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t470

Intel Core i5-3320M testing with a LENOVO 2324EE6 (G2ETA7WW 2.67 BIOS) and Intel 3rd Gen Core on Ubuntu 18.04 via the Phoronix Test Suite.

Test Systems:

nodejs-express-load

r

inkscape

darktable

Processor: Intel Core i7-7500U @ 3.50GHz (2 Cores / 4 Threads), Motherboard: LENOVO 20HES3DU00 (N1QET55W 1.30 BIOS), Chipset: Intel Xeon E3-1200 v6/7th, Memory: 32GB, Disk: 1024GB SAMSUNG MZVLW1T0HMLH-000L7, Graphics: Intel HD 620 KBL GT2 3GB (1050MHz), Audio: Realtek ALC298, Monitor: DELL UP2414Q, Network: Intel I219-V + Intel 8265 / 8275

OS: Ubuntu 20.04, Kernel: 5.4.0-77-generic (x86_64), Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.2.6, OpenCL: OpenCL 2.0 + OpenCL 2.0 beignet 1.3, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 5760x2380

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xea - Thermald 1.9.1
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

telluur-75W

Processor: Intel Core i5-11400 @ 4.40GHz (6 Cores / 12 Threads), Motherboard: ASRock Z590M Phantom Gaming 4 (P1.30 BIOS), Chipset: Intel Device 43ef, Memory: 32GB, Disk: 500GB Western Digital WDS500G2B0C-00PXH0, Graphics: i915drmfb (1300MHz), Audio: Realtek ALC897, Monitor: 27G2G5, Network: Intel + Realtek RTL8188EE

OS: Ubuntu 20.04, Kernel: 5.13.1-051301-generic (x86_64), Display Server: X Server 1.20.9, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x40 - Thermald 1.9.1
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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

david

Processor: Intel Core i5-2520M @ 3.20GHz (2 Cores / 4 Threads), Motherboard: LENOVO 4290BK7 (8DET59WW 1.29 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8GB, Disk: 320GB HITACHI HTS72323 + 60GB VisionTek mSATA, Graphics: Intel HD 3000 2GB (1300MHz), Audio: Conexant CX20590, Network: Intel 82579LM + Intel Centrino Advanced-N 6205

OS: Ubuntu 20.04, Kernel: 5.8.0-59-generic (x86_64), Display Server: X Server 1.20.9, OpenGL: 3.3 Mesa 20.0.4, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1366x768

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_cpufreq ondemand - CPU Microcode: 0x2f - Thermald 1.9.1
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

peeter

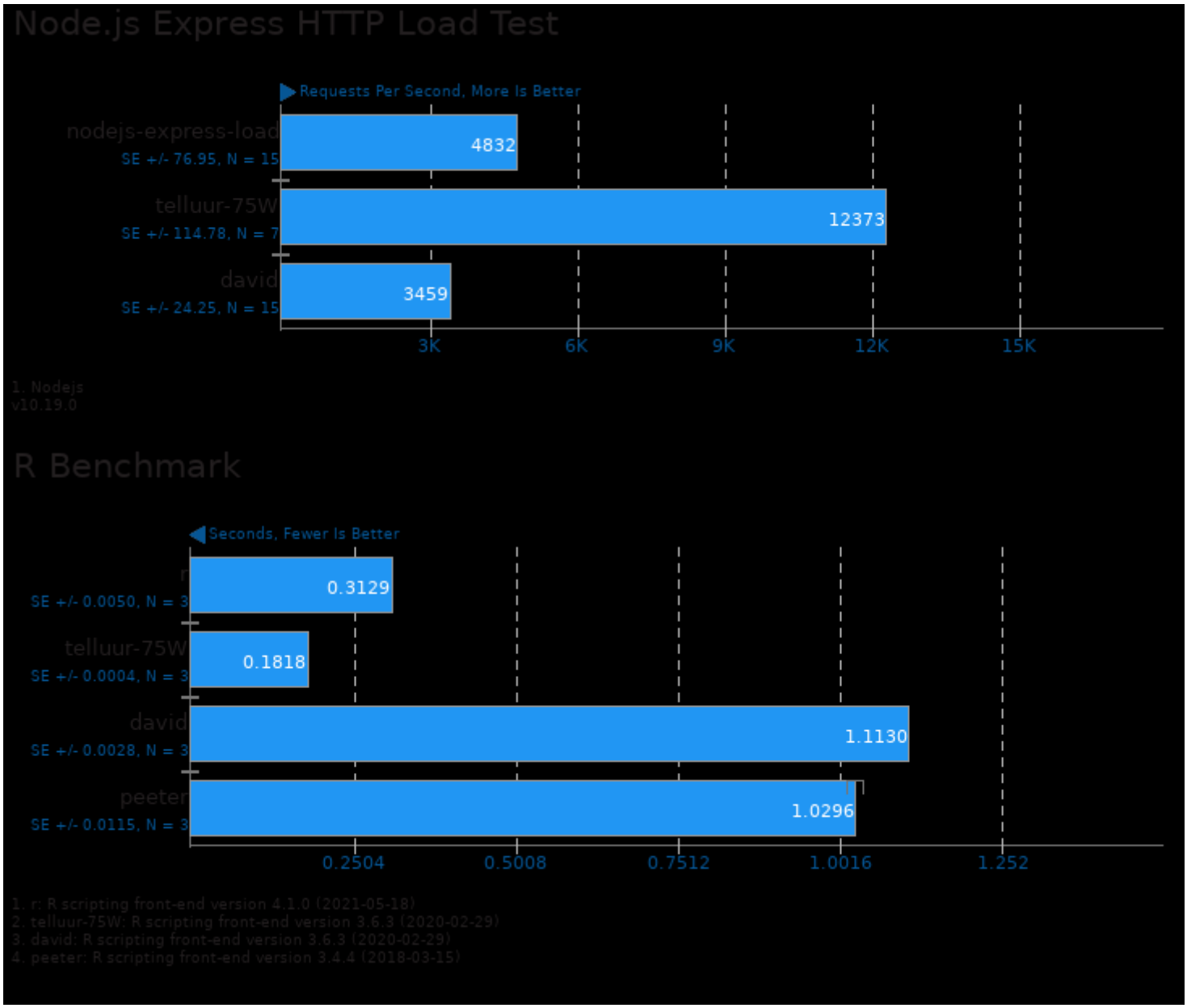
Processor: Intel Core i5-3320M @ 3.30GHz (2 Cores / 4 Threads), Motherboard: LENOVO 2324EE6 (G2ETA7WW 2.67 BIOS), Chipset: Intel 3rd Gen Core DRAM, Memory: 8GB, Disk: 500GB HGST HTS725050A7 + 120GB BP4e mSATA SSD, Graphics: Intel 3rd Gen Core (1200MHz), Audio: Realtek ALC269VC, Network: Intel 82579LM + Intel Centrino Advanced-N 6205

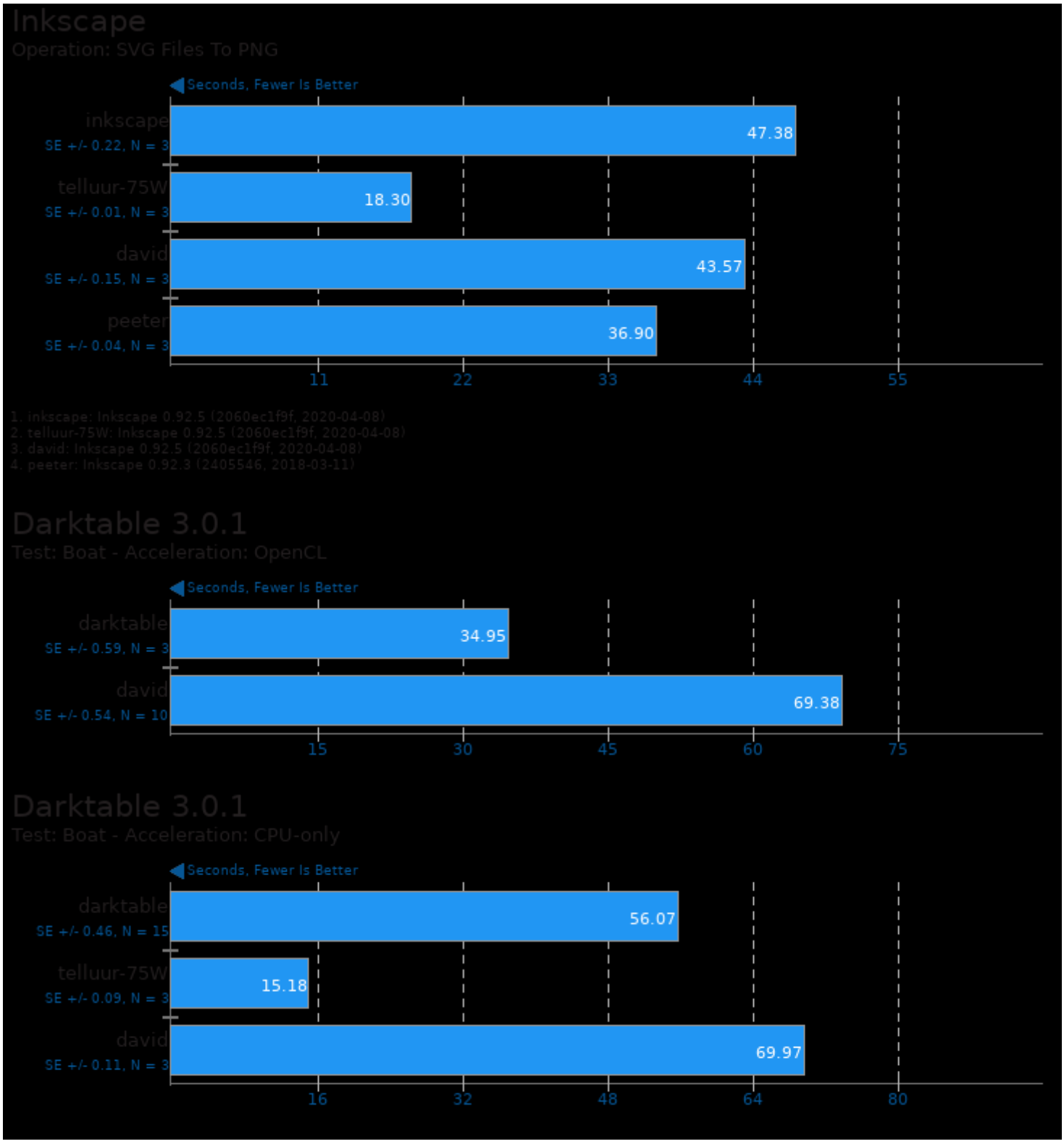
OS: Ubuntu 18.04, Kernel: 4.15.0-142-generic (x86_64), Desktop: GNOME Shell 3.28.4, Display Server: X Server 1.19.6, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 1366x768

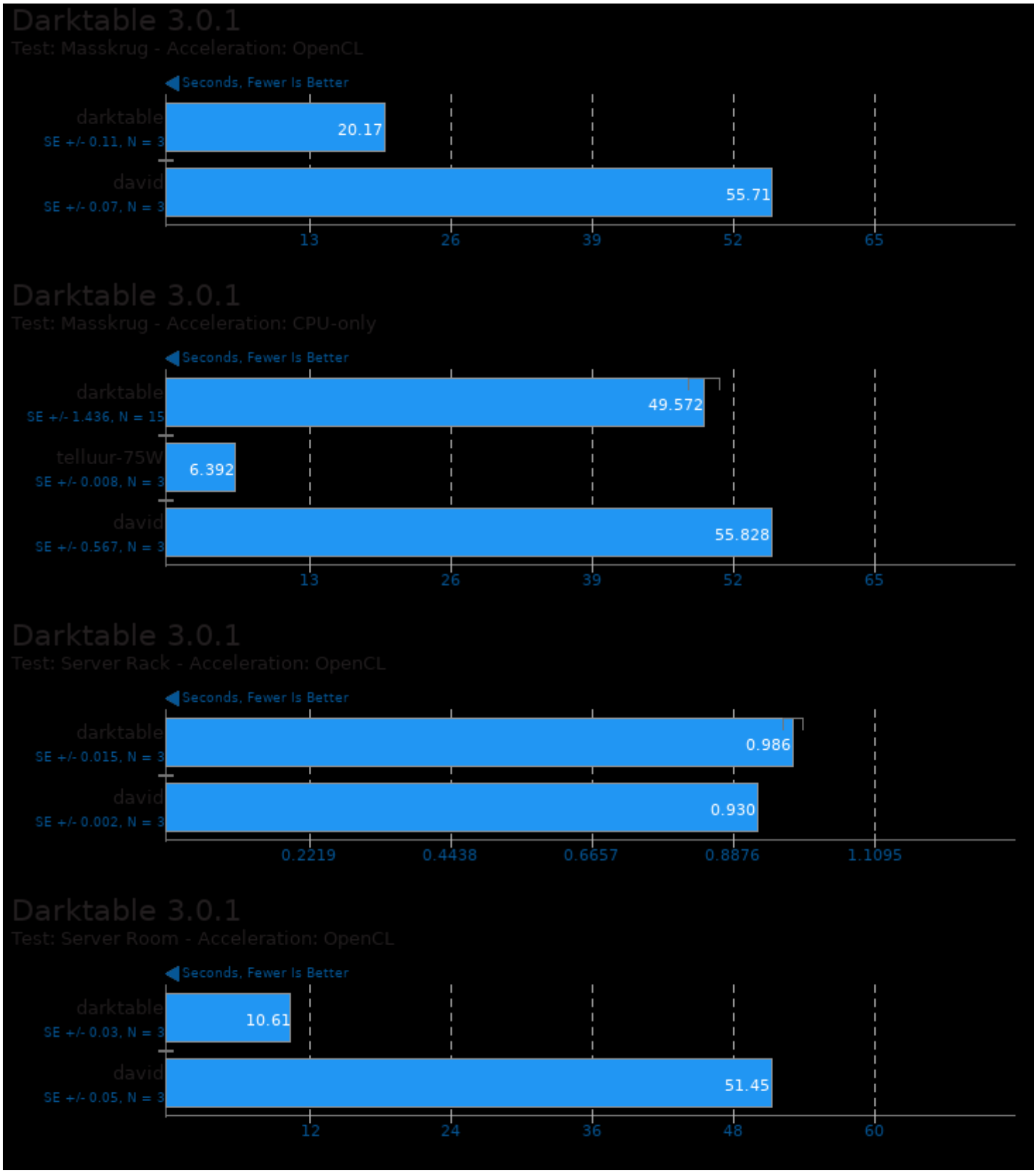
Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x21 - Thermald 1.7
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Vulnerable: No microcode + tsx_async_abort: Not affected

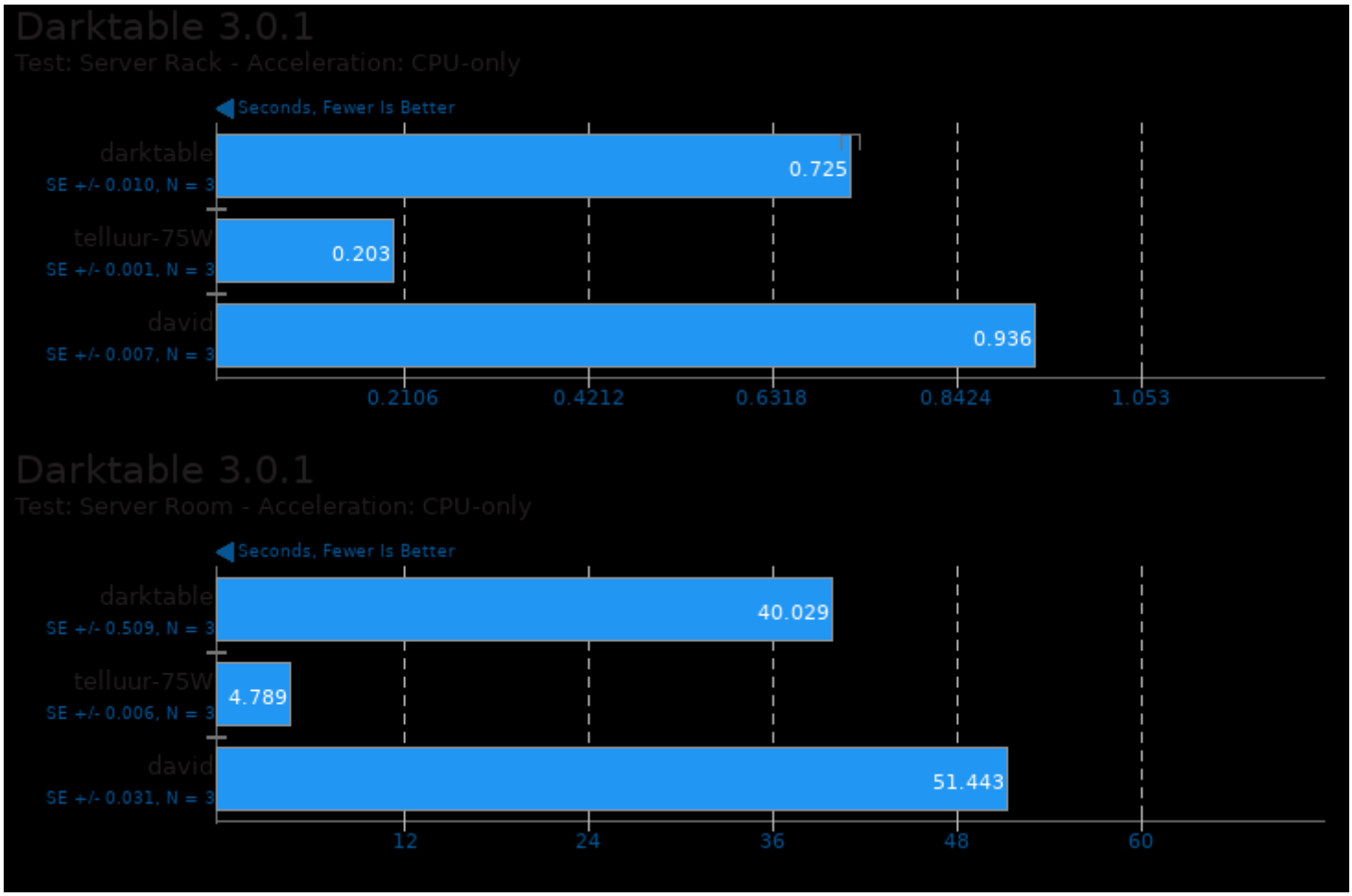
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	nodejs-express-load	r	inkscape	darktable	telluur-75W	david	peeter
Node.js Express HTTP Load Test (Reqs/sec)	4832				12373	3459	
Normalized	39.05%				100%	27.96%	
Standard Deviation	6.2%				2.5%	2.7%	
R Benchmark (sec)		0.3129			0.1818	1.1130	1.0296
Normalized		58.1%			100%	16.33%	17.66%
Standard Deviation		2.8%			0.4%	0.4%	1.9%
Inkscape - SVG Files To PNG (sec)			47.380		18.300	43.568	36.899
Normalized			38.62%		100%	42%	49.59%
Standard Deviation			0.8%		0.1%	0.6%	0.2%
Darktable - Boat - OpenCL (sec)				34.949		69.382	
Normalized				100%		50.37%	
Standard Deviation				2.9%		2.4%	
Darktable - Boat - CPU-only (sec)				56.067	15.177	69.965	
Normalized				27.07%	100%	21.69%	
Standard Deviation				3.2%	1%	0.3%	
Darktable - Masskrug - OpenCL (sec)				20.170		55.705	
Normalized				100%		36.21%	
Standard Deviation				0.9%		0.2%	
Darktable - Masskrug - CPU-only (sec)				49.572	6.392	55.828	
Normalized				12.89%	100%	11.45%	
Standard Deviation				11.2%	0.2%	1.8%	
Darktable - Server Rack - OpenCL (sec)				0.986		0.930	
Normalized				94.32%		100%	
Standard Deviation				2.5%		0.4%	
Darktable - Server Room - OpenCL (sec)				10.612		51.452	
Normalized				100%		20.63%	
Standard Deviation				0.5%		0.2%	
Darktable - Server Rack - CPU-only (sec)				0.725	0.203	0.936	
Normalized				28%	100%	21.69%	
Standard Deviation				2.5%	0.5%	1.3%	
Darktable - Server Room - CPU-only (sec)				40.029	4.789	51.443	
Normalized				11.96%	100%	9.31%	
Standard Deviation				2.2%	0.2%	0.1%	


Node.js Express HTTP Load Test
Requests Per Second, More Is Better
nodejs-express-load
SE +/- 76.95, N = 15
4832
telluur-75W
SE +/- 114.78, N = 7
12373
david
SE +/- 24.25, N = 15
3459
3K
6K
9K
12K
15K
1. Nodejs v10.19.0
R Benchmark
Seconds, Fewer Is Better
r
SE +/- 0.0050, N = 3
0.3129
telluur-75W
SE +/- 0.0004, N = 3
0.1818
david
SE +/- 0.0028, N = 3
1.1130
peeter
SE +/- 0.0115, N = 3
1.0296
0.2504
0.5008
0.7512
1.0016
1.252
1. r: R scripting front-end version 4.1.0 (2021-05-18)
2. telluur-75W: R scripting front-end version 3.6.3 (2020-02-29)
3. david: R scripting front-end version 3.6.3 (2020-02-29)
4. peeter: R scripting front-end version 3.4.4 (2018-03-15)


Inkscape
Operation: SVG Files To PNG
Seconds, Fewer Is Better
inkscape
SE +/- 0.22, N = 3
47.38
telluur-75W
SE +/- 0.01, N = 3
18.30
david
SE +/- 0.15, N = 3
43.57
peeter
SE +/- 0.04, N = 3
36.90
11
22
33
44
55
1. inkscape: Inkscape 0.92.5 (2060ec1f9f, 2020-04-08)
2. telluur-75W: Inkscape 0.92.5 (2060ec1f9f, 2020-04-08)
3. david: Inkscape 0.92.5 (2060ec1f9f, 2020-04-08)
4. peeter: Inkscape 0.92.3 (2405546, 2018-03-11)
Darktable 3.0.1
Test: Boat - Acceleration: OpenCL
Seconds, Fewer Is Better
darktable
SE +/- 0.59, N = 3
34.95
david
SE +/- 0.54, N = 10
69.38
15
30
45
60
75
Darktable 3.0.1
Test: Boat - Acceleration: CPU-only
Seconds, Fewer Is Better
darktable
SE +/- 0.46, N = 15
56.07
telluur-75W
SE +/- 0.09, N = 3
15.18
david
SE +/- 0.11, N = 3
69.97
16
32
48
64
80


Darktable 3.0.1
Test: Masskrug - Acceleration: OpenCL
Seconds, Fewer Is Better
darktable
SE +/- 0.11, N = 3
20.17
david
SE +/- 0.07, N = 3
55.71
13
26
39
52
65
Darktable 3.0.1
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
darktable
SE +/- 1.436, N = 15
49.572
telluur-75W
SE +/- 0.008, N = 3
6.392
david
SE +/- 0.567, N = 3
55.828
13
26
39
52
65
Darktable 3.0.1
Test: Server Rack - Acceleration: OpenCL
Seconds, Fewer Is Better
darktable
SE +/- 0.015, N = 3
0.986
david
SE +/- 0.002, N = 3
0.930
0.2219
0.4438
0.6657
0.8876
1.1095
Darktable 3.0.1
Test: Server Room - Acceleration: OpenCL
Seconds, Fewer Is Better
darktable
SE +/- 0.03, N = 3
10.61
david
SE +/- 0.05, N = 3
51.45
12
24
36
48
60



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