

Results of Special Track 1 (Parallel CNF Solvers)

		Median runtime (wall-clock) in 3 runs using 4 threads, and number of successful runs (*-****)			Best sequential solver with 3600s time-out	Speed-up (parallel vs. sequential)		
		Solver						
Instance	SAT/ UNSAT	ManySat (32bit)	pMiniSat (64bit)	MiraXT (32bit)	MiniSat (32bit)	ManySat (32bit)	pMiniSat (64bit)	MiraXT (32bit)
IBM Benchmark Suite (15 SAT / 5 UNSAT)								
ibm-2002-04r-k80	SAT	20 ***	19 ***	12 ***	17.4	4.79	0.86	2.30
ibm-2002-11r1-k45	SAT	18 ***	13 ***	22 ***	15.5	3.18	1.54	0.49
ibm-2002-18r-k90	SAT	139 ***	68 ***	243.5 *	81.9	2.20	0.90	3.53
ibm-2002-20r-k75	SAT	112 ***	59 ***	120 ***	50.3	4.26	1.73	3.75
ibm-2002-22r-k60	UNSAT	128 ***	265 ***	-----	202.5	3.94	1.29	-----
ibm-2002-22r-k75	SAT	82 ***	40 ***	78 ***	46.0	3.00	2.09	2.96
ibm-2002-22r-k80	SAT	151 ***	43 ***	86 ***	95.0	3.18	3.46	2.92
ibm-2002-23r-k90	SAT	473 ***	123 ***	472 ***	141.5	(>1.90)	1.16	1.23
ibm-2002-24r3-k100	UNSAT	43 ***	99 ***	759 ***	125.5	4.73	2.31	(>1.19)
ibm-2002-25r-k10	UNSAT	582 ***	242 ***	-----	669.5	(>1.55)	1.65	-----
ibm-2002-29r-k75	SAT	124 ***	39 ***	228 ***	35.4	5.04	3.97	0.23
ibm-2002-30r-k85	SAT	-----	284 ***	-----	1458.7	-----	3.17	-----
ibm-2002-31_1r3-k30	UNSAT	138 ***	176 ***	-----	143.2	3.38	2.29	-----
ibm-2004-01-k90	SAT	40 ***	15 ***	21 ***	17.4	1.75	0.85	5.59
ibm-2004-1_11-k80	SAT	138 ***	61 ***	143 ***	53.0	4.09	0.63	0.54
ibm-2004-23-k100	SAT	543 ***	119 ***	149 ***	107.8	(>1.66)	1.80	2.40
ibm-2004-23-k80	SAT	180 ***	68 ***	57 ***	260.7	(>5.00)	2.11	1.51
ibm-2004-29-k25	UNSAT	51 ***	34 ***	305 ***	42.2	3.71	2.02	2.21
ibm-2004-29-k55	SAT	44 ***	19 ***	21 ***	26.5	1.77	0.55	0.65
ibm-2004-3_02_3-k95	SAT	2 ***	2 ***	1 ***	1.5	2.79	0.81	1.69
Manolios Benchmark Suite (10 UNSAT)								
manol-pipe-c10nid_i	UNSAT	205 ***	-----	-----	384.9	4.03	(<0.46)	-----
manol-pipe-c10nidw	UNSAT	408 ***	-----	-----	535.1	(>2.21)	-----	-----
manol-pipe-c6bidw_i	UNSAT	21 ***	39 ***	57 ***	34.5	3.50	1.13	2.20
manol-pipe-c68nidw	UNSAT	128 ***	262 ***	-----	204.1	4.08	0.79	(<0.90)
manol-pipe-c9n_i	UNSAT	8 ***	-----	80 ***	13.5	2.31	2.12	1.64
manol-pipe-f7nidw	UNSAT	41 ***	259 ***	76 ***	494.3	3.63	(>3.47)	2.68
manol-pipe-f9b	UNSAT	96 ***	239 ***	486 ***	356.1	3.25	2.41	(>1.85)
manol-pipe-g10bid_i	UNSAT	202 ***	-----	-----	393.1	4.12	(<0.61)	-----
manol-pipe-g10nid	UNSAT	40 ***	69 ***	139 ***	152.2	3.78	2.11	3.28
manol-pipe-g8nidw	UNSAT	10 ***	35 ***	22 ***	206.4	2.45	10.57	1.31
Mironov-Zhang Benchmark Suite (10 SAT)								
mizh-md5-47-3	SAT	492 ***	86 ***	21 ***	20.0	(>1.83)	2.78	5.91
mizh-md5-47-4	SAT	144 ***	50 ***	226 ***	40.1	(>6.25)	7.16	1.29
mizh-md5-47-5	SAT	445 **	45 ***	113 ***	135.4	1.39	2.23	0.24
mizh-md5-48-2	SAT	398 *	128 ***	113 ***	124.5	(>2.26)	2.10	3.83
mizh-md5-48-5	SAT	440.5 *	286 ***	335 ***	93.7	(>2.04)	2.45	1.16
mizh-sha0-35-3	SAT	39 ***	8 ***	30 ***	7.5	(>23.08)	4.51	0.67
mizh-sha0-35-4	SAT	258.5 *	31 ***	54 ***	9.5	0.40	6.71	1.82
mizh-sha0-36-1	SAT	244 **	117 ***	371 *	189.9	(>3.69)	(>7.69)	(>2.43)
mizh-sha0-36-3	SAT	286.5 *	54 ***	67.4	189.9	(>3.14)	6.24	(>1.34)
mizh-sha0-36-4	SAT	189.5 *	84 ***	729 **	367.4	(>4.75)	(>10.71)	(>1.23)
Post Benchmark Suite (2 SAT, 8 UNSAT)								
post-c32s-c0400-16	UNSAT	90 ***	20 ***	277 ***	47.0	2.99	1.76	0.86
post-c32s-gcdm16-22	SAT	88 ***	122 ***	-----	103.1	4.11	1.21	-----
post-c32s-gcdm16-23	SAT	88 ***	145 ***	-----	125.8	3.23	1.13	-----
post-c32s-ss-8	UNSAT	415 ***	425 ***	-----	1028.1	(>2.17)	0.80	-----
post-cbmc-aes-d-r1	UNSAT	3 ***	6 ***	4 ***	2.8	1.53	0.83	1.06
post-cbmc-aes-d-r2	UNSAT	225 ***	190 ***	-----	1037.3	3.61	3.58	-----
post-cbmc-aes-ee-r2	UNSAT	236 ***	179 ***	-----	1135.0	3.10	4.47	-----
post-cbmc-aes-ee-r3	UNSAT	87.2 **	-----	-----	3241.1	(>1.03)	-----	-----
post-cbmc-aes-ele	UNSAT	33 ***	41 ***	34 ***	20.2	1.45	1.08	2.49
post-cbmc-zfcp-2.8-u2	SAT	118 ***	34 ***	-----	88.5	(>7.63)	(>26.47)	(<0.04)
Velew Benchmark Suite (4 SAT, 6 UNSAT)								
velew-engi-uns-1.0-4nd	UNSAT	9 ***	4 ***	7 ***	9.0	4.58	2.69	4.26
velew-rvp-sat-3.0-b18	SAT	18 ***	21 ***	9 ***	18.6	0.40	9.20	3.34
velew-npe-1.0-9dix-b71	SAT	651 ***	483.5 *	168 ***	106.1	(>1.38)	0.35	3.90
velew-vliw-sat-4.0-b4	SAT	55 ***	27 ***	33 ***	49.1	1.76	0.79	0.73
velew-vliw-sat-4.0-b8	SAT	56 ***	32 ***	38 ***	72.5	1.50	1.04	0.91
velew-vliw-uns-2.0-iq1	UNSAT	130 ***	330 ***	-----	115.0	4.18	(>2.73)	-----
velew-vliw-uns-2.0-iq2	UNSAT	601 ***	-----	-----	-----	(>1.50)	-----	-----
velew-vliw-uns-2.0-ug5	UNSAT	-----	-----	-----	-----	-----	-----	-----
velew-vliw-uns-4.0-9-i1	UNSAT	-----	-----	-----	-----	-----	-----	-----
velew-vliw-uns-4.0-9	UNSAT	787 ***	-----	-----	-----	(>1.14)	-----	-----
Mixed Benchmark Suite (17 SAT, 23 UNSAT)								
aloui-chnl11-13	UNSAT	-----	-----	696 ***	-----	-----	-----	(>1.29)
anbul-dated-5-15-u	UNSAT	200	85	886 **	375.8	4.09	1.67	(>1.02)
anbul-part-10-13-s	SAT	898 **	-----	-----	-----	(>1.00)	-----	-----
anbul-part-10-15-s	SAT	786 **	-----	493 **	134.5	(>1.15)	-----	(>1.83)
babic-dspam-vc1080	UNSAT	2 ***	2 ***	1 ***	1.2	0.86	0.69	0.74
babic-dspam-vc949	UNSAT	2 ***	1 ***	1 ***	1.0	0.76	1.23	1.09
babic-dspam-vc973	UNSAT	4 ***	3 ***	3 ***	2.6	0.86	0.85	0.90
cmu-bmc-barrel6	UNSAT	1 ***	1 ***	3 ***	1.8	3.01	1.86	1.67
cmu-bmc-longmult13	UNSAT	8 ***	4 ***	6 ***	27.9	4.37	3.13	3.87
cmu-bmc-longmult15	UNSAT	10 ***	4 ***	4 ***	16.1	4.74	2.97	3.65
een-pico-prop00-75	UNSAT	2 ***	2 ***	2 ***	2.0	1.33	1.06	0.77
een-pico-prop05-75	UNSAT	11 ***	14 ***	59 ***	14.9	3.49	1.30	0.86
een-tip-sat-nusmv-t5.B	SAT	1 ***	1 ***	1 ***	0.9	2.49	0.99	1.15
een-tip-sat-texas-tp-5e	SAT	1 ***	0.5 ***	0.5 ***	0.1	0.25	0.34	0.26
een-tip-sat-vis-eisen	SAT	1 ***	0.5 ***	0.5 ***	0.3	0.60	0.68	0.88
fuhs-approve-15	UNSAT	13 ***	8 ***	67 ***	15.2	2.89	3.44	1.12
fuhs-approve-16	UNSAT	198 ***	86 ***	308 ***	162.5	3.65	2.23	(>2.92)
goldb-heqc-alu4mul	UNSAT	143 ***	41 ***	107 ***	192.8	4.46	4.03	3.09
goldb-heqc-dalumul	UNSAT	-----	208 ***	-----	1713.5	-----	3.92	-----
goldb-heqc-frg1mul	UNSAT	-----	-----	-----	-----	-----	-----	-----
goldb-heqc-x1mul	UNSAT	-----	-----	-----	-----	-----	-----	-----
griew-vmpc-27	SAT	-----	11 ***	83 ***	129.0	250.17	1.80	0.67
griew-vmpc-31	SAT	96.5 *	-----	432 **	1608.2	0.40	-----	(>2.08)
hoons-vbmc-lucky7	UNSAT	1 ***	1 ***	14 ***	1.1	3.47	1.42	1.61
jarvi-eq-atree-9	UNSAT	55 ***	18 ***	31 ***	150.0	4.37	3.35	2.10
marijn-phillips	UNSAT	-----	460 ***	466 ***	2506.4	-----	(>1.96)	1.61
maris-s03-gripper11	SAT	15 ***	107 ***	-----	1025.0	1.59	0.62	-----
narain-vpn-clauses-10	SAT	106 ***	36 ***	141 ***	75.0	3.45	(>25.00)	1.23
narain-vpn-clauses-8	SAT	-----	49 ***	729 **	831.3	-----	(>18.37)	(>1.23)
palac-sn7-ipc5-h16	SAT	66 ***	96 ***	166 ***	283.7	2.36	3.45	1.92
palac-uts-106-ipc5-h34	SAT	19 ***	29 ***	71 ***	18.0	1.66	1.20	0.58
schup-l2s-abp4-1-k31	UNSAT	8 ***	8 ***	59 ***	8.3	4.49	1.62	0.77
schup-l2s-bc556-1-k391	UNSAT	440 ***	720 ***	-----	515.5	(>2.05)	1.00	-----
schup-l2s-motst-2-k315	SAT	28 ***	46 ***	53 ***	23.9	3.94	0.58	0.86
simon-s02-f2cik-50	UNSAT	102 ***	103 ***	-----	172.8	4.02	2.14	-----
simon-s02b-r4b1k1.1	SAT	282 ***	124 ***	248 ***	146.0	0.93	1.86	1.10
simon-s02b-r4b1k1.2	SAT	58 ***	235 ***	119 ***	105.7	14.06	1.11	(>7.56)
simon-s03-ff08-400	UNSAT	18 ***	19 ***	78 ***	35.2	3.23	1.59	1.15
simon-s03-w08-15	SAT	52 ***	31 ***	113 ***	73.9	3.59	2.68	0.45
vange-col-abb313GPIA-9-c	SAT	-----	-----	31 ***	-----	-----	-----	1.01
#solved:								
#solved in all three runs:								
#solved in ≤900s CPU time:								
#solved SAT/UNSAT:								
rank:								
		1	2	3				
		69	72	53	81			
		45/45	44/41	43/30	46/44			
					average speed-up:	6.02	3.10	1.83
					by SAT/UNSAT:	8.84 / 3.14	4.00 / 2.18	1.85 / 1.81
					minimal speed-up:	0.25	0.34	0.04
					by SAT/UNSAT:	0.25 / 0.76	0.34 / 0.46	0.04 / 0.74
					maximal speed-up:	250.17	26.47	7.56
					by SAT/UNSAT:	250.17 / 4.74	26.47 / 10.57	7.56 / 4.26

Results of Special Track 2 (Sequential AIQ Solvers)

	SAT/ UNSAT	Solver					
Instance		MiniSAT++ (32bit)	pico- aigersat (32bit)	MiniCirc (64bit)	CMUSAT- AIG (64bit)	kw_aiger (32bit)	NFLSAT (64bit)
Anbulagan Benchmark Suite (3 SAT / 7 UNSAT)							
anbul-dated-10-11-u	UNSAT	-----	-----	-----	-----	-----	-----
dated-10-15-u	UNSAT	16.7	183.12	38.33	285.76	49.66	101.6
dated-5-19-u	UNSAT	-----	-----	-----	-----	-----	-----
partial-10-11-u	UNSAT	-----	-----	-----	-----	-----	-----
partial-10-13-u	UNSAT	-----	-----	-----	-----	-----	-----
partial-5-11-s	SAT	401.31	155.32	46.8	665.93	-----	541.99
partial-5-13-s	SAT	58.24	500.16	123.03	202.11	216.41	-----
partial-5-15-u	UNSAT	-----	-----	-----	-----	-----	-----
partial-5-17-s	SAT	-----	-----	-----	-----	-----	-----
total-5-11-u	UNSAT	15.15	114.03	28.14	164.38	47.48	68.88
Babic Benchmark Suite (2 SAT / 8 UNSAT)							
dspasm_dump_vc1093	UNSAT	4.33	4.64	5.41	4.7	23.15	6.58
dspasm_dump_vc1104	UNSAT	15.23	11.4	15.32	83.43	29.05	41.27
dspasm_dump_vc1050	UNSAT	5.51	5.11	5.7	4.93	127.10	10.35
dspasm_dump_vc962	UNSAT	4.34	4.99	5.15	4.73	10.41	113.64
dspasm_dump_vc972	UNSAT	14.66	11.71	14.93	13.46	28.32	27.27
hsat_vc11773	SAT	5.76	5.42	9.36	5.04	11.04	7.91
itox_vc11913	SAT	7.04	7.06	12.3	13.68	13.68	10.8
itox_vc1033	SAT	5.16	4.15	6.27	5.84	18.99	5.42
itox_vc1044	SAT	5.52	4.4	7.8	6.1	20	7.02
itox_vc965	SAT	2.93	0.95	4.5	1.76	3.96	4.96
C32SAT Benchmark Suite (10 UNSAT)							
ssort11	UNSAT	-----	-----	-----	-----	-----	-----
ssort13	UNSAT	-----	-----	-----	-----	-----	-----
ssort16	UNSAT	-----	-----	-----	-----	-----	-----
ssort17	UNSAT	-----	-----	-----	-----	-----	-----
ssort18	UNSAT	-----	-----	-----	-----	-----	-----
ssort19	UNSAT	-----	-----	-----	-----	-----	-----
ssort20	UNSAT	-----	-----	-----	-----	-----	-----
ssort5	UNSAT	5.42	376.39	4.97	5.73	19.69	115.38
ssort6	UNSAT	22.83	-----	21.91	38.64	59.03	-----
ssort7	UNSAT	131.33	-----	115.54	90.06	167.76	-----
Mironov-Zhang Benchmark Suite (10 SAT)							
mizh-md5-47-4	SAT	175.45	244.83	-----	319.66	-----	456.65
mizh-md5-47-4	SAT	167.64	231.56	76.77	301.71	178.49	99
mizh-md5-47-5	SAT	46.97	272.07	135.65	208.4	443.07	751.99
mizh-md5-48-2	SAT	419.67	559.67	-----	229.48	-----	538.66
mizh-md5-48-5	SAT	338.67	-----	-----	95.15	761.45	515.02
mizh-sha0-35-2	SAT	16.65	168.26	258.11	196.62	56.46	148.75
mizh-sha0-35-3	SAT	241.92	430.49	31.46	22.57	389.54	34.53
mizh-sha0-35-4	SAT	17.95	41.6	16.24	63.41	137.55	43.94
mizh-sha0-35-5	SAT	21.47	254.31	164.52	117.33	209.27	36.03
mizh-sha0-36-2	SAT	523.6	-----	-----	280.91	-----	-----
IBM Benchmark Suite (5 SAT, 5 UNSAT)							
ibm18_len28_unsat	SAT	6.8	12.79	6.71	21.26	32.71	18.95
ibm18_len29_sat	SAT	4.67	17.28	7.25	5.79	34.81	19.94
ibm20_len43_unsat	SAT	54.49	71.69	36.11	106.57	142.47	85.44
ibm20_len45_sat	SAT	45.53	40.41	-----	105.10	105.10	32.76
ibm22_len51_unsat	SAT	18.53	31.72	16.42	57.79	63.29	47.94
ibm22_len52_sat	SAT	20.84	43.66	20.87	60.06	78.02	62.36
ibm23_len35_unsat	UNSAT	31.27	73.94	42.26	109.22	102.13	76.76
ibm23_len36_sat	SAT	17.9	91.16	43.44	176.02	62.89	65.29
ibm29_len25_unsat	SAT	5.61	46.88	6.22	34.05	20.15	18.28
ibm29_len26_sat	SAT	2.82	18.02	2.66	17.36	11.66	2.82
Intel Benchmark Suite (10 SAT)							
intel_003_kind_30	SAT	7.77	1.4	6.3	8.73	16.13	15.68
intel_009_kind_20	SAT	-----	75.68	-----	-----	-----	-----
intel_014_kind_20	SAT	-----	22.62	-----	-----	-----	-----
intel_019_kind_10	SAT	3.82	1.59	3.88	3.8	18.3	3.37
intel_025_kind_20	SAT	21.52	6.24	32.33	59.45	-----	144.35
intel_027_kind_20	SAT	-----	79.92	-----	253.19	-----	-----
intel_028_kind_20	SAT	-----	118.69	-----	-----	-----	-----
intel_032_kind_10	SAT	15.57	2.25	13.55	7.85	63.92	7.43
intel_037_kind_30	SAT	-----	190.64	-----	40.66	-----	-----
intel_041_kind_10	SAT	-----	59.76	-----	-----	-----	54.45
Manolios Benchmark Suite (10 UNSAT)							
manol-pipe-c7bldw-s	UNSAT	20.12	10.49	14.67	16.53	493.6	305.69
manol-pipe-c6ndw-s	UNSAT	31.18	293.91	34.3	53.08	208.67	-----
manol-pipe-c7bldw-u	UNSAT	65.42	-----	57.7	110.58	647.43	-----
manol-pipe-c7rwdw	UNSAT	95.55	737.63	64.64	167.59	893.92	-----
manol-pipe-f10d	UNSAT	789.14	-----	646.99	-----	-----	-----
manol-pipe-f7rwd	UNSAT	203.2	133.07	808.55	-----	-----	-----
manol-pipe-f9b	UNSAT	262.25	-----	360.52	587.12	-----	-----
manol-pipe-f9n	UNSAT	221.11	-----	364.63	635.46	-----	-----
manol-pipe-g1bldw	UNSAT	189.06	-----	126.86	-----	-----	-----
manol-pipe-g1dnd	UNSAT	118.94	349.1	44.28	-----	597.09	-----
Palacios Benchmark Suite (2 SAT, 9 UNSAT)							
blocks-4-pc5-h21-unknown	UNSAT	46.07	95.72	20.81	31.79	138.88	64.2
blocks-4-pc5-h22-unknown	UNSAT	28.76	198.11	19.12	65.96	32.8	71.03
cube-9-h10-unknown	UNSAT	11.53	513.89	49.88	224.11	39.18	43.31
emptyroom-4-h21-unsat	UNSAT	189.03	689.54	266.86	-----	-----	765.39
safe-50-h49-unsat	UNSAT	-----	-----	-----	-----	-----	-----
sorted1-pc5-h16-sat	SAT	40.64	225.35	153.55	196.43	272.31	-----
uts-i05-pc5-h31-unknown	UNSAT	7.61	27.81	5.52	26.68	70.35	34.02
uts-i06-pc5-h30-unknown	UNSAT	24	150.46	13.98	97.89	662.82	77.99
uts-i06-pc5-h31-unknown	UNSAT	33.21	165.72	19.86	155.8	462.21	166.37
uts-i06-pc5-h32-unknown	UNSAT	47.82	402.74	76.93	82.63	715.58	-----
uts-i06-pc5-h35-unknown	UNSAT	18.27	107.33	8.54	28.79	125.71	27.79
Mixed Benchmark Suite (8 SAT, 9 UNSAT, 2 unknown)							
AProEv07-08	UNSAT	30.96	-----	-----	-----	-----	-----
AProEv07-15	UNSAT	13.16	90.14	23.79	39.35	58.79	43.61
AProEv07-20	UNSAT	248.38	175.83	185.28	114.15	266.02	233.34
AProEv07-26	unknown	-----	-----	-----	-----	-----	-----
AProEv07-27	unknown	-----	-----	-----	-----	-----	-----
clauses-2	SAT	1.77	2.32	2	3.8	3.48	1.8
clauses-4	SAT	13.79	36.17	12.22	41.98	33.6	21.29
clauses-6	SAT	107.23	390.37	49.59	226.7	237.94	185.35
clauses-8	SAT	-----	-----	227.19	-----	891.06	-----
eq.atree.braun.11.unsat	UNSAT	-----	-----	-----	-----	-----	-----
eq.atree.braun.12.unsat	UNSAT	-----	-----	-----	-----	-----	-----
eq.atree.braun.7.unsat	UNSAT	3.71	2.56	3.17	2.88	3.88	2.2
eq.atree.braun.8.unsat	UNSAT	43.29	30.98	-----	27.94	19.29	14.03
eq.unsat.2.0.bpipe.1.oao.1	UNSAT	22.39	90.44	94.81	18.32	19.32	18.87
vis.procdcll.24.E-50	UNSAT	11.03	24.58	13.93	24.99	42.29	15.48
vmpc_24	SAT	6.63	308.81	21.92	5.9	3.71	15.16
vmpc_25	SAT	31.31	730.81	44.77	62.54	41.52	10.48
vmpc_28	SAT	216.43	-----	47.78	48.31	-----	289.11
vmpc_31	SAT	-----	-----	-----	-----	453.29	-----
!solved:		74	69	70	70	62	60
!solved SAT/UNSAT:		31/43	33/36	28/42	33/37	26/36	30/30
rank by solved:		1	4	2	2	5	6
speed points:		12.98	13.80	12.29	11.85	9.18	9.34
rank by speed:		2	1	3	4	6	5
total score:		86.98	82.80	82.29	81.85	71.18	69.34
rank:		1	2	3	4	5	6