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ethr tr

AMD Ryzen Threadripper 3990X 64-Core testing with a Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS) and AMD Radeon RX 5700 8GB on Pop 22.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 69% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.012x the speed of the slowest (B). C was 0.991x the speed of A and B was 0.998x the speed of C.

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

Ethr (Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 1) at 1.072x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 4) at 1.068x
Ethr (Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 1) at 1.062x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1) at 1.056x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 64) at 1.044x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 32) at 1.044x
Ethr (Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8) at 1.04x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 2) at 1.037x
Ethr (Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8) at 1.034x

Ethr (Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 2) at 1.033x.

Test Systems:

A

B

C

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 22.04, Kernel: 5.17.5-76051705-generic (x86_64), Desktop: GNOME Shell 42.0, Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.2.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

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-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/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 schedutil (Boost: Enabled) - CPU Microcode: 0x8301039
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 STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
Ethr - TCP - Latency - 1 (us)	**27.088**	26.974	**25.646**
Normalized	94.68%	95.08%	100%
Standard Deviation		0.2%	
Ethr - TCP - Latency - 2 (us)	**25.91**	26.824	**26.873**
Normalized	100%	96.59%	96.42%
Standard Deviation		1.7%	
Ethr - TCP - Latency - 4 (us)	**25.25**	26.626	**26.957**
Normalized	100%	94.83%	93.67%
Standard Deviation		1.5%	
Ethr - TCP - Latency - 8 (us)	**25.778**	**26.647**	26.144
Normalized	100%	96.74%	98.6%
Standard Deviation		2.4%	
Ethr - TCP - Latency - 16 (us)	**26.586**	**26.738**	26.613
Normalized	100%	99.43%	99.9%

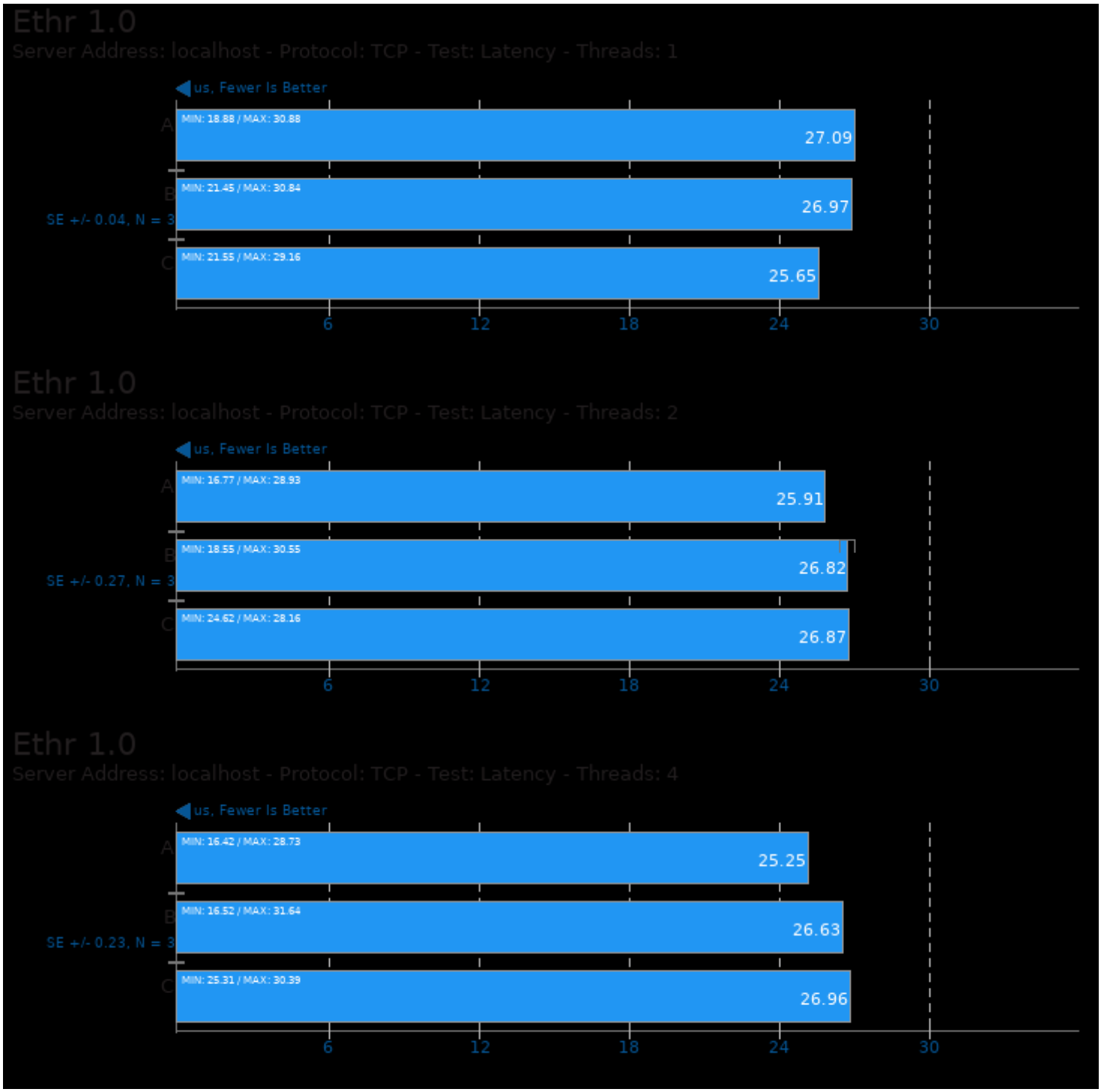
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Standard Deviation		1.2%	
Ethr - TCP - Latency - 32 (us)	26.372	**25.810**	**26.933**
Normalized	97.87%	100%	95.83%
Standard Deviation		2.2%	
Ethr - TCP - Latency - 64 (us)	26.609	**26.966**	**25.821**
Normalized	97.04%	95.75%	100%
Standard Deviation		0.2%	
Ethr - TCP - Bandwidth - 1 (Gbits/sec)	**21.1**	20.04	**19.69**
Normalized	100%	94.98%	93.32%
Standard Deviation		2.5%	
Ethr - TCP - Bandwidth - 2 (Gbits/sec)	**41.38**	40.63	**40.07**
Normalized	100%	98.19%	96.83%
Standard Deviation		1.3%	
Ethr - TCP - Bandwidth - 4 (Gbits/sec)	**75.69**	75.27	**74.38**
Normalized	100%	99.45%	98.27%
Standard Deviation		0.5%	
Ethr - TCP - Bandwidth - 8 (Gbits/sec)	**126.4**	123.83	**123.72**
Normalized	100%	97.97%	97.88%
Standard Deviation		0.4%	
Ethr - UDP - Bandwidth - 1 (Packets/sec)	**240765**	**226704**	230558
Normalized	100%	94.16%	95.76%
Standard Deviation		2.3%	
Ethr - UDP - Bandwidth - 2 (Packets/sec)	**651202**	**640094**	643570
Normalized	100%	98.29%	98.83%
Standard Deviation		0.1%	
Ethr - UDP - Bandwidth - 4 (Packets/sec)	1482000	**1484533**	**1481200**
Normalized	99.83%	100%	99.78%
Standard Deviation		0.5%	
Ethr - UDP - Bandwidth - 8 (Packets/sec)	**2848800**	2765467	**2738400**
Normalized	100%	97.07%	96.12%
Standard Deviation		1.8%	
Ethr - TCP - Bandwidth - 16 (Gbits/sec)	**91.98**	90.96	**90.41**
Normalized	100%	98.89%	98.29%
Standard Deviation	111.6%	81.5%	111.7%
Ethr - TCP - Bandwidth - 32 (Gbits/sec)	**169.67**	**164.99**	165.64
Normalized	100%	97.24%	97.62%
Standard Deviation		0.4%	
Ethr - TCP - Bandwidth - 64 (Gbits/sec)	**157.39**	**152.51**	153.29
Normalized	100%	96.9%	97.4%
Standard Deviation		0%	
Ethr - UDP - Bandwidth - 16 (Packets/sec)	**2663196**	2707910	**2764558**
Normalized	96.33%	97.95%	100%
Standard Deviation	111.6%	81.6%	111.7%
Ethr - UDP - Bandwidth - 32 (Packets/sec)	**7424000**	**7333200**	7383200
Normalized	100%	98.78%	99.45%
Standard Deviation		0.4%	
Ethr - UDP - Bandwidth - 64 (Packets/sec)	**8008000**	8056743	**8265200**
Normalized	96.89%	97.48%	100%
Standard Deviation		2.4%	
Ethr - TCP - Connections/s - 1 (Connections/sec)	505	505	505
Standard Deviation		0%	

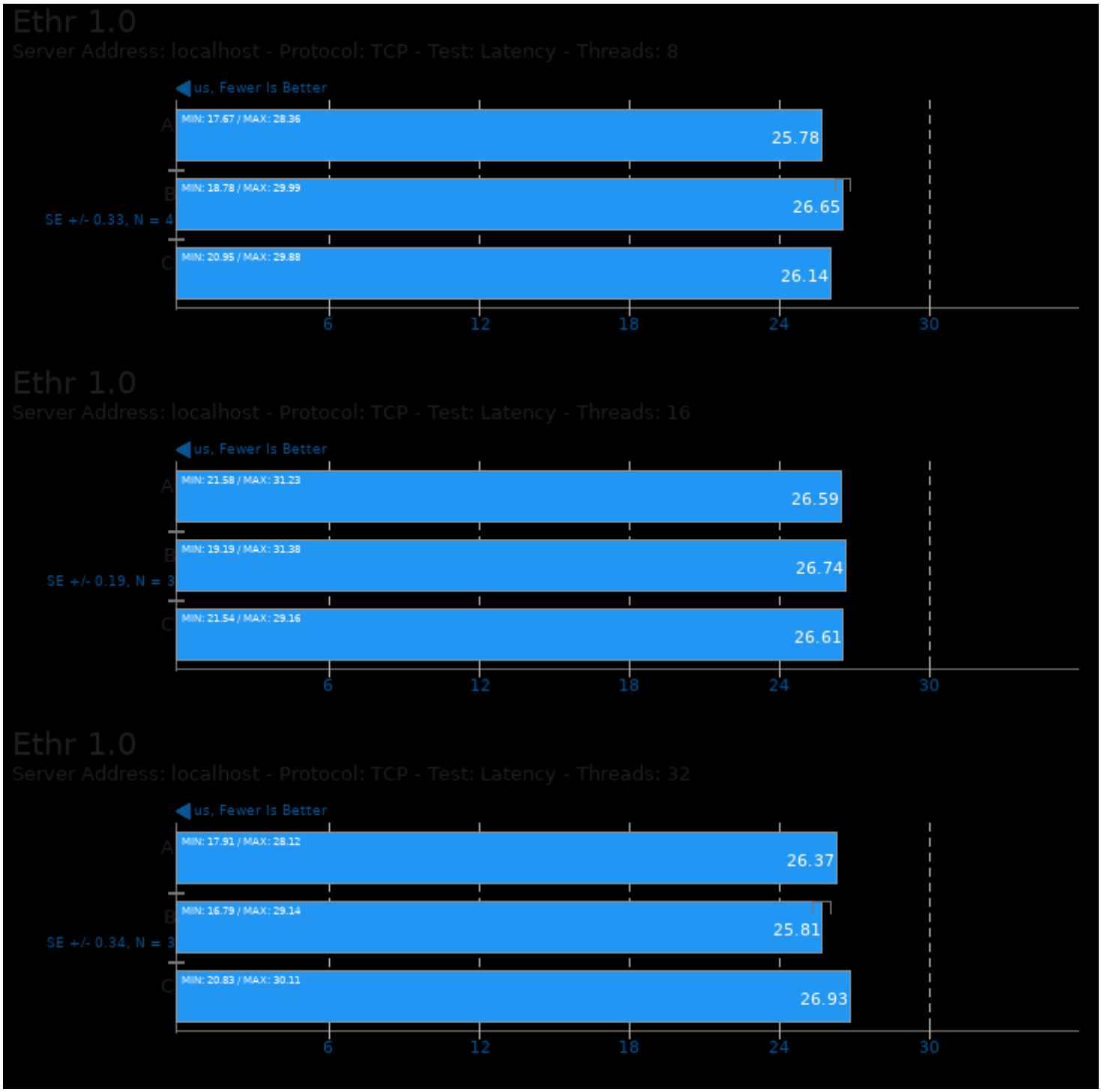
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Ethr - TCP - Connections/s - 2 (Connections/sec)	505	505	505
Standard Deviation		0%	
Ethr - TCP - Connections/s - 4 (Connections/sec)	505	505	505
Standard Deviation		0%	
Ethr - TCP - Connections/s - 8 (Connections/sec)	**506**	**506**	**505**
Normalized	100%	100%	99.8%
Standard Deviation		0%	
Ethr - TCP - Connections/s - 16 (Connections/sec)	**506**	**507**	**506**
Normalized	99.8%	100%	99.8%
Standard Deviation		0.1%	
Ethr - TCP - Connections/s - 32 (Connections/sec)	**508**	**507**	**508**
Normalized	100%	99.8%	100%
Standard Deviation		0.1%	
Ethr - TCP - Connections/s - 64 (Connections/sec)	**507**	508	**509**
Normalized	99.61%	99.8%	100%
Standard Deviation		0.1%	
simdjson - Kostya (GB/s)	**2.69**	2.67	**2.66**
Normalized	100%	99.26%	98.88%
Standard Deviation		1%	
simdjson - TopTweet (GB/s)	**4.29**	**4.27**	4.28
Normalized	100%	99.53%	99.77%
Standard Deviation		0.4%	
simdjson - LargeRand (GB/s)	**0.94**	**0.95**	**0.94**
Normalized	98.95%	100%	98.95%
Standard Deviation		0%	
simdjson - PartialTweets (GB/s)	**3.81**	3.78	**3.77**
Normalized	100%	99.21%	98.95%
Standard Deviation		0.3%	
simdjson - DistinctUserID (GB/s)	4.17	**4.16**	**4.18**
Normalized	99.76%	99.52%	100%
Standard Deviation		0.4%	

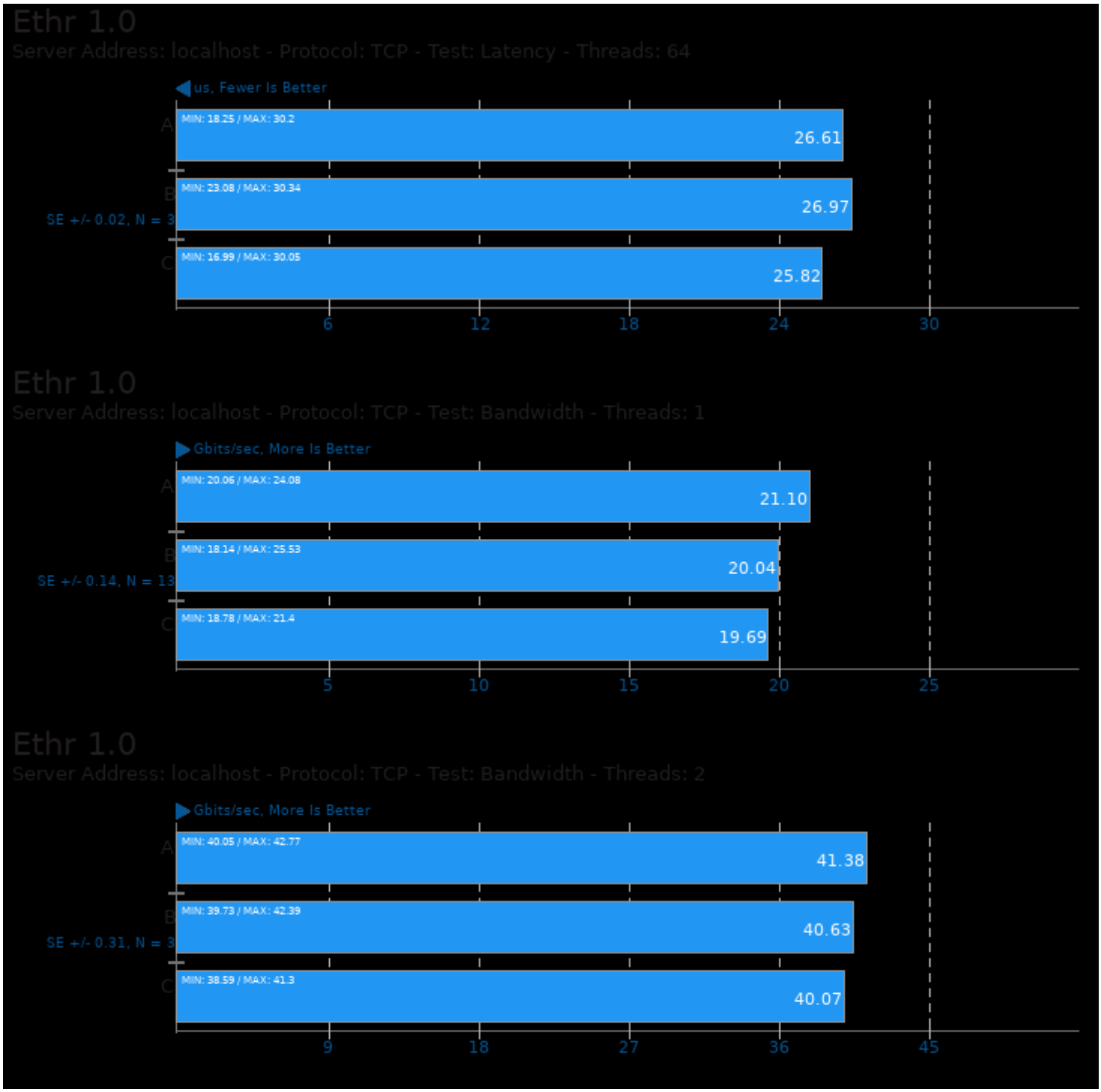
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Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1
us, Fewer Is Better
A
MIN: 18.88 / MAX: 30.88
27.09
B
MIN: 21.45 / MAX: 30.84
26.97
SE +/- 0.04, N = 3
C
MIN: 21.55 / MAX: 29.16
25.65
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 2
us, Fewer Is Better
A
MIN: 16.77 / MAX: 28.93
25.91
B
MIN: 18.55 / MAX: 30.55
26.82
SE +/- 0.27, N = 3
C
MIN: 24.62 / MAX: 28.16
26.87
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 4
us, Fewer Is Better
A
MIN: 16.42 / MAX: 28.73
25.25
B
MIN: 16.52 / MAX: 31.64
26.63
SE +/- 0.23, N = 3
C
MIN: 25.31 / MAX: 30.39
26.96
6
12
18
24
30

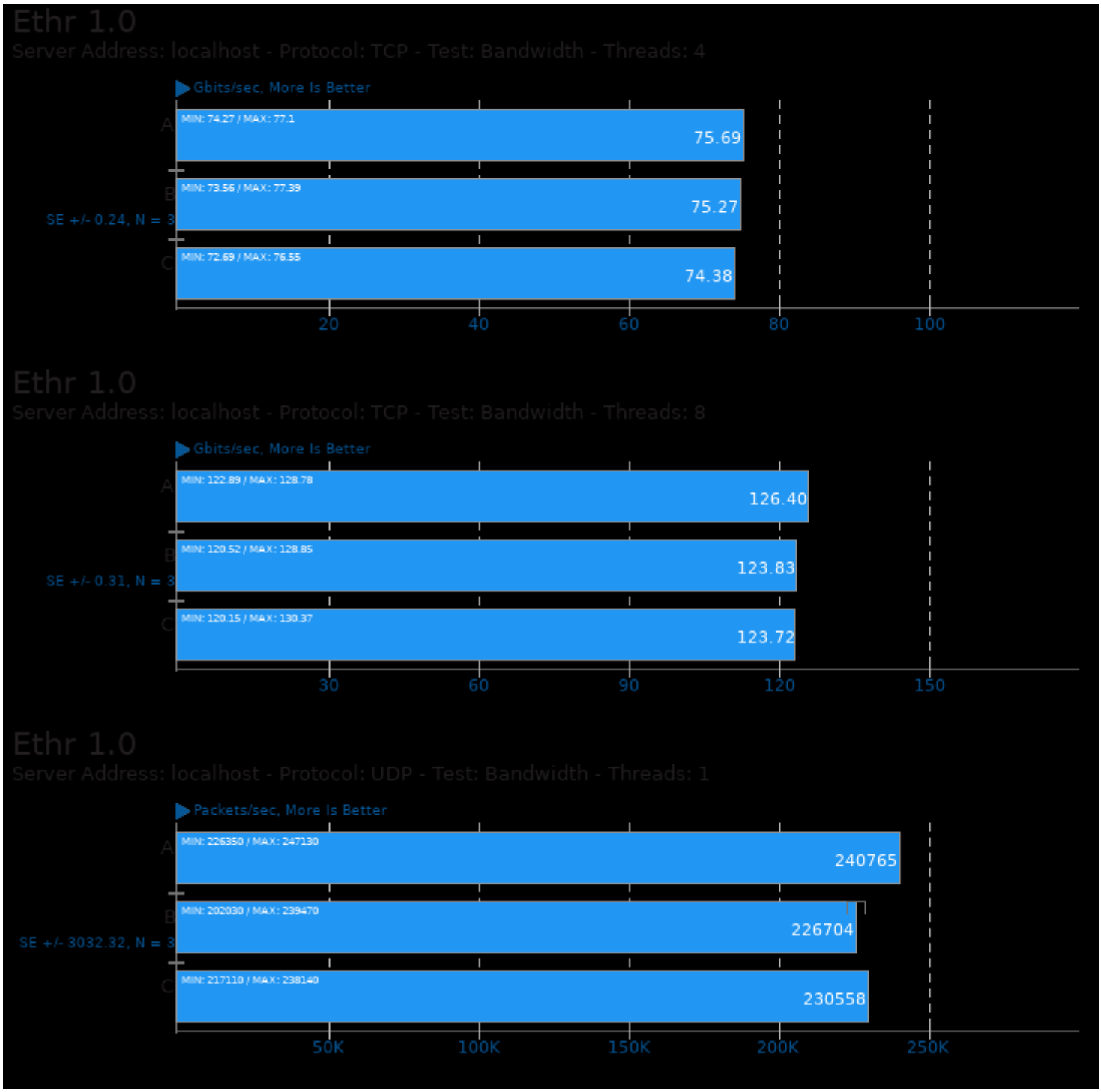
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Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8
us, Fewer Is Better
A
MIN: 17.67 / MAX: 28.36
25.78
B
MIN: 18.78 / MAX: 29.99
26.65
SE +/- 0.33, N = 4
C
MIN: 20.95 / MAX: 29.88
26.14
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 16
us, Fewer Is Better
A
MIN: 21.58 / MAX: 31.23
26.59
B
MIN: 19.19 / MAX: 31.38
26.74
SE +/- 0.19, N = 3
C
MIN: 21.54 / MAX: 29.16
26.61
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 32
us, Fewer Is Better
A
MIN: 17.91 / MAX: 28.12
26.37
B
MIN: 16.79 / MAX: 29.14
25.81
SE +/- 0.34, N = 3
C
MIN: 20.83 / MAX: 30.11
26.93
6
12
18
24
30

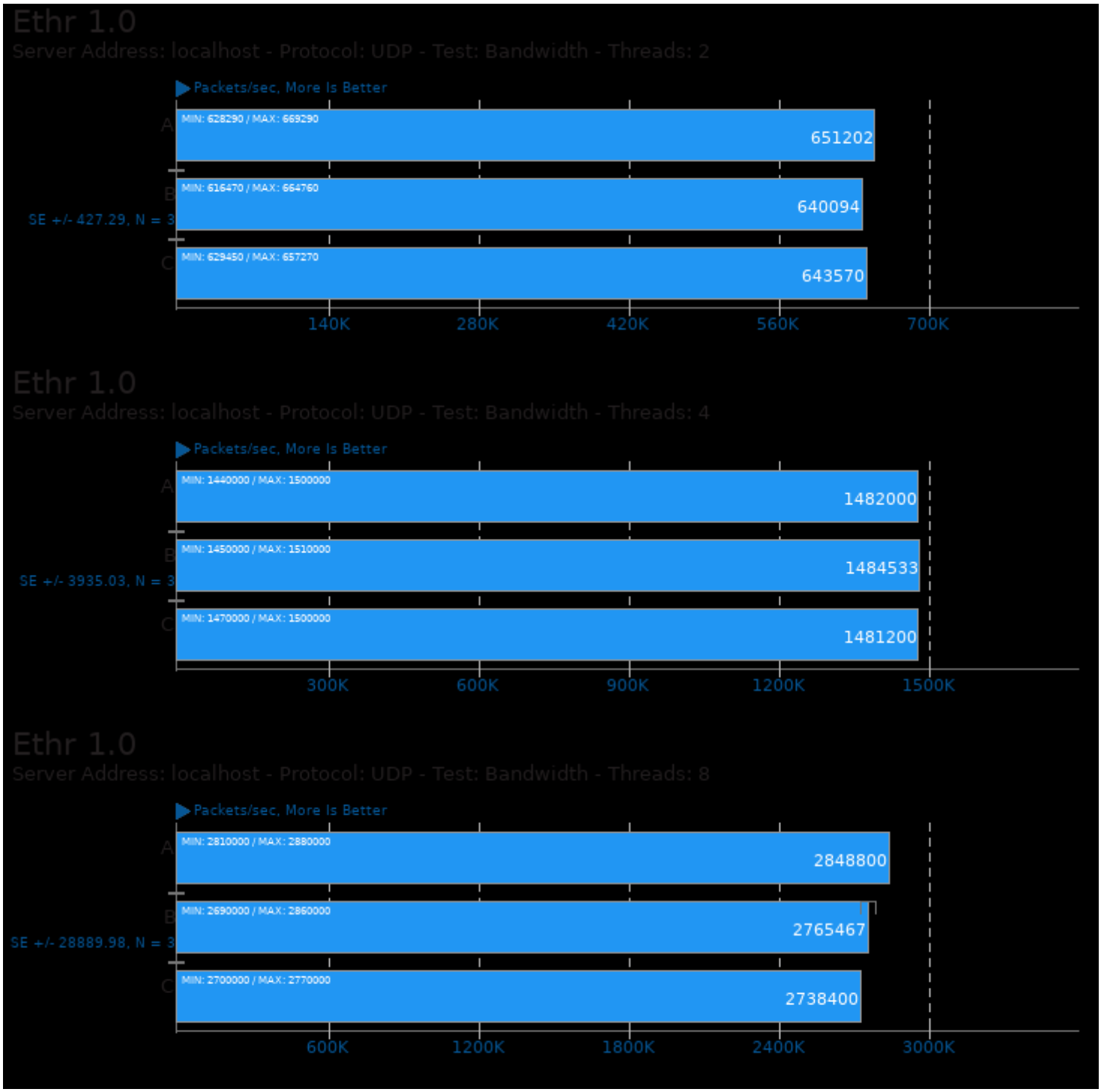
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Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 64
us, Fewer Is Better
A
MIN: 18.25 / MAX: 30.2
26.61
B
MIN: 23.08 / MAX: 30.34
26.97
SE +/- 0.02, N = 3
C
MIN: 16.99 / MAX: 30.05
25.82
6
12
18
24
30
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 1
Gbits/sec, More Is Better
A
MIN: 20.06 / MAX: 24.08
21.10
B
MIN: 18.14 / MAX: 25.53
20.04
SE +/- 0.14, N = 13
C
MIN: 18.78 / MAX: 21.4
19.69
5
10
15
20
25
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 2
Gbits/sec, More Is Better
A
MIN: 40.05 / MAX: 42.77
41.38
B
MIN: 39.73 / MAX: 42.39
40.63
SE +/- 0.31, N = 3
C
MIN: 38.59 / MAX: 41.3
40.07
9
18
27
36
45

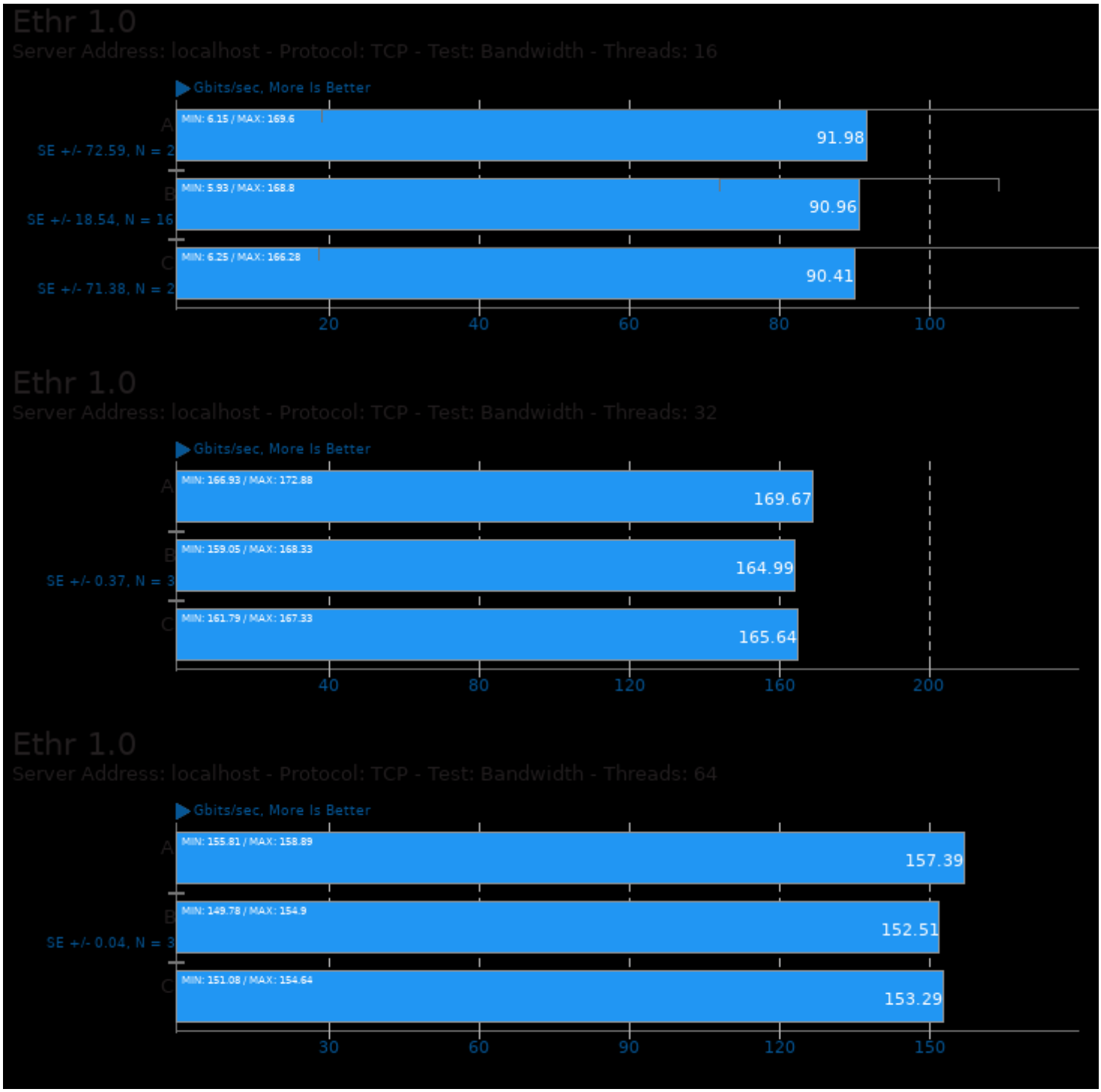
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Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 4
Gbits/sec, More Is Better
A
MIN: 74.27 / MAX: 77.1
75.69
B
MIN: 73.56 / MAX: 77.39
75.27
SE +/- 0.24, N = 3
C
MIN: 72.69 / MAX: 76.55
74.38
20
40
60
80
100
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 8
Gbits/sec, More Is Better
A
MIN: 122.89 / MAX: 128.78
126.40
B
MIN: 120.52 / MAX: 128.85
123.83
SE +/- 0.31, N = 3
C
MIN: 120.15 / MAX: 130.37
123.72
30
60
90
120
150
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 1
Packets/sec, More Is Better
A
MIN: 226350 / MAX: 247130
240765
B
MIN: 202030 / MAX: 239470
226704
SE +/- 3032.32, N = 3
C
MIN: 217110 / MAX: 238140
230558
50K
100K
150K
200K
250K

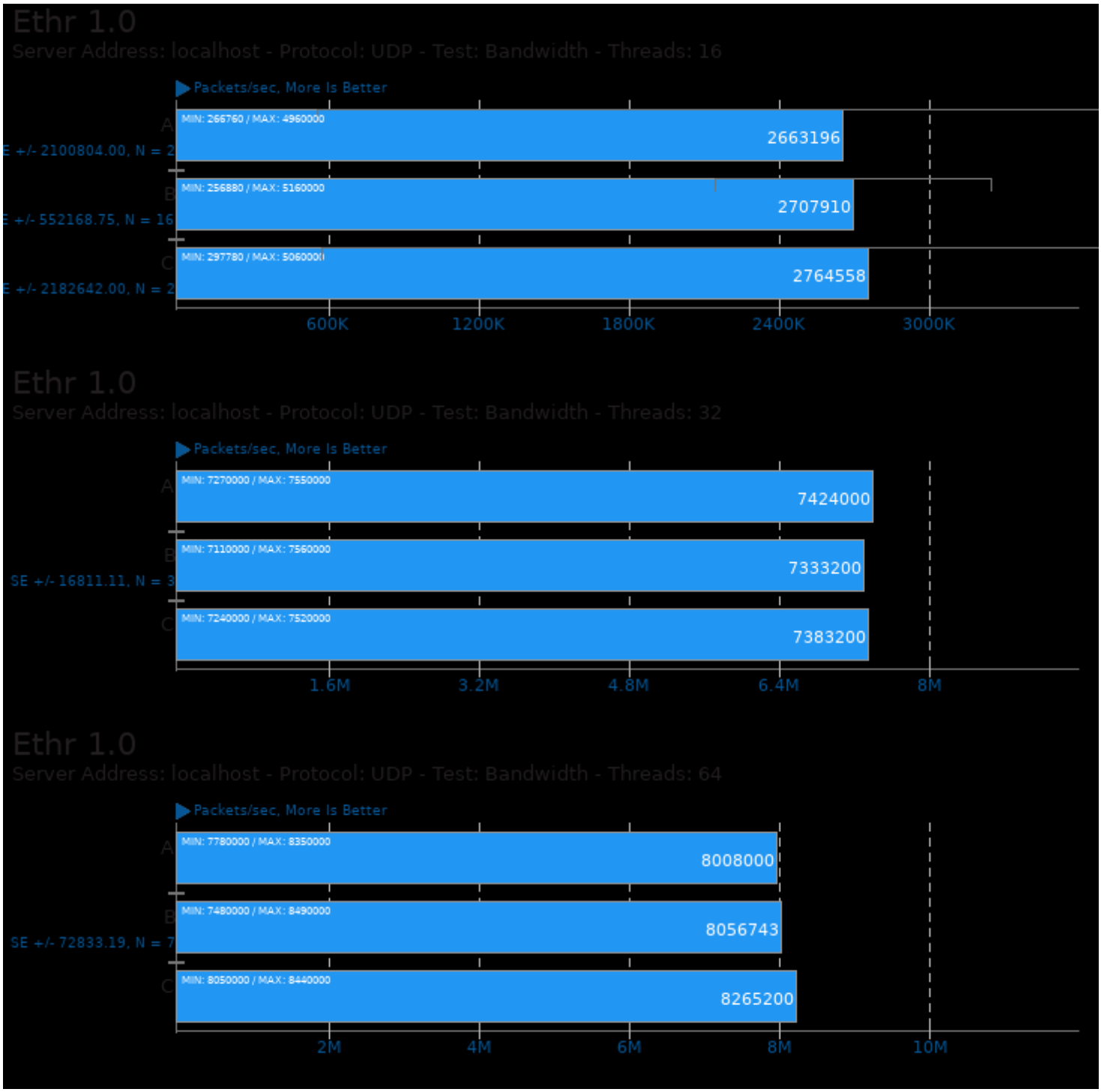
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Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 2
Packets/sec, More Is Better
A
MIN: 628290 / MAX: 669290
651202
B
MIN: 616470 / MAX: 664760
640094
C
MIN: 629450 / MAX: 657270
643570
SE +/- 427.29, N = 3
140K
280K
420K
560K
700K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 4
Packets/sec, More Is Better
A
MIN: 1440000 / MAX: 1500000
1482000
B
MIN: 1450000 / MAX: 1510000
1484533
C
MIN: 1470000 / MAX: 1500000
1481200
SE +/- 3935.03, N = 3
300K
600K
900K
1200K
1500K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8
Packets/sec, More Is Better
A
MIN: 2810000 / MAX: 2880000
2848800
B
MIN: 2690000 / MAX: 2860000
2765467
C
MIN: 2700000 / MAX: 2770000
2738400
SE +/- 28889.98, N = 3
600K
1200K
1800K
2400K
3000K

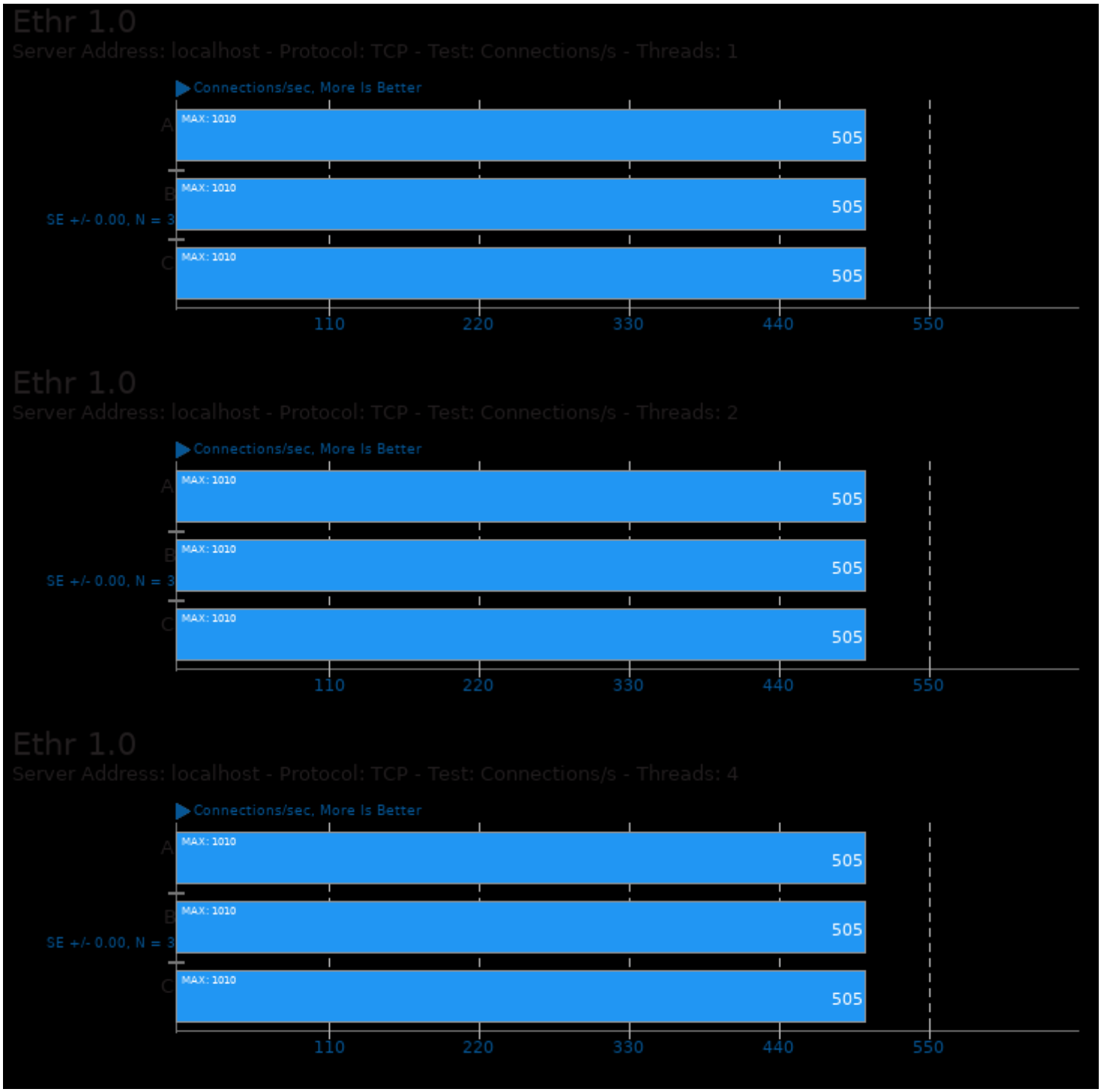
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Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 16
Gbits/sec, More Is Better
A
MIN: 6.15 / MAX: 169.6
91.98
SE +/- 72.59, N = 2
B
MIN: 5.93 / MAX: 168.8
90.96
SE +/- 18.54, N = 16
C
MIN: 6.25 / MAX: 166.28
90.41
SE +/- 71.38, N = 2
20
40
60
80
100
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 32
Gbits/sec, More Is Better
A
MIN: 166.93 / MAX: 172.88
169.67
B
MIN: 159.05 / MAX: 168.33
164.99
SE +/- 0.37, N = 3
C
MIN: 161.79 / MAX: 167.33
165.64
40
80
120
160
200
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 64
Gbits/sec, More Is Better
A
MIN: 155.81 / MAX: 158.89
157.39
B
MIN: 149.78 / MAX: 154.9
152.51
SE +/- 0.04, N = 3
C
MIN: 151.08 / MAX: 154.64
153.29
30
60
90
120
150

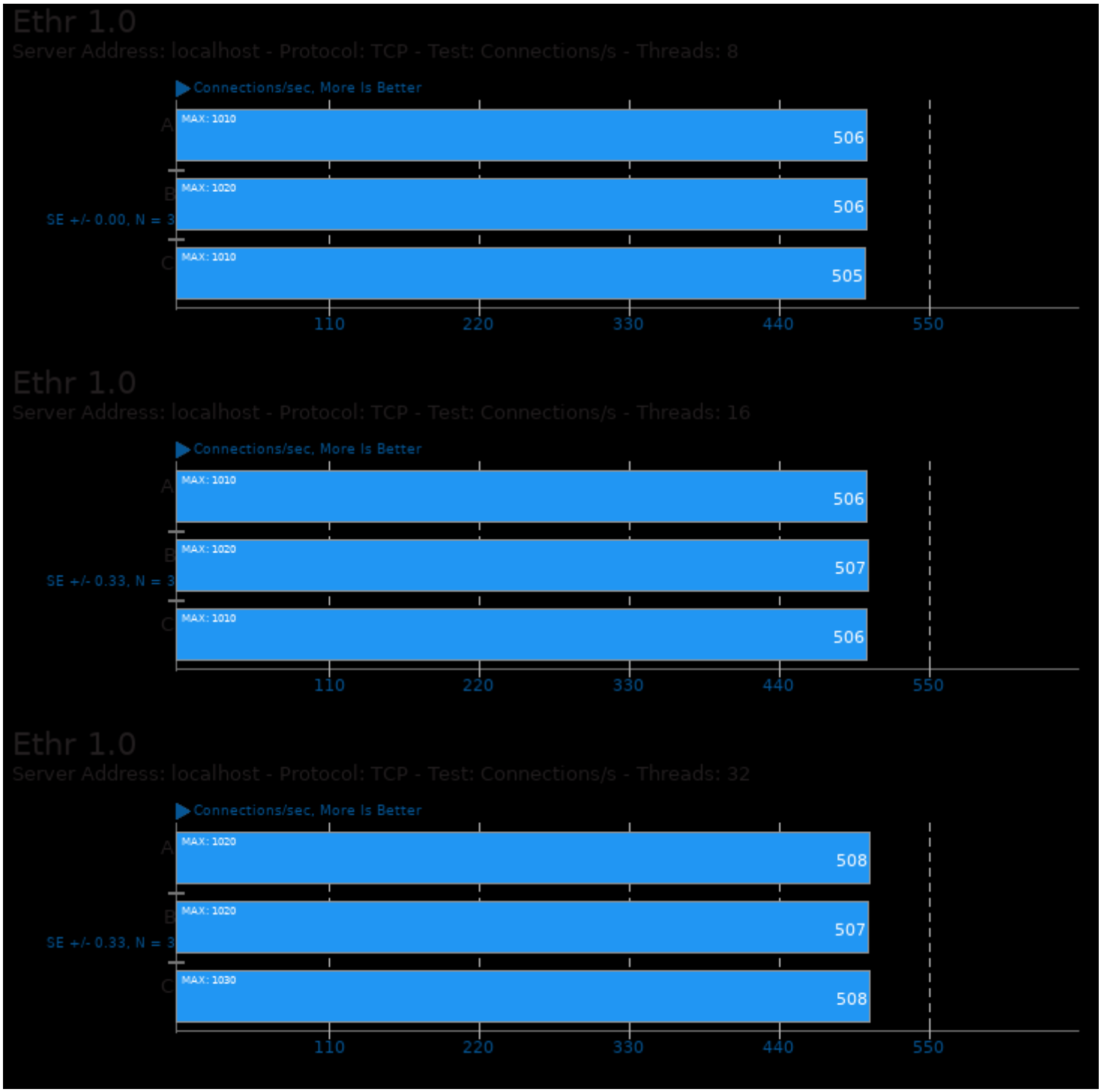
ethr tr


Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 16
Packets/sec, More Is Better
MIN: 266760 / MAX: 4960000
2663196
MIN: 256880 / MAX: 5160000
2707910
MIN: 297780 / MAX: 5060000
2764558
600K
1200K
1800K
2400K
3000K
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 32
Packets/sec, More Is Better
MIN: 7270000 / MAX: 7550000
7424000
MIN: 7110000 / MAX: 7560000
7333200
MIN: 7240000 / MAX: 7520000
7383200
SE +/- 16811.11, N = 3
1.6M
3.2M
4.8M
6.4M
8M
Ethr 1.0
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 64
Packets/sec, More Is Better
MIN: 7780000 / MAX: 8350000
8008000
MIN: 7480000 / MAX: 8490000
8056743
MIN: 8050000 / MAX: 8440000
8265200
SE +/- 72833.19, N = 7
2M
4M
6M
8M
10M

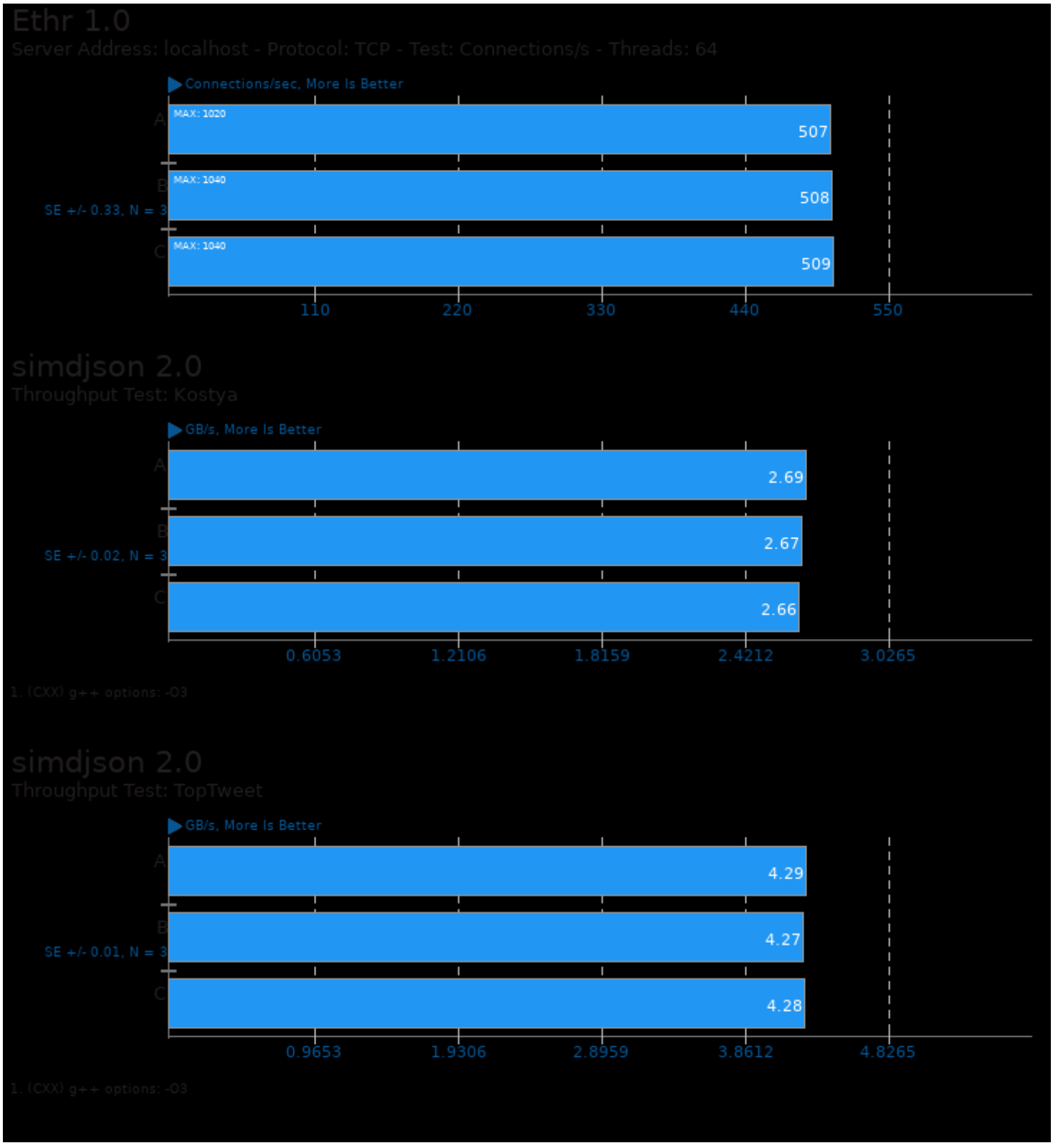
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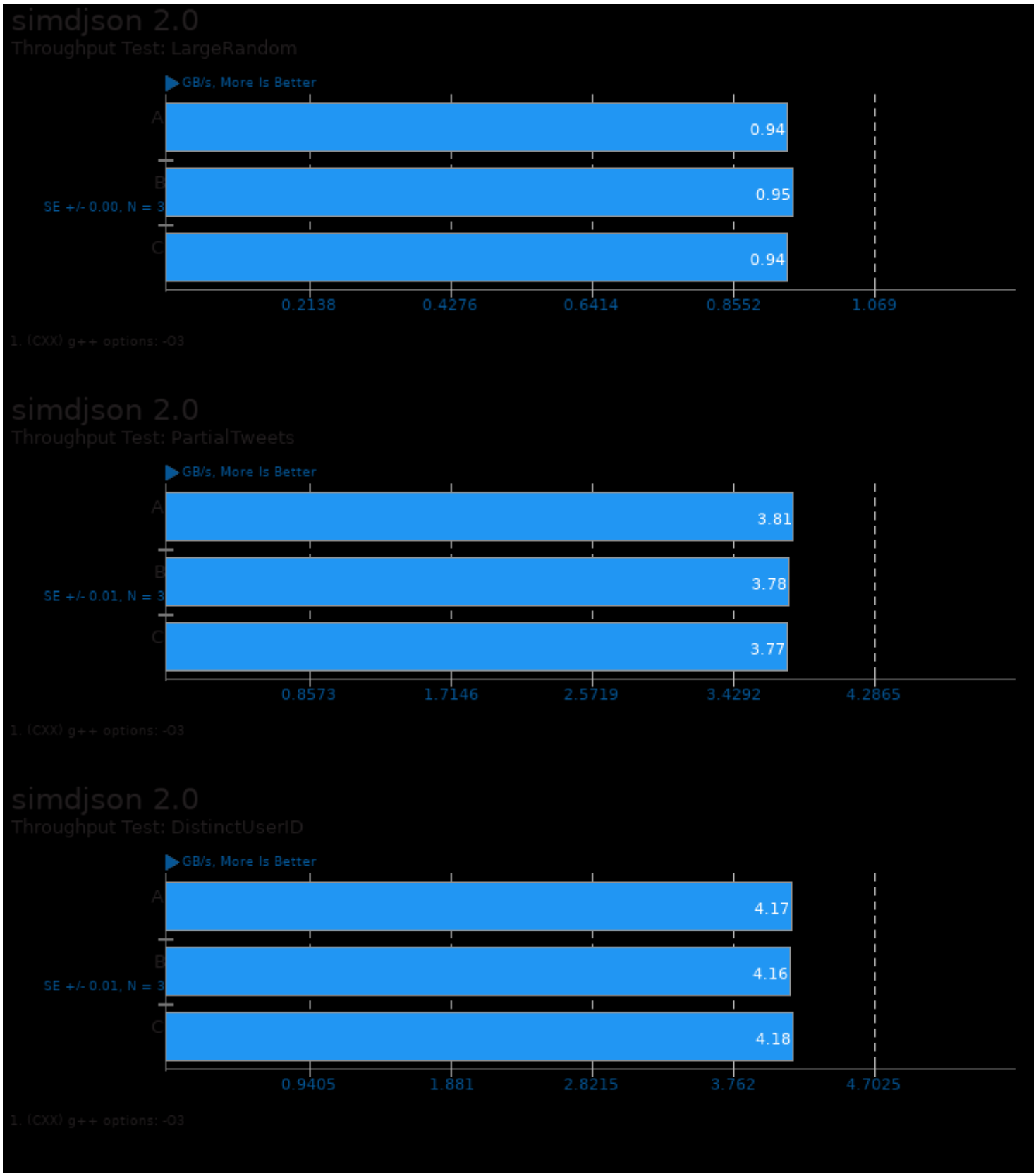

Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1
Connections/sec, More Is Better
A
MAX: 1010
505
B
MAX: 1010
505
SE +/- 0.00, N = 3
C
MAX: 1010
505
110
220
330
440
550
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 2
Connections/sec, More Is Better
A
MAX: 1010
505
B
MAX: 1010
505
SE +/- 0.00, N = 3
C
MAX: 1010
505
110
220
330
440
550
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 4
Connections/sec, More Is Better
A
MAX: 1010
505
B
MAX: 1010
505
SE +/- 0.00, N = 3
C
MAX: 1010
505
110
220
330
440
550

ethr tr


Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 8
Connections/sec, More Is Better
A
MAX: 1010
506
B
MAX: 1020
506
SE +/- 0.00, N = 3
C
MAX: 1010
505
110
220
330
440
550
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 16
Connections/sec, More Is Better
A
MAX: 1010
506
B
MAX: 1020
507
SE +/- 0.33, N = 3
C
MAX: 1010
506
110
220
330
440
550
Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 32
Connections/sec, More Is Better
A
MAX: 1020
508
B
MAX: 1020
507
SE +/- 0.33, N = 3
C
MAX: 1030
508
110
220
330
440
550

ethr tr


Ethr 1.0
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 64
Connections/sec, More Is Better
A
MAX: 1020
507
B
MAX: 1040
508
SE +/- 0.33, N = 3
C
MAX: 1040
509
110
220
330
440
550
simdjson 2.0
Throughput Test: Kostya
GB/s, More Is Better
A
2.69
B
2.67
SE +/- 0.02, N = 3
C
2.66
0.6053
1.2106
1.8159
2.4212
3.0265
1. (CXX) g++ options: -O3
simdjson 2.0
Throughput Test: TopTweet
GB/s, More Is Better
A
4.29
B
4.27
SE +/- 0.01, N = 3
C
4.28
0.9653
1.9306
2.8959
3.8612
4.8265
1. (CXX) g++ options: -O3



This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:59.