



## ANSYS Benchmark #1: Results List

### A Test of the Hard Drive

This benchmark is a static frontal solution of a thermal model with ~100,000 DOF. It primarily exercises the computer's hard drive.

- Please email your results data to [benchmarks@padtinc.com](mailto:benchmarks@padtinc.com)

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Rank	Computer Make	CPU Details	RAM Details	Disk Details	ANSYS Version	ANSYS Switches	Wall Time	CPU Time	Comments
1.		Intel Core 2 Duo (2 MHz) (4 CPUs)	6,400 MB (667 MHz)	Seagate SATA 3.0 (10,000 RPM)	11.0		0.000	0.000	
2.		Intel Core 2 Duo (1 CPU)	256 MB	Seagate SATA 3.0 (10,000 RPM)	11.0		0.000	0.000	
3.		Intel Core 2 Duo (1 CPU)	256 MB	Seagate SATA 3.0 (10,000 RPM)	11.0		0.000	0.000	
4.	Compaq	Xeon (1,500 MHz) (1 CPU)	2,048 MB	Compaq Atlas10k2-TY184LSCSI	8.1	-m 1200 -db 200	0.000	0.000	
5.	Dell T5530*	Intel Xeon Quad Core (2,400 MHz) (1 CPU)	2,400 MB (1,333 MHz)	Seagate SCSI (15,000 RPM)	12.0		0.005	0.018	24GB DDR3 1333MHz, RAID 1 300GB 15K rpm
6.	Monarch Empro Custom Workstation	Opteron 280 (2 MHz) (2 CPUs)	8,192 MB (400 MHz)	Western Digital SATA 3G (7,200 RPM)	10.0 x64		0.015	0.047	Ran with nproc = 4
7.	Dell PowerEdge 2950 ServiceCode BZHG4G1	Intel Xeon Dual Core (2,600 MHz) (2 CPUs)	9,999 MB (667 MHz)	Fujitsu SAS (serial attached SCSI) (15,000 RPM)	11.0		0.017	0.017	Memory is 16Gigs, OS is WinXpSvr2003R2-64bit, 6 Drives Raid 0 (stripped)
8.	Dell 690	Quad Zeons (2,600 MHz) (2 CPUs)	256 MB	VelociRaptor SATA 3.0 (10,000 RPM)	11.0	-m 4096 -db 512	0.018	0.018	2 Raptor drives in Raid 0
9.	Dell XPS1530	Intel Core 2 Duo (2,400 MHz) (1 CPU)	4,096 MB (200 MHz)	Seagate SATA 3.0 (5,400 RPM)	11.0	-m 4048 -db 256	0.020	0.019	
10.	Dell PowerEdge 6800	Intel Xeon Duo Cores (3,400 MHz) (2 CPUs)	3,200 MB (800 MHz)	WD SCSI-Ultra3 (7,200 RPM)	11	-m 10240 -db 5120	0.021	0.038	
11.	Dell T7400 Service Code "3Z6CDG1"	Intel Xeon Quad Core (2,000 MHz) (2 CPUs)	8,000 MB (667 MHz)	Hitachi SAS (15,000 RPM)	11.0		0.022	0.022	Non Raid Drives. Simple Volumes. Swap on both.
12.	Dell Precision 670	Xeon (2 CPUs)	4,048 MB (400 MHz)	Seagate SCSI-Ultra320 (10,000 RPM)	9.0		0.023	0.016	Bench made with 2 CPU Default Memory settings, input file run in batch
13.	Fujitsu Siemens Celsius	Xeon (3,200 MHz) (2 CPUs)	3,000 MB	SAMSUNG SATA	9.0		0.025	0.091	
14.	Custom (Carlos)	P4 (3,850 MHz) (1 CPU)	2,000 MB (3,850 MHz)	WD 160Gb 8Mb Cache SATA RAID 0 (7,200 RPM)	8.1	-m 1200 -db 800	0.026	0.026	
15.	FSC Celsius R630	P4 XeonDP (3,200 MHz) (2 CPUs)	2,048 MB (400 MHz)	Seagate S-ATA (7,200 RPM)	10.0		0.026	0.043	
16.	Custom (Carlos)	P4 (3,850 MHz) (1 CPU)	2,000 MB (3,850 MHz)	WD Raptor SATA (10,000 RPM)	8.1	-m 1200 -db 800	0.026	0.026	

17.	Dell Vostro 1500	Intel Core 2 Duo (2 MHz) (1 CPU)	2,048 MB (667 MHz)	Samsung SATA 3.0 (7,200 RPM)	11.0		0.026	0.026	Laptop
18.	HP xw4300	Intel Pentium D (3,200 MHz) (1 CPU)	4,096 MB (667 MHz)	Western Digital 74 GB SATA 150 (10,000 RPM)	11.0		0.034	0.031	Windows XP 64 Bit, ANSYS x64
19.	Dell Precision 670	Pentium III Xeon (3,391 MHz) (2 CPUs)	4,096 MB (200 MHz)	Samsung HD080HJ (7,200 RPM)	10.0		0.035	0.035	
20.	Dell PWS 650	Xeon (3,060 MHz) (2 CPUs)	2,000 MB (533 MHz)	Seagate SCSI-Ultra2 (15,000 RPM)	7.1	-m 1000 -db 500	0.036	0.035	
21.	Dell WS690 ServiceCode "1NK3WB1"	Intel Xeon Dual Core (3,200 MHz) (2 CPUs)	4,000 MB (667 MHz)	Fujitsu MAX3147RC SAS (15,000 RPM)	11.0		0.036	0.354	2 Physical Drives, 1 for C:, 1 for D:; Simple volumes, Swap on both, OS WinXP-SP3
22.	Fujitsu Siemens Primergy RX220	AMD Opteron 254 (2,800 MHz) (1 CPU)	4,000 MB	Fujitsu SATA-II (7,200 RPM)	10.0		0.036	0.036	
23.	Dell Precision 670	Pentium 4 Xeon (3,400 MHz) (1 CPU)	2,048 MB (400 MHz)	Western Digital WD-800GD SATA-150 (10,000 RPM)	8.1		0.038	0.037	Brand-new Dell machine for use in heavy computer analysis and modeling.
24.	Dell Precision 670	Xeon (2 CPUs)	4,048 MB (400 MHz)	Seagate SCSI-Ultra320 (10,000 RPM)	9.0		0.040	0.018	Bench made with 2 CPU Default Memory settings, input file run under GUI
25.	Dell Precision Workstation 450	Pentium 4 Xeon (3,060 MHz) (2 CPUs)	1,024 MB (266 MHz)	Fujitsu SCSI-Ultra 320 (10,000 RPM)	7.1	-m 600 -db 200	0.041	0.033	
26.	Dell Precision WorkStation 340	Pentium IV (2,400 MHz) (1 CPU)	2,048 MB (532 MHz)	Maxtor 6 E040L0 Ultra ATA (7,200 RPM)	7.0	-m 1280 -db 300	0.041	0.040	HD spin rate is a guess!
27.	Dell Precision WorkStation 340	Pentium IV (2,400 MHz) (1 CPU)	2,048 MB (532 MHz)	Maxtor 6 E040L0 Ultra ATA	7.0	-m 1280 -db 300	0.041	0.040	
28.	Dell Precision WorkStation 340	Pentium IV (2,400 MHz) (1 CPU)	2,048 MB (532 MHz)	Maxtor 6 E040L0 Ultra ATA	7.0	-m 1280 -db 300	0.041	0.040	
29.	Dell Precision WorkStation 340	Pentium IV (2,400 MHz) (1 CPU)	2,048 MB (532 MHz)	Maxtor 6 E040L0 Ultra ATA (7,200 RPM)	7.0	-m 1280 -db 300	0.041	0.040	
30.	Dell Precision 650	Intel Zeon (2 MHz) (2 CPUs)	3,000 MB	Seagate Cheetah (15,000 RPM)	7.1	-m 1000 -db 500	0.042	0.041	
31.	NEC Versa E6210	Intel Core Duo T2300E (1,660 MHz) (1 CPU)	2,000 MB (533 MHz)	Fujitsu MHV2080BH SATA (5,400 RPM)	10.0		0.043	0.042	Laptop
32.	SGI TEZRO IRIX64	MIPS (1,000 MHz) (1 CPU)	6,000 MB	IBM SCA (10,000 RPM)	11.0		0.043	0.042	
33.	Dell PWS 450	Xeon (2,390 MHz) (2 CPUs)	2,000 MB (2,390 MHz)	Seagate SCSI-Ultra2 (5,600 RPM)	7.0	-m 1000 -db 256	0.044	0.043	
34.	Dell Dimension 9100	Pentium D (2,790 MHz) (1 CPU)	3,000 MB (533 MHz)	Seagate SATA-150 (7,200 RPM)	9.0	-m 1000 -db 800	0.044	0.040	Maximum Scratch Memory Used = 12141956 Words 46.318 MB CP Time (sec) = 161.531 Time = 16:16:40 Elapsed Time (sec) = 184.000
35.	Fujitsu Siemens Celsius V830	Opteron 275 (2,200 MHz) (1 CPU)	2,048 MB (400 MHz)	SATA-II (7,200 RPM)	10.0		0.044	0.044	
36.	HP X4000	XEON (2,000 MHz) (2 CPUs)	1,024 MB (800 MHz)	Seagate SCSI-Ultra160 (10,000 RPM)	6.0	-m 500 -db 200	0.044	0.061	both CPU
37.	Dell WORKSTATION PWS450 Intel(R)	Xeon (2,400 MHz) (2 CPUs)	2,000 MB (2,390 MHz)	wdc wd1200jb (7,500 RPM)	8.0	-m 512 -db 256	0.046	0.043	
38.	laptop, PCI	Pentium 4	1,024 MB	Hitachi ide	9.0		0.047	0.037	mhillier

	Express, DDR2 Sager 9860	HT (3,400 MHz) (1 CPU)	(533 MHz)	(7,200 RPM)						
39.	HP ProLiant DL 385 G1	AMD Opteron 254 (2,800 MHz) (2 CPUs)	1,600 MB	Compaq SCSI- Ultra2 (10,000 RPM)	10		0.049	0.048		
40.	Dell Precision 360	Pentium 4 (3,000 MHz) (1 CPU)	1,024 MB (400 MHz)	Maxtor UDMA-133 (7,200 RPM)	8.0		0.051	0.035		
41.	AMD	Athlon 1800+ MP (1,530 MHz) (2 CPUs)	1,024 MB (266 MHz)	IBM ATA-100 (7,200 RPM)	5.7.1	-m 800 -db 300	0.056	0.084		
42.	No name	Pentium 4 (2,400 MHz) (1 CPU)	1,024 MB (400 MHz)	IBM SCSI-LVD160 (10,000 RPM)	8.0		0.057	0.046		
43.	self-built	Pentium IV Xeon (2,800 MHz) (1 CPU)	1,024 MB (266 MHz)	Seagate 10K.6 Ultra320 SCSI (10,000 RPM)	7.0		0.059	0.041		
44.	Dell Latitude D800 laptop	Pentium M (1,700 MHz) (1 CPU)	2,048 MB (266 MHz)	Hitachi ATA-5 (5,400 RPM)	9.0		0.059	0.066		
45.	Dell Latitude D800 laptop	Pentium M (1,700 MHz) (1 CPU)	2,048 MB (266 MHz)	Hitachi ATA-5 (5,400 RPM)	9.0		0.059	0.066		
46.	Dell Precision 530	Xeon (1,700 MHz) (2 CPUs)	1,500 MB	Fujitsu MAN3184MP SCSI-Ultra2 (7,200 RPM)	7.0	-m 500 -db 200	0.060	0.060		
47.	Dell Optiplx GX260	Pentium 4 (2,530 MHz) (1 CPU)	1,024 MB (266 MHz)	Generic Dell - Seagate? ATA/100 (7,200 RPM)	7.0		0.064	0.048	December 2002, System cost approx \$1500.	
48.	Custom	Pentium 4 (2,660 MHz) (1 CPU)	512 MB (1,066 MHz)	WD 120 GB 8GBbuffer EIDE (7,500 RPM)	6.1	-m 400 -db 200	0.066	0.034	ram is RDRAMM at 1066MHz, motherboard is ASUS P4T533-C	
49.	Compaq EVO W4000	Pentium IV (2 MHz) (1 CPU)	1,024 MB (333 MHz)	Seagate IDE (7,200 RPM)	7.0	-m 512 -db 64	0.066	0.054		
50.	DELL Precision 530	XEON (1,500 MHz) (2 CPUs)	1,000 MB (800 MHz)	Fujitsu SCSI Ultra 160/M (10,000 RPM)	5.7		0.073	0.066	Single processor utilized.	
51.	HP C3000	PA-RISC (400 MHz) (1 CPU)	2,048 MB	Seagate ST39103LC (7,200 RPM)	6.0	-m 800 -db 150	0.073	0.072	OS hpux 11.0, Filesystem JFS v3.3	
52.	Monarch Computers	Athlon 2100+ (1,800 MHz) (2 CPUs)	1,024 MB	Western Digital EIDE 100 MHz (7,200 RPM)	6.0	-m 800 -db 200	0.077	0.065		
53.	Intel-4	Pentium IV (2,400 MHz) (1 CPU)	1,000 MB (256 MHz)	MATROX SCSI (10,000 RPM)	6.1		0.079	0.050		
54.	HP C3600	PA-RISC (550 MHz) (1 CPU)	1,024 MB	Ultra wide SCSI	5.6.1	-m 256 -db 64	0.080	0.070	cost - \$17,011.65 (3-6 months ago) - Unix machine running HP- UX 11.0	
55.	HP C3600	PA-RISC (550 MHz) (1 CPU)	1,028 MB	Ultra wide SCSI	5.6.1	-m 512 -db 128	0.081	0.071	Unix machine running HP-UX 11.0	
56.	HP	Intel (3,600 MHz) (1 CPU)	1,200 MB	HP SCSI	-5.6.2	-m 500 -db 200	0.081	0.069	HP-UX 10.2	
57.	HP-UX C3600	PA-RISC (550 MHz) (1 CPU)	1,028 MB	Ultra wide SCSI	5.6.1	-m 256 -db 64	0.082	0.072	Unix machine running HP-UX 11.0	
58.	HP C3600	PA RISC 8600 (552 MHz) (1 CPU)	2,048 MB (120 MHz)	Quantum? SCSI- Ultra2 (10,000 RPM)	5.6.2	-m 300 -db 300	0.090	0.088	HP-UX 11.0	
59.	Dell Precision 530	Pentium 4 Xeon (1,700 MHz) (2 CPUs)	256 MB	Fujitsu SCSI Ultra160M (10,000 RPM)	6.1		0.090	0.081		
60.	Dell Precision Workstation 330	P4 (1,500 MHz) (1 CPU)	1,024 MB (800 MHz)	Fujitsu Ultra 160/M SCSI (10,000 RPM)	5.6.2	-m 500 -db 80	0.094	0.076		

61.	Dell 530	Pentium 4 (2,000 MHz) (2 CPUs)	2,000 MB (700 MHz)	Seagate SCSI- Ultra2 (5,600 RPM)	7.0	-m 64 -db 32	0.095	0.060	
62.	HP J5600	PA-RISC 8600 (552 MHz) (2 CPUs)	4,096 MB (120 MHz)	Seagate Ultra 160/M SCSI (10,000 RPM)	5.6.2	-m 500 -db 80	0.096	0.089	Used both processors
63.	Dell Precision Workstation 330	P4 (1,500 MHz) (1 CPU)	1,024 MB (800 MHz)	Fujitsu Ultra160 SCSI (10,000 RPM)	5.7 beta 3	-m 500 -db 80	0.096	0.076	7 seconds slower than 5.6.2
64.	AMD	Athlon XP (1,400 MHz) (1 CPU)	512 MB (133 MHz)	Quantum Fireball Plus LM (7,200 RPM)	6.0	-m 350 -db 150	0.097	0.069	Promise Raid Controller (Striped) DDR SDRAM Athlon XP 1600+
65.	HP J5600	PA-RISC 8600 (552 MHz) (2 CPUs)	4,096 MB (120 MHz)	Seagate Ultra 160/M SCSI (10,000 RPM)	5.6.2	-m 500 -db 80	0.098	0.089	Used one processor
66.	Dell Precision Workstation 420	PIII (933 MHz) (2 CPUs)	256 MB	Maxtor EIDE (ATA 8.7 ms) (7,200 RPM)	5.6.2	-m 64 -db 128	0.100	0.150	Windows 2000 (SP1)
67.	MKS	Athlon XP 1600+ (1,400 MHz) (1 CPU)	512 MB (266 MHz)	IBM IC35L060AVER07- 0 ATA-100 (7,200 RPM)	6.0	-m 350 -db 80	0.100	0.070	
68.	Dell 4000	PIII (500 MHz) (2 CPUs)	1,024 MB	Seagate SCSI- Ultra2 (5,600 RPM)	5.6.2	-m 512 -db 32	0.100	0.090	
69.	MKS	Athlon XP 1600+ (1,400 MHz) (1 CPU)	512 MB (266 MHz)	IBM IC35L060AVER07- 0 ATA-100 (7,200 RPM)	6.0	-m 350 -db 80	0.100	0.700	
70.	MKS	Athlon XP 1600+ (1,400 MHz) (1 CPU)	512 MB	IBM 60Gb IC35L060AVER07- 0 ATA-100 (7,200 RPM)	6.0	-m 350 -db 80	0.100	0.700	
71.	Sun	UltraSPARC II (450 MHz) (2 CPUs)	2,048 MB (112 MHz)	Seagate SCSI-3 (10,000 RPM)	5.6	-db 384	0.105	0.187	5x 9Gb 10000 RPM RAID Level 0
72.	Sun	UltraSPARC II (450 MHz) (2 CPUs)	2,048 MB (112 MHz)	Seagate SCSI- Ultra2 (10,000 RPM)	5.6	-db 128	0.106	0.188	5 x 9Gb 10000 RPM RAID Level 0 Disk array
73.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Cheetah X15 Ultra160 SCSI (15,000 RPM)	5.6.2	-m 500 -db 80	0.106	0.167	RAID 0 setup - tweaked RAID settings a bit
74.	HP C3000	PR- RISC_2.0 (1 MHz) (1 CPU)	2,000 MB	HP Ultrawide SCSI	5.6.2	-db 256	0.108	0.087	Sysinfo does not provide the processor clock rate
75.	HP C3000	PR- RISC_2.0 (1 MHz) (1 CPU)	2,000 MB	HP Ultrawide SCSI	5.6.2	-m 256 -db 64	0.110	0.087	Sysinfo does not provide the processor clock rate
76.	Dell 4000	PIII (500 MHz) (1 CPU)	1,024 MB	Seagate SCSI- Ultra2 (5,600 RPM)	5.6.2	-m 512 -db 32	0.110	0.130	
77.	HP Visualize X- Class A1280	PIII (866 MHz) (2 CPUs)	1,000 MB	Quantum Atlas 10K 18 SCSI	5.6.2	-m 752 -db 64	0.110	0.170	Windows 2000 - 2 processors
78.	DELL Precision 620	XEON (800 MHz) (2 CPUs)	1,024 MB (800 MHz)	Quantum Atlas SCSI-Ultra/160 (10,000 RPM)	5.6.2	-db 128	0.110	0.170	NT 4.0 - Two18G hard drives RAID 0 configured.
79.	DELL Precision 620	XEON (800 MHz) (2 CPUs)	1,024 MB (800 MHz)	Quantum Atlas SCSI-Ultra/160 (10,000 RPM)	5.6.2	-db 128	0.110	0.170	
80.	Compaq AP550	P-III (733 MHz) (2 CPUs)	1,024 MB (100 MHz)	Quantum SCSI- Ultra2 (Atlas) (10,000 RPM)	5.6.1	-m 400 -db 200	0.110	0.180	Additional IBM DDYS 18G (SCSI- Ultra2, 10K rpm) ran at same timings.
81.	Compaq AP550	P-III (733 MHz) (2 CPUs)	1,000 MB (100 MHz)	Quantum SCSI- Ultra2 (Atlas 10K (10,000 RPM)	5.6.1	-m 400 -db 200	0.110	0.180	Same timing for an IBM SCSI- Ultra2 DDYS-T18350N
82.	HP Visualize X- Class A1280	PIII (733 MHz) (2 CPUs)	2,096 MB (133 MHz)	HP SCSI-Ultra3 (10,000 RPM)	5.6.2	-db 128	0.110	0.180	

83.	Home grown	AMD Athlon (1,333 MHz) (1 CPU)	512 MB (133 MHz)	Western Digital IDE (5,400 RPM)	6.0	-m 300 -db 150	0.121	0.088	Windows 2000
84.	Built In-House	P-III (650 MHz) (2 CPUs)	1,536 MB	Seagate Cheetah SCSI-Ultra2 (10,000 RPM)	5.6.1	-db 620	0.130	0.218	
85.	Dell Precision 620	P3 - Xeon (1,000 MHz) (1 CPU)	1,024 MB (800 MHz)	SCSI - Ultra 160 (10,000 RPM)	5.6.1	-m 400 -db 200	0.136	0.134	
86.	Compaq SP/% =	Pentium III (996 MHz) (1 CPU)	256 MB	Seagate SCSI- Ultra3 (10,000 RPM)	6.1		0.138	0.136	Default memory model used
87.	COMPAQ SP750	Pentium III (996 MHz) (1 CPU)	2,096 MB (800 MHz)	Seagate SCSI- Ultra3 (10,000 RPM)	6.1		0.138	0.136	Default memory model used
88.	DELL	Pentium IIII (1 MHz) (1 CPU)	256 MB	Seagate SCSI- Ultra2	5.7.1		0.141	0.058	
89.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Ultra160 SCSI (15,000 RPM)	5.7 beta 3	-m 500 -db 80	0.149	0.145	1 processor used
90.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Ultra160 SCSI (15,000 RPM)	5.7 beta 3	-m 500 -db 80	0.150	0.145	2 processors used
91.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Ultra160 SCSI (15,000 RPM)	5.7 beta 3	-m 500 -db 80	0.150	0.149	2 processors used
92.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Ultra160 SCSI (15,000 RPM)	5.6.2	-m 500 -db 80	0.153	0.149	2 processors used
93.	IBM Intellistation Z Pro	PIII Xeon (1,000 MHz) (1 CPU)	1,500 MB (133 MHz)	IBM PSG ST318436LW SCSI-Ultra2 (10,000 RPM)	5.6	-db 300	0.154	0.148	Windows 2000 SP1
94.	Dell Precision Workstation 620	P3 Xeon (256KB L2) (1,000 MHz) (2 CPUs)	2,048 MB (800 MHz)	Seagate Ultra160 SCSI (15,000 RPM)	5.6.2	-m 500 -db 80	0.154	0.149	1 processor used
95.	HP Visualize X- Class A1280	PIII (866 MHz) (2 CPUs)	1,000 MB	Quantum Atlas 10K 18 SCSI	5.6.2	-m 752 -db 64	0.160	0.150	Windows 2000 - 1 processor
96.	HP c360	pa-8500  (360 MHz) (1 CPU)	1,536 MB	IBM SCSI-Ultra2  (7,200 RPM)	5.6.1	-m 128 -db 600	0.160	0.150	
97.	HP Visualize X- Class A1280	PIII (733 MHz) (2 CPUs)	2,096 MB (133 MHz)	HP SCSI-Ultra3 (10,000 RPM)	5.6.2	-db 128	0.164	0.208	
98.	Dell Optiplex GX620	Pentium D (3,000 MHz) (2 CPUs)	1,056 MB	Samsung HD08HJ ATA (5,600 RPM)	11		0.167	0.014	
99.	Compaq	Intel (900 MHz) (1 CPU)	1,500 MB	Quantum SCSI- Ultra160 (7,200 RPM)	5.6.2	-m 512 -db 128	0.180	0.170	
100.	Peacock Procida	P-III (600 MHz) (2 CPUs)	1,024 MB (100 MHz)	17 GB SCSI-UW	5.6.2	-m 200 -db 64	0.180	0.290	

Top 100 results are shown, ranked by *Wall Time*.

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