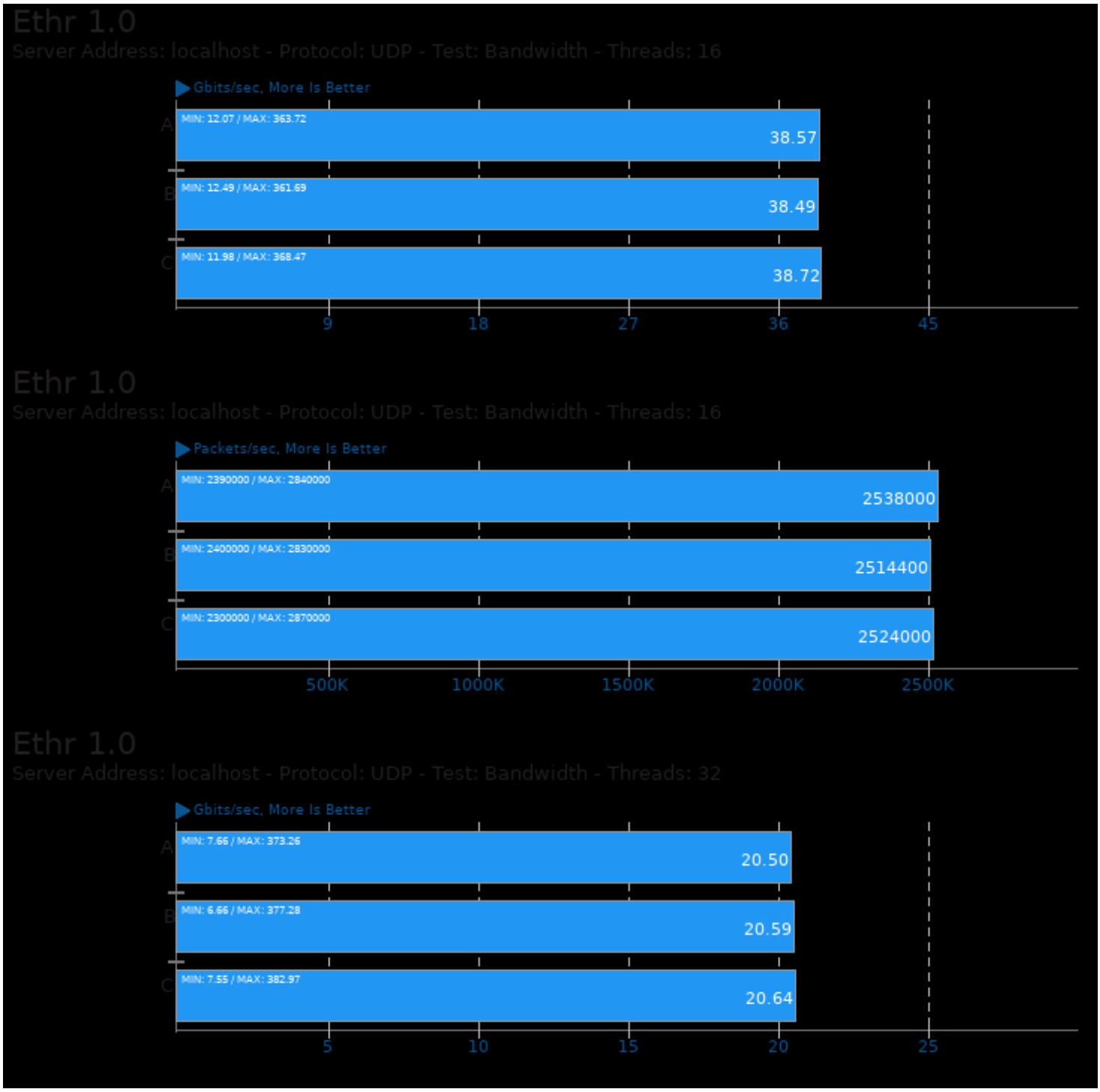

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 64
us, Fewer Is Better
A
MIN: 16.3 / MAX: 25.76
18.28
B
MIN: 15.03 / MAX: 22.23
17.18
C
MIN: 12.54 / MAX: 23.39
17.62
4
8
12
16
20
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 1
Gbits/sec, More Is Better
A
MIN: 38.83 / MAX: 41.97
40.74
B
MIN: 38.99 / MAX: 42.54
40.71
C
MIN: 38.7 / MAX: 42.48
40.57
9
18
27
36
45
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 2
Gbits/sec, More Is Better
A
MIN: 33.52 / MAX: 76
48.50
B
MIN: 31.23 / MAX: 75.25
48.07
C
MIN: 31.83 / MAX: 73.01
46.74
11
22
33
44
55

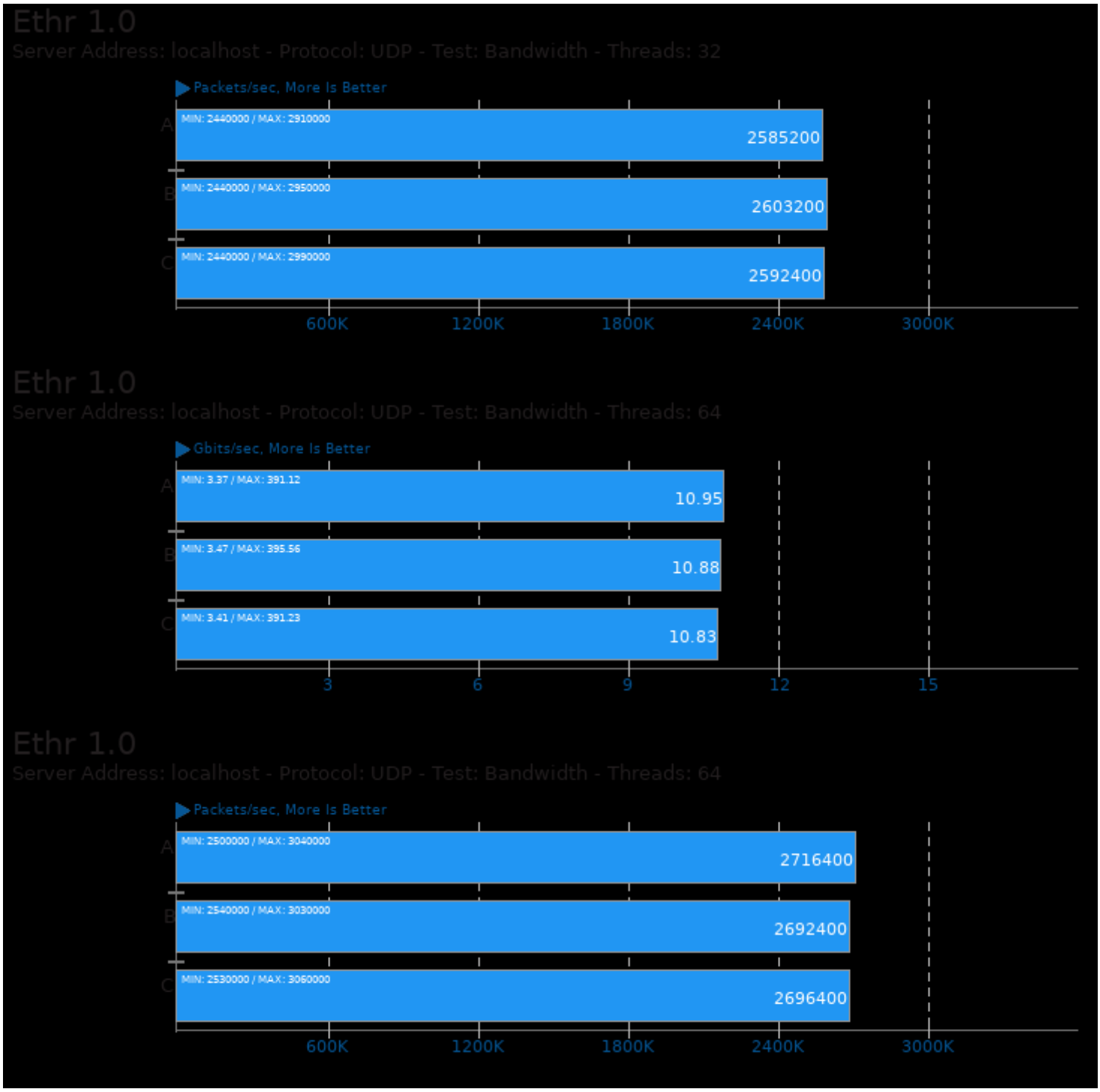

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 4
Gbits/sec, More Is Better
A
MIN: 19.04 / MAX: 103.44
38.64
B
MIN: 20.82 / MAX: 111.48
39.48
C
MIN: 18.76 / MAX: 106.83
39.14
9
18
27
36
45
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 8
Gbits/sec, More Is Better
A
MIN: 11.9 / MAX: 113.94
23.91
B
MIN: 11.99 / MAX: 120.66
24.05
C
MIN: 11.93 / MAX: 116.76
23.96
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 1
Gbits/sec, More Is Better
A
MIN: 40.79 / MAX: 45.37
43.31
B
MIN: 41.31 / MAX: 44.82
43.34
C
MIN: 39.62 / MAX: 44.49
42.63
10
20
30
40
50

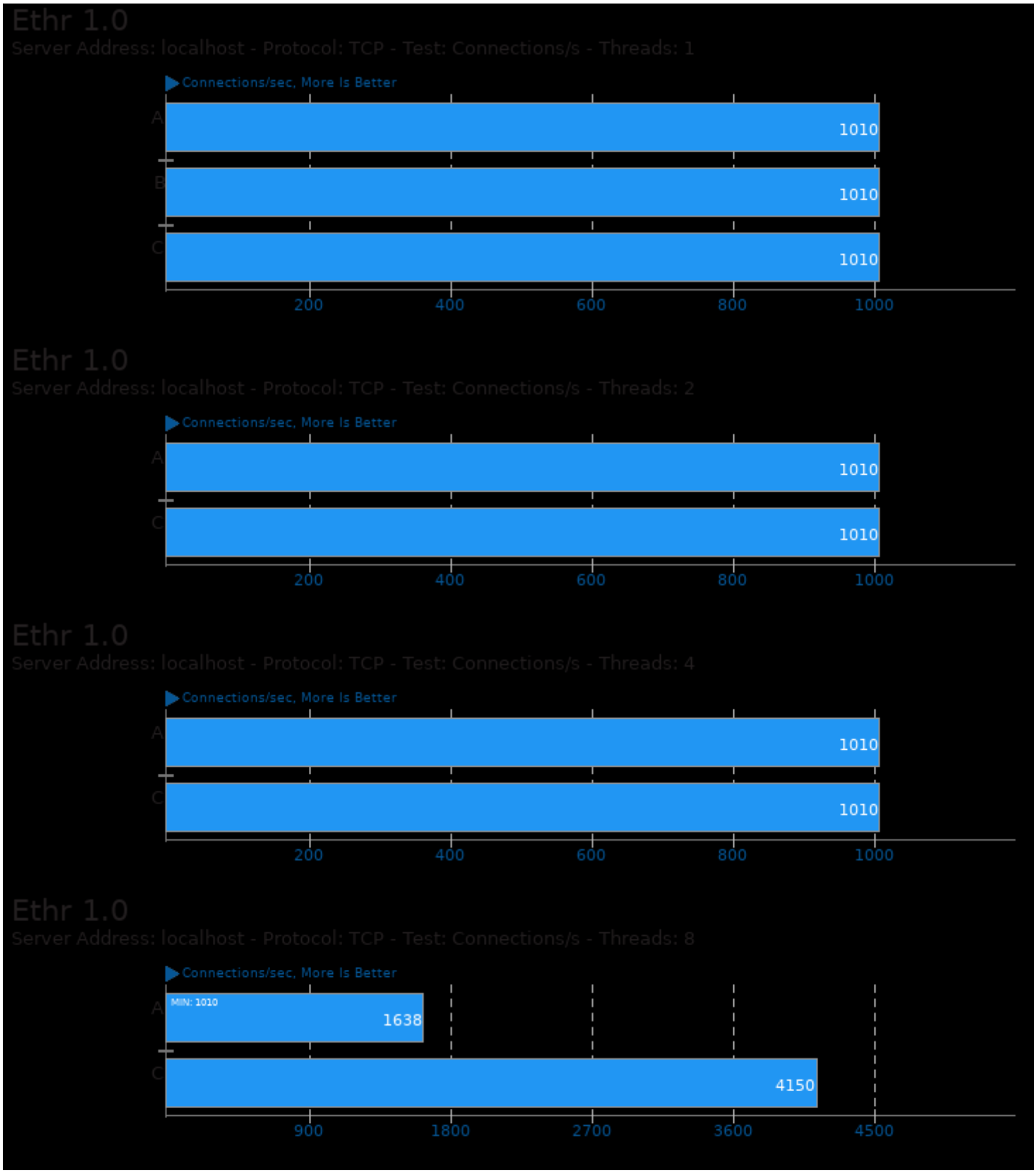

Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 2
Gbits/sec, More Is Better
A
MIN: 39.19 / MAX: 83.28
54.38
B
MIN: 40.02 / MAX: 85.25
55.64
C
MIN: 38.31 / MAX: 83.89
55.03
12
24
36
48
60
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 2
Packets/sec, More Is Better
A
MIN: 620880 / MAX: 646550
635822
B
MIN: 637770 / MAX: 666010
651109
C
MIN: 622750 / MAX: 655030
643656
140K
280K
420K
560K
700K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 4
Gbits/sec, More Is Better
A
MIN: 36.36
2412.70
B
MIN: 35.47
2327.08
C
MIN: 36.03
2293.17
500
1000
1500
2000
2500

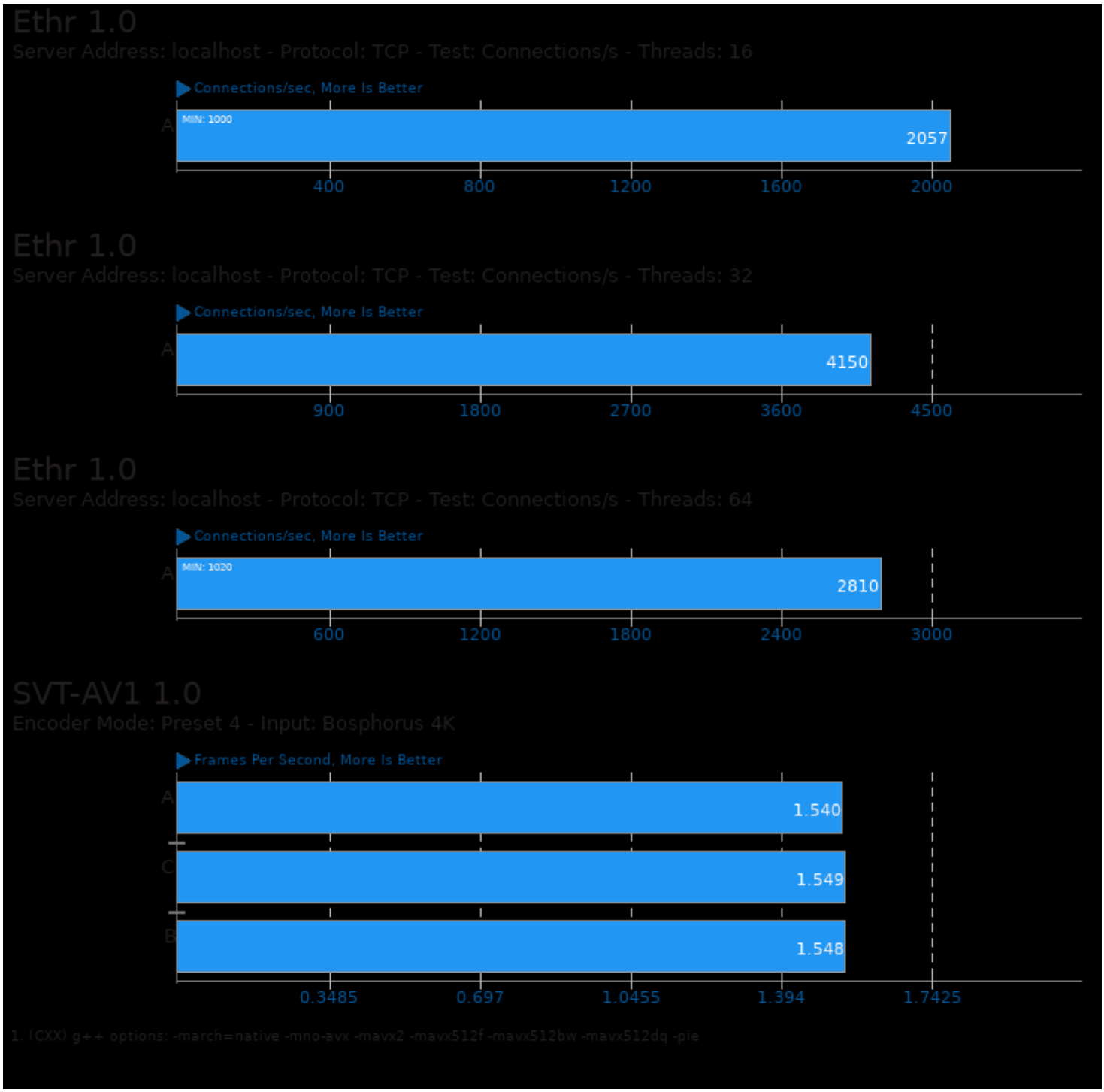

Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 4
Packets/sec, More Is Better
A
MIN: 1180000 / MAX: 1360000
1272800
B
MIN: 1180000 / MAX: 1340000
1268000
C
MIN: 1190000 / MAX: 1340000
1269200
300K
600K
900K
1200K
1500K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8
Gbits/sec, More Is Better
A
MIN: 23.04 / MAX: 270.49
55.79
B
MIN: 23.19 / MAX: 274.13
57.22
C
MIN: 23.34 / MAX: 271.72
56.62
13
26
39
52
65
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8
Packets/sec, More Is Better
A
MIN: 1810000 / MAX: 2080000
1924800
B
MIN: 1890000 / MAX: 2130000
1971600
C
MIN: 1860000 / MAX: 2120000
1949600
400K
800K
1200K
1600K
2000K

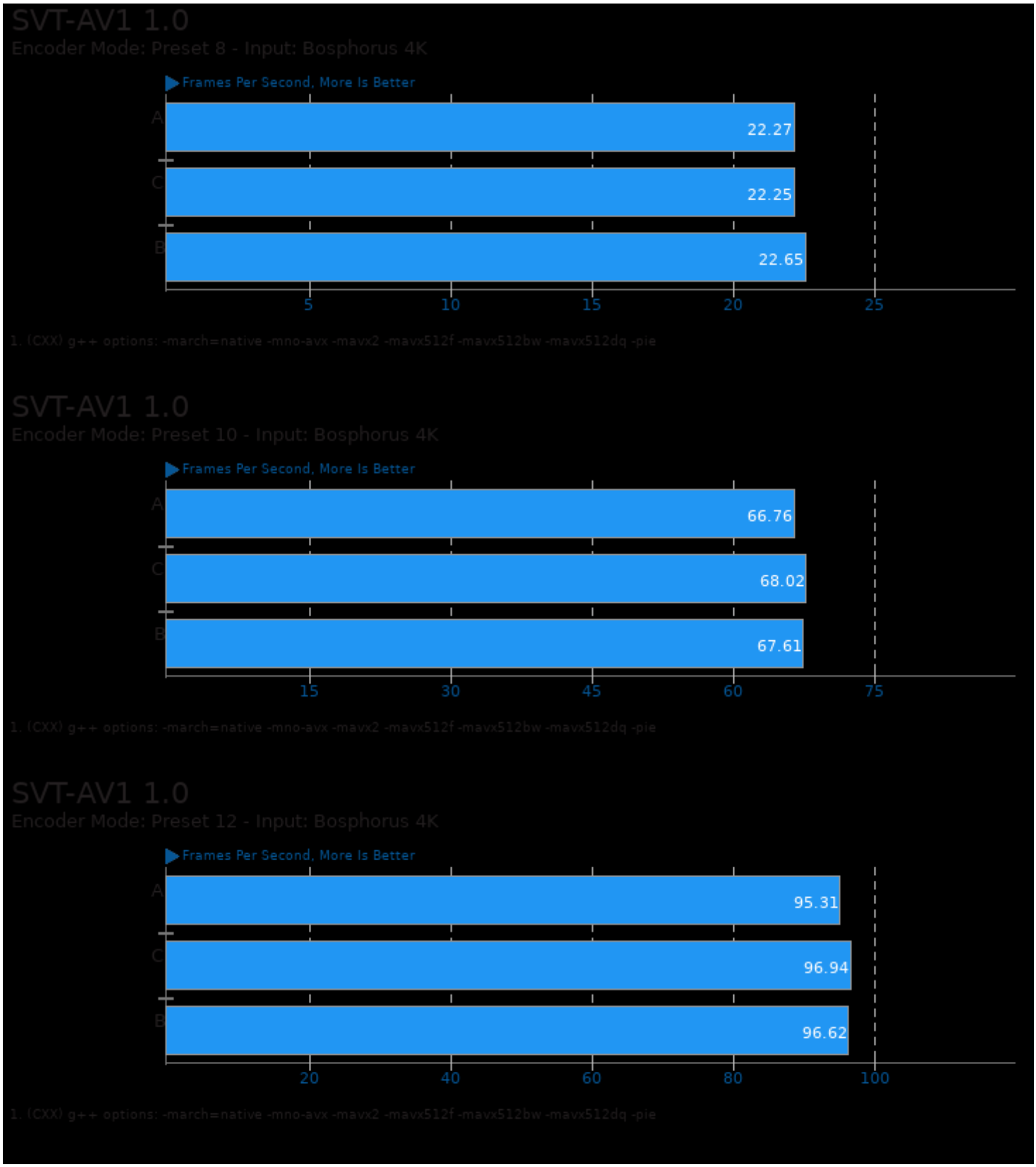

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 16
Gbits/sec, More Is Better
A
MIN: 5.53 / MAX: 115.6
13.32
B
MIN: 5.7 / MAX: 115.15
13.43
C
MIN: 5.62 / MAX: 114.97
13.42
3
6
9
12
15
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 32
Gbits/sec, More Is Better
A
MIN: 2.35 / MAX: 110.37
6.60
B
MIN: 2.29 / MAX: 111.48
6.58
C
MIN: 2.38 / MAX: 110.05
6.60
2
4
6
8
10
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 64
Gbits/sec, More Is Better
A
MIN: 1.02 / MAX: 109.81
3.30
B
MIN: 1.03 / MAX: 107.57
3.29
C
MIN: 1 / MAX: 109.2
3.27
0.7425
1.485
2.2275
2.97
3.7125

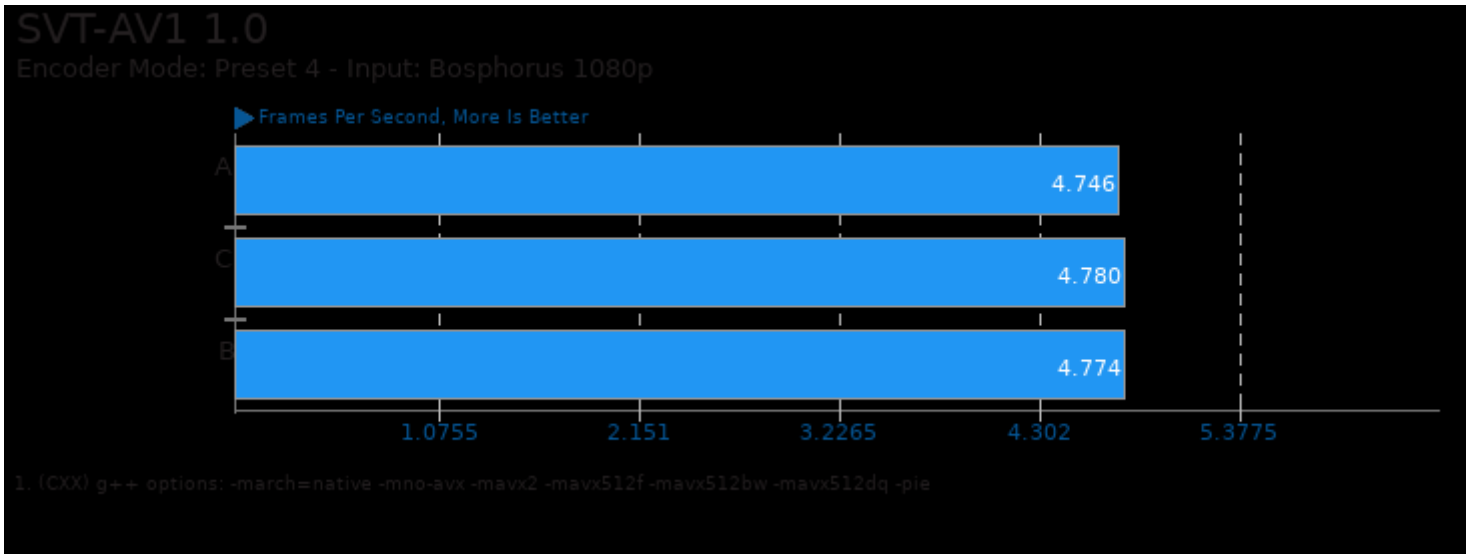

Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 16
Gbits/sec, More Is Better
A
MIN: 12.07 / MAX: 363.72
38.57
B
MIN: 12.49 / MAX: 361.69
38.49
C
MIN: 11.98 / MAX: 368.47
38.72
9
18
27
36
45
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 16
Packets/sec, More Is Better
A
MIN: 2390000 / MAX: 2840000
2538000
B
MIN: 2400000 / MAX: 2830000
2514400
C
MIN: 2300000 / MAX: 2870000
2524000
500K
1000K
1500K
2000K
2500K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 32
Gbits/sec, More Is Better
A
MIN: 7.66 / MAX: 373.26
20.50
B
MIN: 6.66 / MAX: 377.28
20.59
C
MIN: 7.55 / MAX: 382.97
20.64
5
10
15
20
25


Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 32
Packets/sec, More Is Better
A
MIN: 2440000 / MAX: 2910000
2585200
B
MIN: 2440000 / MAX: 2950000
2603200
C
MIN: 2440000 / MAX: 2990000
2592400
600K
1200K
1800K
2400K
3000K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 64
Gbits/sec, More Is Better
A
MIN: 3.37 / MAX: 391.12
10.95
B
MIN: 3.47 / MAX: 395.56
10.88
C
MIN: 3.41 / MAX: 391.23
10.83
3
6
9
12
15
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 64
Packets/sec, More Is Better
A
MIN: 2500000 / MAX: 3040000
2716400
B
MIN: 2540000 / MAX: 3030000
2692400
C
MIN: 2530000 / MAX: 3060000
2696400
600K
1200K
1800K
2400K
3000K


Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1
Connections/sec, More Is Better
A
1010
B
1010
C
1010
200
400
600
800
1000
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 2
Connections/sec, More Is Better
A
1010
C
1010
200
400
600
800
1000
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 4
Connections/sec, More Is Better
A
1010
C
1010
200
400
600
800
1000
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 8
Connections/sec, More Is Better
A
MIN: 1010
1638
C
4150
900
1800
2700
3600
4500


Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 16
Connections/sec, More Is Better
A
MIN: 1000
2057
400
800
1200
1600
2000
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 32
Connections/sec, More Is Better
A
4150
900
1800
2700
3600
4500
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 64
Connections/sec, More Is Better
A
MIN: 1020
2810
600
1200
1800
2400
3000
SVT-AV1 1.0
Encoder Mode: Preset 4 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
1.540
C
1.549
B
1.548
0.3485
0.697
1.0455
1.394
1.7425
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie


SVT-AV1 1.0
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
C
B
22.27
22.25
22.65
5
10
15
20
25
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 1.0
Encoder Mode: Preset 10 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
C
B
66.76
68.02
67.61
15
30
45
60
75
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 1.0
Encoder Mode: Preset 12 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
C
B
95.31
96.94
96.62
20
40
60
80
100
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 06:23.