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5900X Tues

AMD Ryzen 9 5900X 12-Core testing with a ASUS ROG CROSSHAIR VIII HERO (3202 BIOS) and Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 53% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.124x the speed of the slowest (3). 2 was 0.894x the speed of 1 and 3 was 0.996x the speed of 2.

Test Systems:

1

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (3202 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Samsung SSD 980 PRO 1TB, Graphics: Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 (1780/875MHz), Audio: AMD Navi 10 HDMI

Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: Ubuntu 20.10, Kernel: 5.8.0-38-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --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-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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa201009
Security Notes: itlb_multihit: Not affected + 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 Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

2

3

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (3202 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Samsung SSD 980 PRO 1TB, Graphics: Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB (1780/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

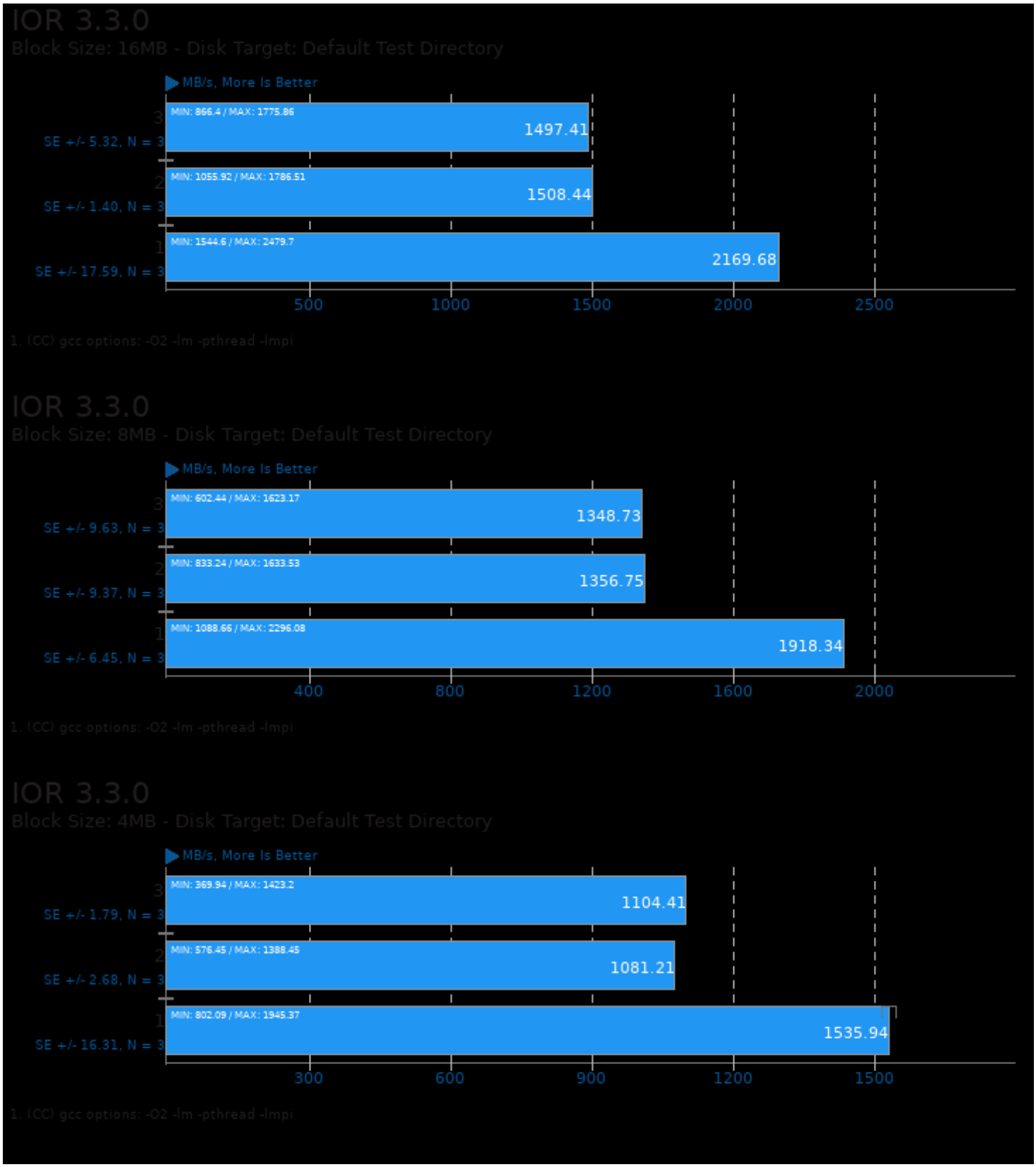
OS: Ubuntu 20.10, Kernel: 5.8.0-38-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

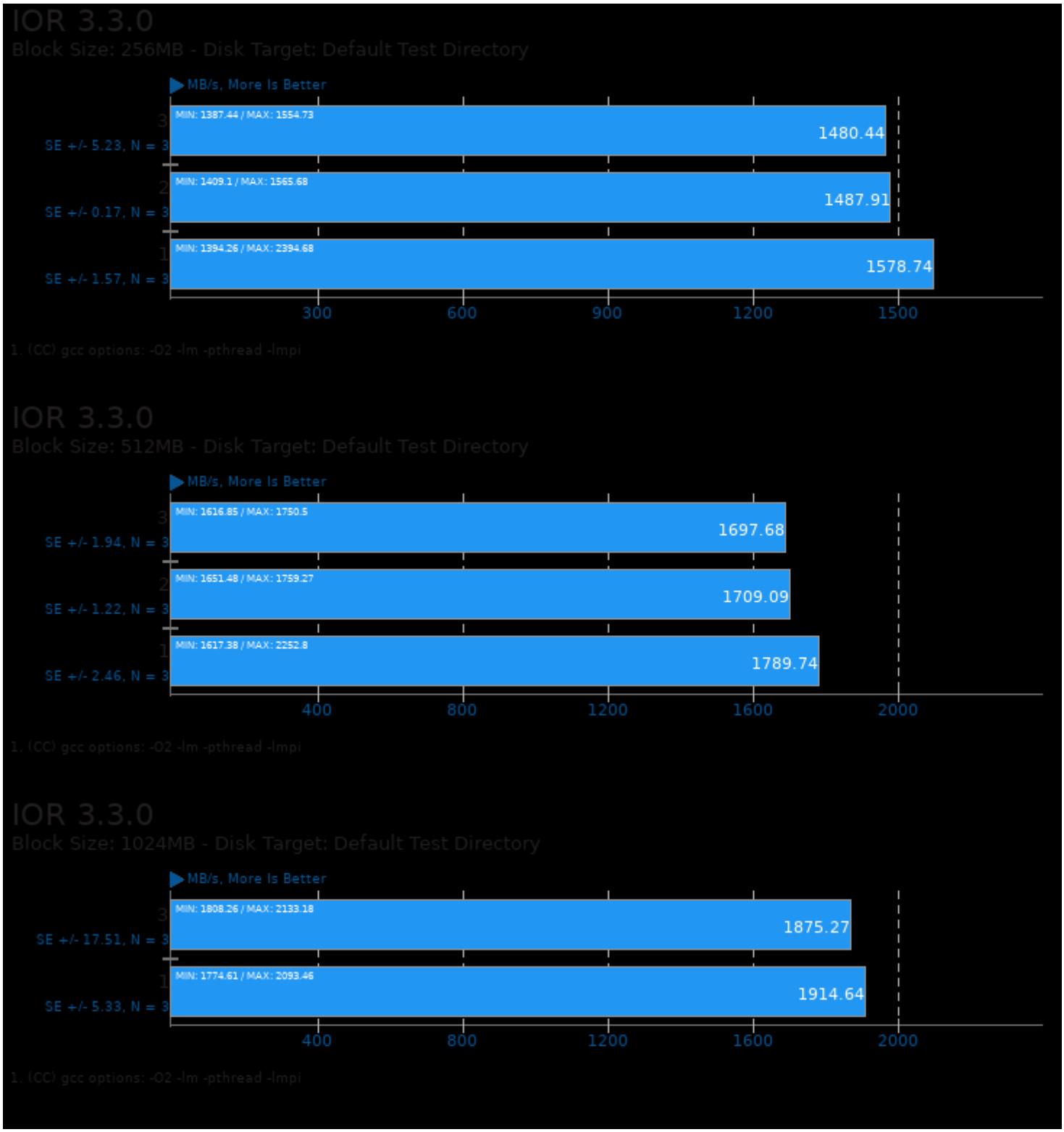
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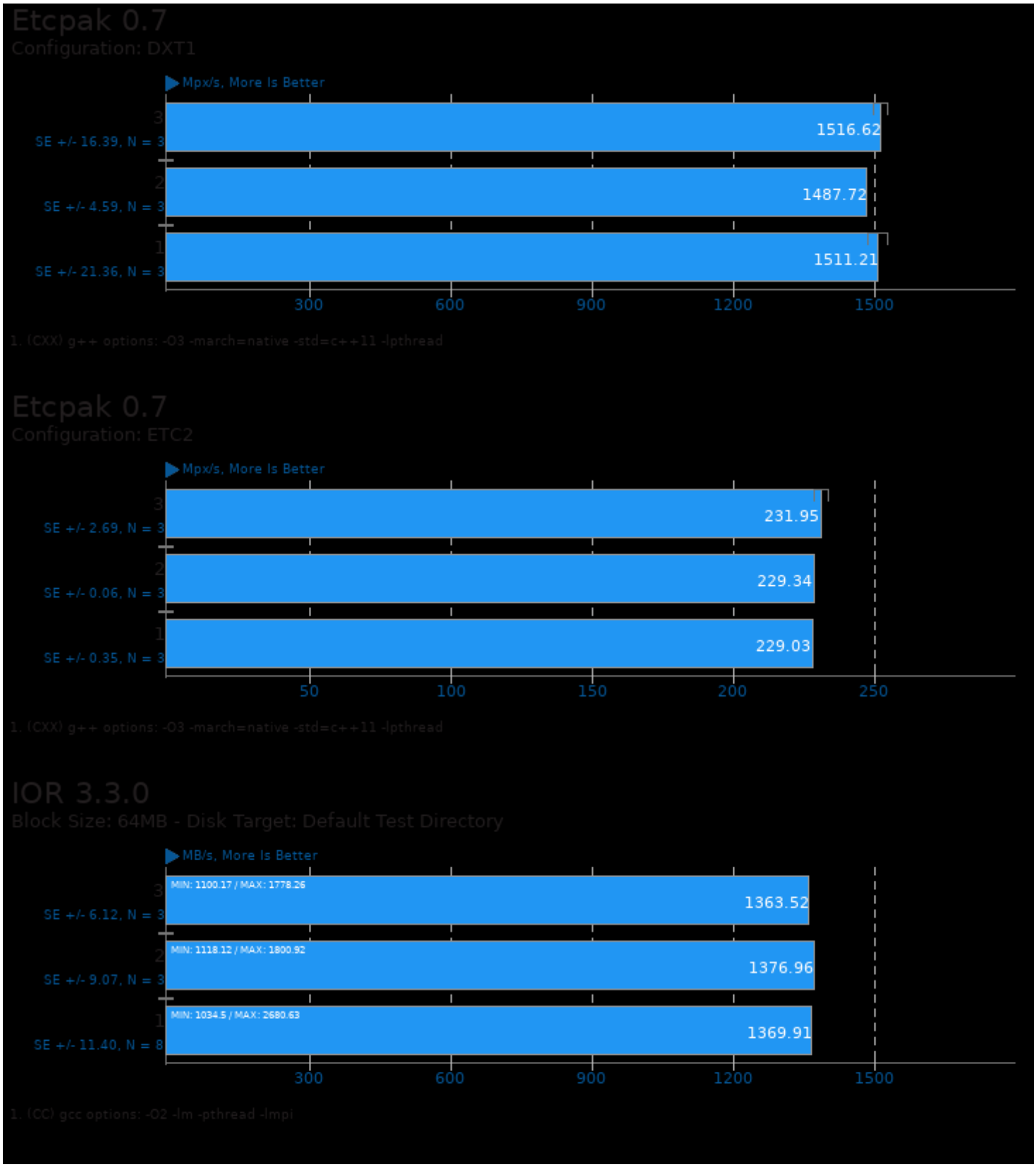
	1	2	3
IOR - 16MB (MB/s)	**2170**	1508	**1497**
Normalized	100%	69.52%	69.02%
Standard Deviation	1.4%	0.2%	0.6%
IOR - 8MB (MB/s)	**1918**	1357	**1349**
Normalized	100%	70.73%	70.31%
Standard Deviation	0.6%	1.2%	1.2%
IOR - 4MB (MB/s)	**1536**	**1081**	1104
Normalized	100%	70.39%	71.9%
Standard Deviation	1.8%	0.4%	0.3%

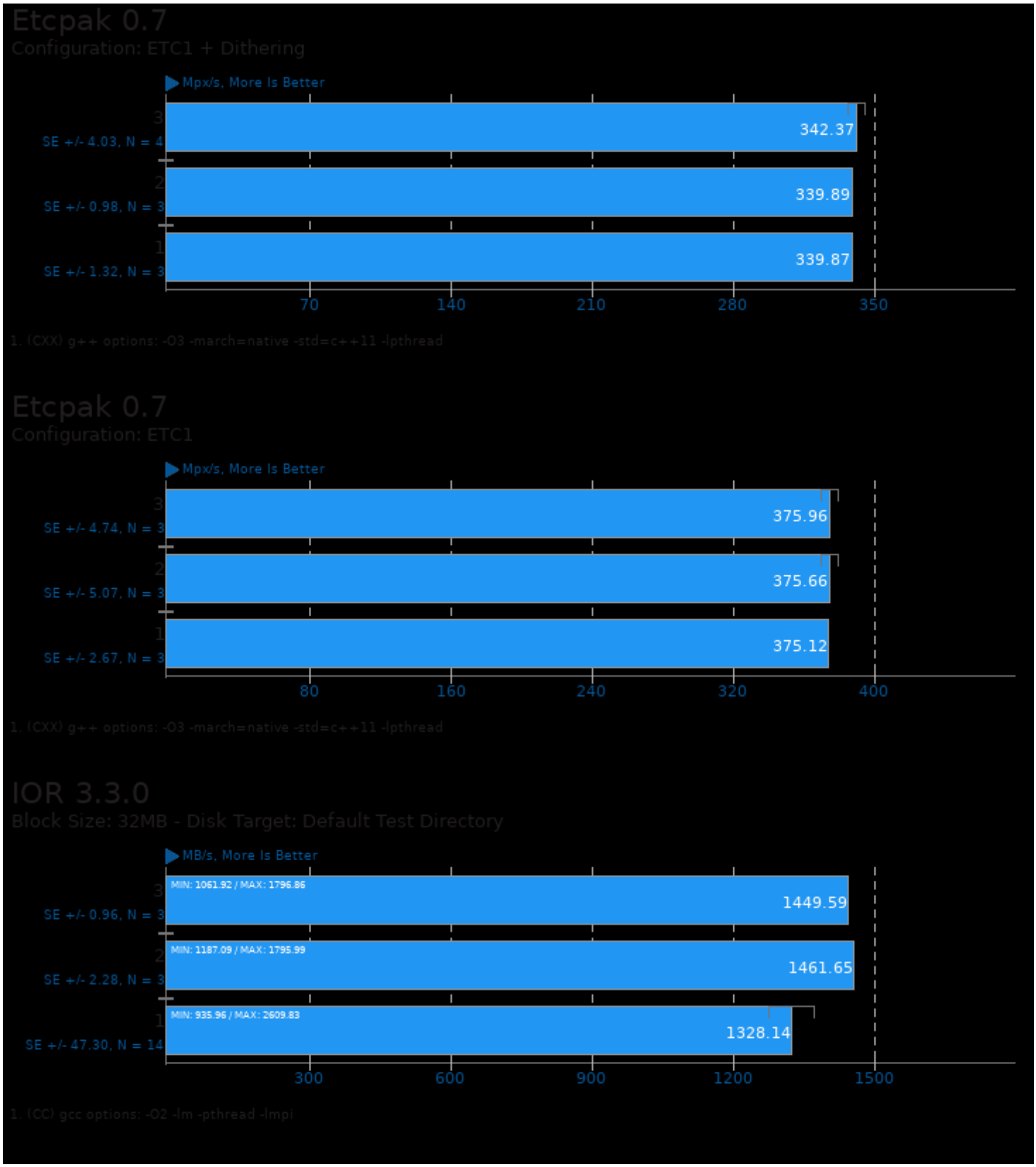
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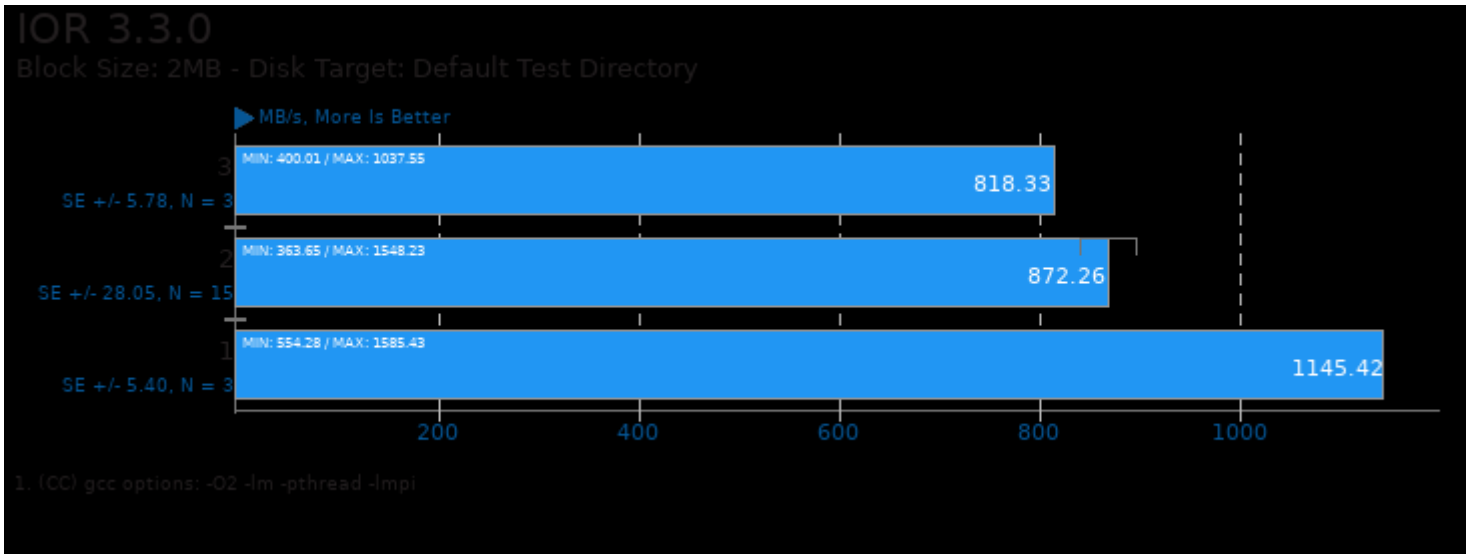
IOR - 256MB (MB/s)	**1579**	1488	**1480**
Normalized	100%	94.25%	93.77%
Standard Deviation	0.2%	0%	0.6%
IOR - 512MB (MB/s)	**1790**	1709	**1698**
Normalized	100%	95.49%	94.86%
Standard Deviation	0.2%	0.1%	0.2%
IOR - 1024MB (MB/s)	**1915**		**1875**
Normalized	100%		97.94%
Standard Deviation	0.5%		1.6%
Etcpak - DXT1 (Mpx/s)	1511	**1488**	**1517**
Normalized	99.64%	98.09%	100%
Standard Deviation	2.4%	0.5%	1.9%
Etcpak - ETC2 (Mpx/s)	**229.028**	229.339	**231.949**
Normalized	98.74%	98.87%	100%
Standard Deviation	0.3%	0%	2%
IOR - 64MB (MB/s)	1370	**1377**	**1364**
Normalized	99.49%	100%	99.02%
Standard Deviation	2.4%	1.1%	0.8%
Etcpak - ETC1 + Dithering (Mpx/s)	**339.867**	339.887	**342.368**
Normalized	99.27%	99.28%	100%
Standard Deviation	0.7%	0.5%	2.4%
Etcpak - ETC1 (Mpx/s)	**375.122**	375.659	**375.960**
Normalized	99.78%	99.92%	100%
Standard Deviation	1.2%	2.3%	2.2%
IOR - 32MB (MB/s)	**1328**	**1462**	1450
Normalized	90.87%	100%	99.17%
Standard Deviation	13.3%	0.3%	0.1%
IOR - 2MB (MB/s)	**1145**	872.26	**818.33**
Normalized	100%	76.15%	71.44%
Standard Deviation	0.8%	12.5%	1.2%


IOR 3.3.0
Block Size: 16MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 866.4 / MAX: 1775.86
1497.41
SE +/- 5.32, N = 3
MIN: 1055.92 / MAX: 1786.51
1508.44
SE +/- 1.40, N = 3
MIN: 1544.6 / MAX: 2479.7
2169.68
SE +/- 17.59, N = 3
500
1000
1500
2000
2500
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 602.44 / MAX: 1623.17
1348.73
SE +/- 9.63, N = 3
MIN: 833.24 / MAX: 1633.53
1356.75
SE +/- 9.37, N = 3
MIN: 1088.66 / MAX: 2296.08
1918.34
SE +/- 6.45, N = 3
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 4MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 369.94 / MAX: 1423.2
1104.41
SE +/- 1.79, N = 3
MIN: 576.45 / MAX: 1388.45
1081.21
SE +/- 2.68, N = 3
MIN: 802.09 / MAX: 1945.37
1535.94
SE +/- 16.31, N = 3
300
600
900
1200
1500
1. (CC) gcc options: -O2 -lm -pthread -lmpi


IOR 3.3.0
Block Size: 256MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 1387.44 / MAX: 1554.73
1480.44
SE +/- 5.23, N = 3
MIN: 1409.1 / MAX: 1565.68
1487.91
SE +/- 0.17, N = 3
MIN: 1394.26 / MAX: 2394.68
1578.74
SE +/- 1.57, N = 3
300
600
900
1200
1500
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 512MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 1616.85 / MAX: 1750.5
1697.68
SE +/- 1.94, N = 3
MIN: 1651.48 / MAX: 1759.27
1709.09
SE +/- 1.22, N = 3
MIN: 1617.38 / MAX: 2252.8
1789.74
SE +/- 2.46, N = 3
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -lm -pthread -lmpi
IOR 3.3.0
Block Size: 1024MB - Disk Target: Default Test Directory
MB/s, More Is Better
MIN: 1808.26 / MAX: 2133.18
1875.27
SE +/- 17.51, N = 3
MIN: 1774.61 / MAX: 2093.46
1914.64
SE +/- 5.33, N = 3
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -lm -pthread -lmpi


Etcpak 0.7
Configuration: DXT1
Mpx/s, More Is Better
3
SE +/- 16.39, N = 3
1516.62
2
SE +/- 4.59, N = 3
1487.72
1
SE +/- 21.36, N = 3
1511.21
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 0.7
Configuration: ETC2
Mpx/s, More Is Better
3
SE +/- 2.69, N = 3
231.95
2
SE +/- 0.06, N = 3
229.34
1
SE +/- 0.35, N = 3
229.03
50
100
150
200
250
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
IOR 3.3.0
Block Size: 64MB - Disk Target: Default Test Directory
MB/s, More Is Better
3
SE +/- 6.12, N = 3
MIN: 1100.17 / MAX: 1778.26
1363.52
2
SE +/- 9.07, N = 3
MIN: 1118.12 / MAX: 1800.92
1376.96
1
SE +/- 11.40, N = 8
MIN: 1034.5 / MAX: 2680.63
1369.91
300
600
900
1200
1500
1. (CC) gcc options: -O2 -lm -pthread -lmpi


Etcpak 0.7
Configuration: ETC1 + Dithering
Mpx/s, More Is Better
3
SE +/- 4.03, N = 4
342.37
2
SE +/- 0.98, N = 3
339.89
1
SE +/- 1.32, N = 3
339.87
70
140
210
280
350
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 0.7
Configuration: ETC1
Mpx/s, More Is Better
3
SE +/- 4.74, N = 3
375.96
2
SE +/- 5.07, N = 3
375.66
1
SE +/- 2.67, N = 3
375.12
80
160
240
320
400
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
IOR 3.3.0
Block Size: 32MB - Disk Target: Default Test Directory
MB/s, More Is Better
3
SE +/- 0.96, N = 3
MIN: 1061.92 / MAX: 1796.86
1449.59
2
SE +/- 2.28, N = 3
MIN: 1187.09 / MAX: 1795.99
1461.65
1
SE +/- 47.30, N = 14
MIN: 935.96 / MAX: 2609.83
1328.14
300
600
900
1200
1500
1. (CC) gcc options: -O2 -lm -pthread -lmpi



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 10:45.