

Max-SAT Evaluation 2008

Unweighted Categories

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Unweighted Max-SAT Category

Random

Instance set	#	IncMaxSatz	LB-SAT	MaxSatz	Maxsatzilla	MiniMaxSAT	MSU1.2	MSU4.0	PMS	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
MAX2SAT/100VARS/	50	1.10 (50)	13.69(60)	0.52 (60)	2.60 (50)	11.97(60)	32.42(3)	0.00 (0)	55.05(60)	0.00 (0)	40.05(50)	1.42 (50)	1.98 (50)
MAX2SAT/140VARS/	50	10.48(50)	145.31(47)	4.90 (50)	23.72 (50)	97.23(49)	120.23(8)	3.58 (2)	122.76(41)	78.47(2)	189.75(43)	11.42(50)	17.02(50)
MAX2SAT/60VARS/	50	0.03 (50)	0.12 (50)	0.01 (49)	0.25 (50)	0.20 (50)	0.00 (0)	0.00 (0)	0.25 (50)	0.00 (0)	0.73 (50)	0.11 (50)	0.04 (50)
MAX3SAT/40VARS/	40	0.74 (40)	1.22 (40)	1.06 (40)	1.57 (24)	3.34 (40)	243.07(2)	38.86(5)	9.45 (40)	700.51(4)	7.25 (40)	1.30 (40)	1.19 (40)
MAX3SAT/50VARS/	40	4.45 (40)	7.84 (40)	6.20 (40)	4.49 (2)	25.76(40)	409.16(4)	90.50(7)	58.09(40)	416.28(7)	58.46(40)	7.29 (40)	7.07 (40)
MAX3SAT/60VARS/	40	11.84(40)	24.09(40)	16.07(40)	0.00 (0)	73.77(40)	28.84(10)	10.32(7)	128.21(40)	91.46(10)	252.76(39)	17.58(40)	18.73(40)
MAX3SAT/70VARS/	40	45.40(40)	97.43(39)	59.97(40)	0.00 (0)	123.86(36)	0.20 (10)	7.77 (10)	151.07(36)	1.49 (10)	212.75(26)	59.26(40)	72.15(40)

Benchmarks from the Max-SAT Evaluation 2007

Crafted

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MAXCUT/DIMACS_MOD/	62	81.96(52)	53.22(48)	103.46(52)	95.51 (52)	65.27(47)	0.28 (4)	1.71 (3)	277.62(42)	0.93 (2)	97.76(47)	71.34(49)	92.20(50)
MAXCUT/RANDOM/	40	5.43 (40)	10.67(40)	4.52 (40)	5.96 (40)	15.87(40)	0.00 (0)	0.00 (0)	373.81(25)	0.00 (0)	55.90(40)	7.76 (40)	8.51 (40)
MAXCUT/SPINGLASS/	5	28.98(3)	7.54 (3)	13.18(3)	45.97 (3)	1.62 (3)	0.88 (2)	0.00 (0)	0.41 (2)	0.00 (0)	5.76 (2)	3.67 (3)	5.95 (3)

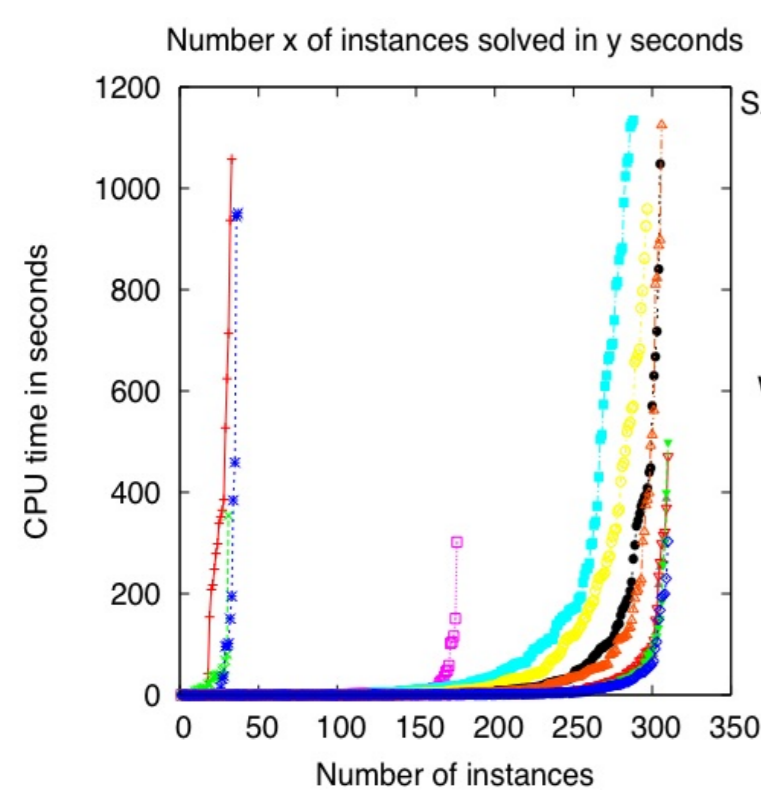
Benchmarks from the Max-SAT Evaluation 2007

Industrial

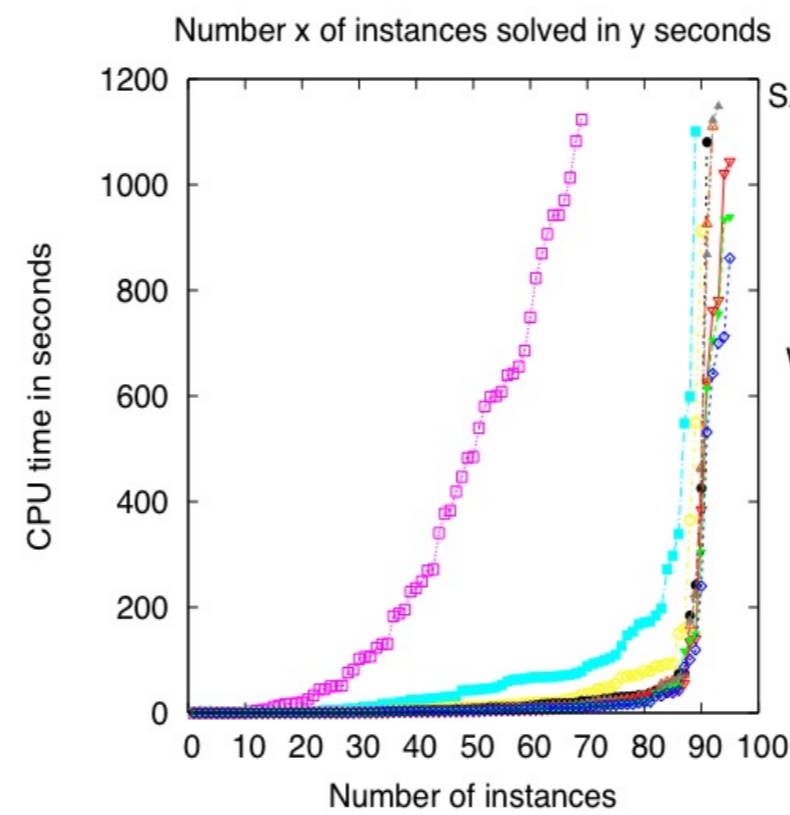
Instance set	#	IncMaxSatz	LB-SAT	MaxSatz	Maxsatzilla	MiniMaxSAT	MSU1.2	MSU4.0	PMS	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
SeanSafarfour/	1123	60 (2)	17.58(1)	5.91 (2)	164.73 (1)	242.81(3)	37.54(72)	64.37(50)	445.98(1)	14.55(10)	0.00 (0)	130.38(2)	0.00 (0)

Benchmarks contributed by Sean Safarfour

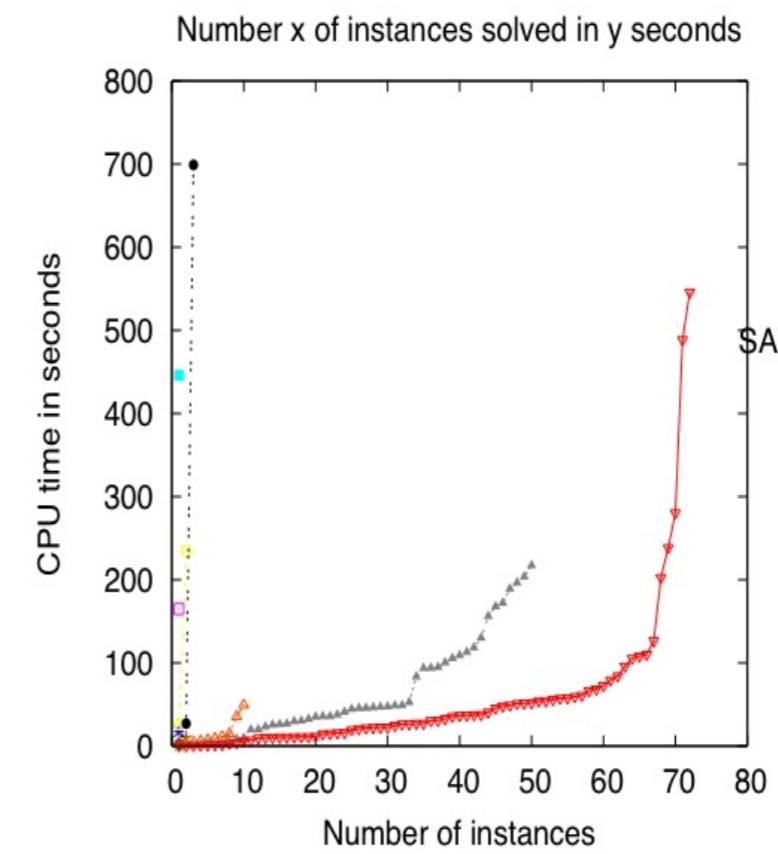
Random



Crafted



Industrial



Partial Max-SAT Category

Random

Instance set	#	Clone	IncWMaxSatz	LB-PSAT	MiniMaxSAT	MSU1.2	MSU4.0	PMS	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
PMAx2SAT/	90	0.00 (0)	39.91(89)	229.92(53)	108.91(83)	0.00 (0)	0.00 (0)	109.75(41)	3.37 (1)	135.06(88)	13.27(90)	54.99(74)
PMAx3SAT/	60	23.87(22)	77.71(59)	59.37(59)	155.94(58)	8.64 (23)	42.30(22)	80.79(59)	79.55(24)	145.48(46)	34.75(60)	56.24(60)

Benchmarks from the MaxSat Evaluation 2007

Crafted

Instance set	#	Clone	IncWMaxSatz	LB-PSAT	MiniMaxSAT	MSU1.2	MSU4.0	PMS	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
MAXCLIQUE/RANDOM/	96	129.92(79)	3.71 (96)	9.77 (96)	2.40 (96)	0.00 (0)	105.97(61)	68.11(96)	113.94(52)	11.73(96)	48.33(67)	44.24(80)
MAXCLIQUE/STRUCTURED/	62	199.10(14)	132.20(35)	124.40(32)	73.02(36)	4.90 (7)	105.21(13)	169.41(27)	50.46(13)	155.65(31)	121.85(22)	120.64(22)
MAXONE/3SAT/	80	331.11(46)	0.48 (80)	18.22(74)	1.28 (80)	52.86(40)	118.24(35)	4.20 (80)	96.67(31)	107.61(80)	109.50(51)	157.39(75)
MAXONE/STRUCTURED/	60	163.19(31)	156.09(50)	2.28 (2)	30.48(60)	122.70(2)	3.34 (1)	88.40(35)	10.04(60)	226.73(44)	218.08(29)	85.31(33)

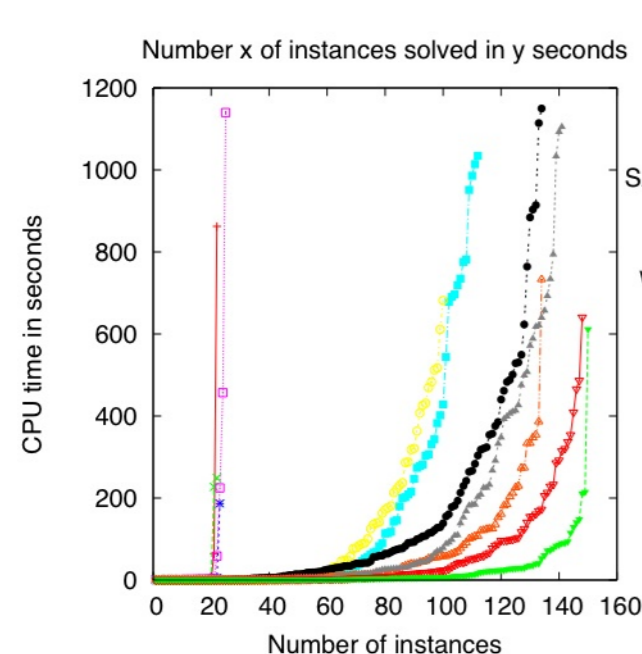
Benchmarks from the MaxSat Evaluation 2007

Industrial

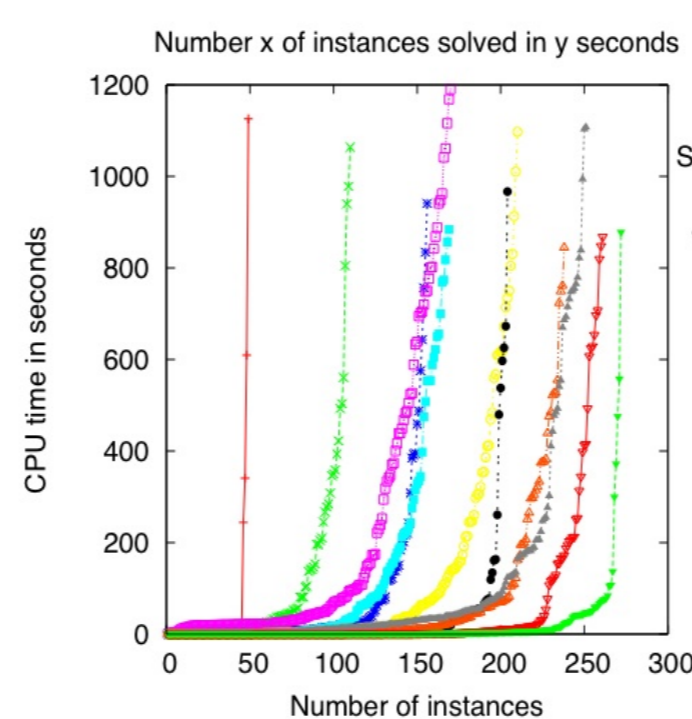
Instance set	#	Clone	IncWMaxSatz	LB-PSAT	MiniMaxSAT	MSU1.2	MSU4.0	PMS	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
bcp-fir/	59	144.14(8)	227.14(34)	93.90(21)	258.44(14)	49.16(46)	0.00 (0)	91.63(12)	13.36(10)	110.20(5)	44.09(1)	13.75(6)
bcp-hipp-yRa1/	1183	30.43(858)	51.76(777)	47.64(851)	23.40(977)	7.18 (1105)	0.29 (348)	67.93(710)	12.20(1109)	56.61(418)	84.33(270)	45.01(444)
bcp-msp/	148	72.40(89)	61.61(99)	64.16(32)	48.95(104)	4.84 (25)	22.96(79)	70.56(85)	8.78 (93)	52.07(60)	81.33(59)	41.31(87)
bcp-mtg/	215	42.04(103)	34.76(140)	48.78(163)	25.75(206)	17.51(164)	0.43 (22)	73.75(172)	57.03(196)	62.58(68)	25.31(34)	20.49(82)
bcp-syn/	74	183.05(23)	100.95(31)	63.46(34)	70.65(28)	51.15(31)	105.24(11)	58.37(29)	67.36(21)	69.84(14)	109.08(7)	74.66(21)
pbo-mqc/nencdr/	128	0.00 (0)	417.93(29)	0.00 (0)	180.52(60)	50.36(54)	167.82(115)	661.86(4)	180.58(102)	0.00 (0)	645.37(6)	0.00 (0)
pbo-mqc/nlogencdr/	128	285.18(84)	306.55(59)	0.00 (0)	194.34(95)	53.01(65)	110.86(128)	482.98(32)	117.86(126)	0.00 (0)	426.50(14)	0.00 (0)
pbo-routing/	15	11.08(5)	25.94(5)	0.00 (0)	116.09(13)	2.89 (15)	54.91(15)	33.32(5)	26.45(9)	0.00 (0)	94.42(2)	18.47(1)

Benchmarks contributed by Joao Marques-Silva

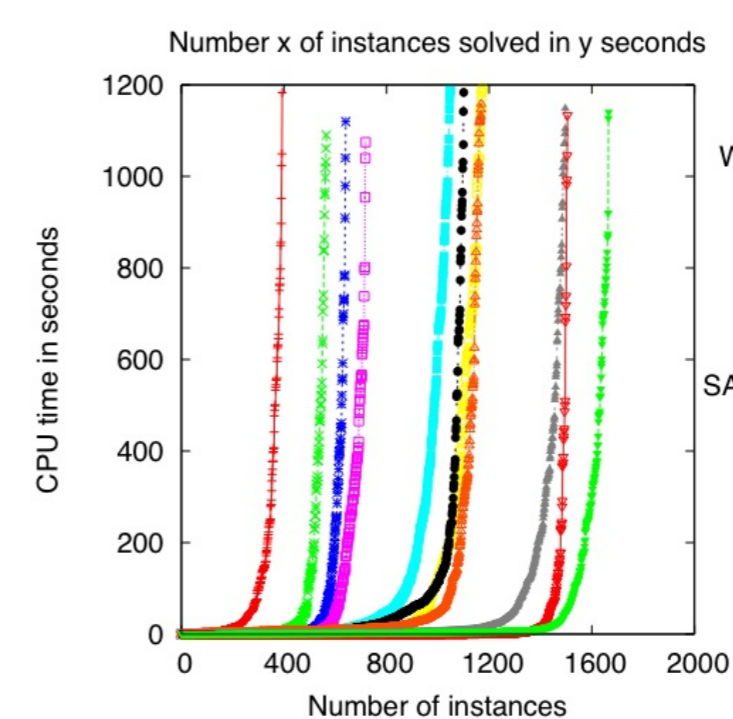
Random



Crafted



Industrial



Computational resources:

- The experiments were performed on a Linux Cluster with 160 processors, where each processor is a 2GHz AMD Opteron with 1Gb of RAM.

The cluster was provided by the Universitat de Lleida.

The Max-SAT Evaluation has been organized by:

Authors by solver:

- Maxsatz:** Chu Min Li, Felip Manyà, Jordi Planes
- SAT4J MAXSAT:** Daniel Le Berre
- IncMaxSatz, IncWMaxSatz:** Han Lin, Kaile Su, Chu Min Li, Josep Argelich
- LB-SAT, LB-PSAT:** Han Li, Kaile Su
- Toolbar3:** Simon de Givry, Federico Heras, Javier Larrosa, Thomas Schiex
- MiniMaxSAT:** Federico Heras, Javier Larrosa, Albert Oliveras
- MSU1.2, MSU4.0:** Joao Marques-Silva, Jordi Planes
- W-MaxSatz:** Chu Min Li, Felip Manyà, Josep Argelich
- PMS:** Felip Manyà, Josep Argelich
- Clone:** Knot Pipatsrisawat, Akop Palyan, Mark Chavira, Arthur Choi, Adnan Darwiche
- wmaxsatz_icss:** Sylvain Darras, Gilles Dequen, Laure Devendeville, Chu Min Li
- Maxsatzilla:** Paulo Matos, Jordi Planes, Florian Letombe, Joao Marques-Silva



Max-SAT Evaluation 2008

Weighted Categories

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Weighted Max-SAT Category

Random

Instance set	#	Clone	IncWMaxsatz	LB-PSAT	MiniMaxSAT	SAT4J MAXSAT	Toolbar3	W-MmaxSatz	wmaxsatz_icss
WMAX2SAT/	90	98.28(30)	2.19 (90)	24.45(90)	10.58(90)	52.92(11)	35.72(90)	3.75 (90)	5.83 (90)
WMAX3SAT/	80	120.35(23)	100.21(80)	160.28(76)	171.40(67)	56.69(16)	194.49(48)	140.19(80)	131.01(80)

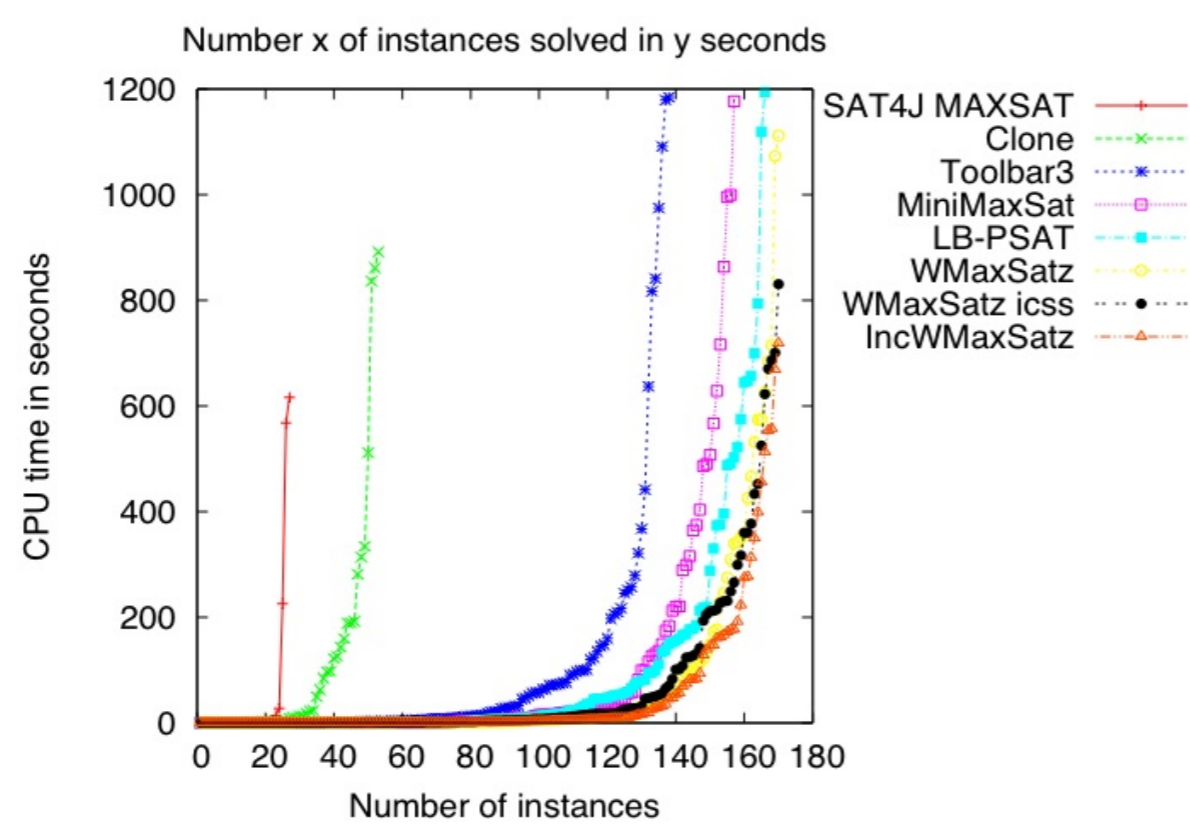
Benchmarks from the Max-SAT Evaluation 2007

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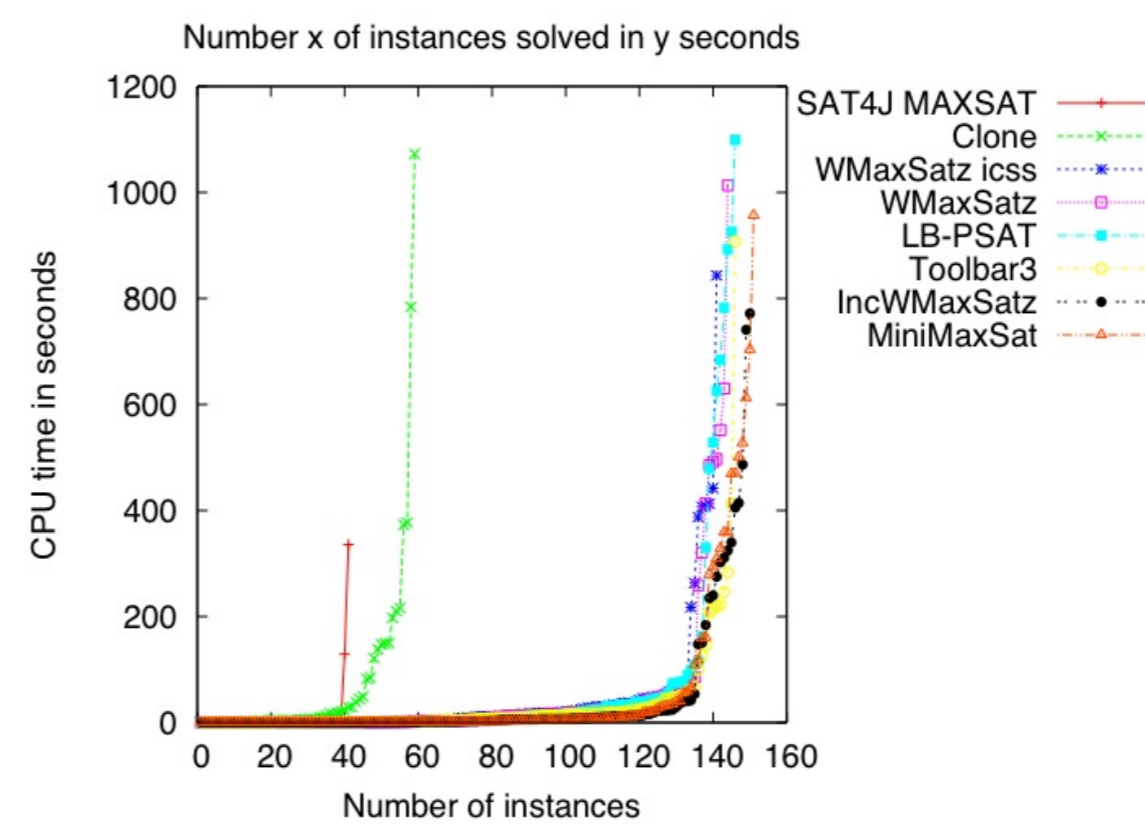
Instance set	#	Clone	IncWMaxsatz	LB-PSAT	MiniMaxSAT	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
KeXu/	15	72.65(9)	125.33(15)	153.63(12)	167.64(15)	7.69 (4)	6.61 (10)	22.11(10)	22.96(10)
RAMSEY/	48	30.81(27)	22.86(36)	1.63 (37)	12.78(37)	15.86(35)	4.90 (37)	15.80(37)	2.68 (35)
WMAXCUT/DIMACS_MOD/	62	143.83(21)	54.20(55)	106.37(54)	75.63(55)	0.84 (2)	89.11(56)	90.09(55)	74.51(55)
WMAXCUT/RANDOM/	40	0.00 (0)	7.53 (40)	20.69(40)	5.43 (40)	0.00 (0)	16.16(40)	17.03(40)	19.96(40)
WMAXCUT/SPINGLASS/	52	74 (2)	37.26(4)	2.93 (3)	27.59(4)	0.00 (0)	94.86(3)	1.27 (2)	0.03 (1)

Benchmarks contributed by Ke Xu and from the Max-SAT Evaluation 2007

Random



Crafted



Weighted Partial Max-SAT Category

Random

Instance set	#	Clone	IncWMaxsatz	LB-PSAT	MiniMaxSAT	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
WPMAX2SAT/	90	0.00 (0)	87.71(89)	226.32(67)	206.02(78)	3.15 (1)	206.72(88)	56.59(89)	107.93(84)
WPMAX3SAT/	60	23.11(29)	51.45(60)	39.88(60)	152.80(56)	68.69(30)	105.24(43)	46.21(60)	66.30(60)

Benchmarks from the Max-SAT Evaluation 2007

Crafted

Instance set	#	Clone	IncWMaxsatz	LB-PSAT	MiniMaxSAT	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
AUCTIONS/AUC_PATHS/	88	33.87(88)	2.31 (88)	34.19(63)	29.79(88)	496.64(15)	49.19(88)	136.05(51)	181.85(68)
AUCTIONS/AUC_REGIONS/	84	31.26(84)	1.94 (84)	2.00 (77)	1.70 (84)	166.47(76)	6.58 (84)	5.63 (72)	5.28 (84)
AUCTIONS/AUC_SCHEDULING/	84	172.04(75)	96.70(81)	46.11(68)	46.21(84)	316.81(49)	75.75(82)	61.55(70)	74.61(82)
RANDOM-NET/	350	72.23 (236)	133.08(108)	158.77(13)	129.45(112)	330.83(13)	128.09(50)	89.73 (22)	29.92(48)
PSEUDO/factor/	186	7.95 (186)	0.07 (186)	107.66(9)	1.16 (186)	3.30 (186)	234.43(10)	10.94(115)	0.20 (20)
PSEUDO/mplib/	16	115.13(5)	14.36(5)	227.00(4)	69.77(5)	13.00(6)	3.10 (4)	1.64 (2)	1.19 (4)
QCP/	25	30.98(15)	11.26(20)	19.41(16)	26.20(20)	6.14 (25)	193.50(12)	14.64(5)	226.71(15)
WCSP/PLANNING/	71	10.33(36)	15.47(55)	23.34(1)	11.09(71)	6.55 (71)	23.91(52)	7.63 (4)	1.23 (48)
WCSP/SPOTS/DIR/	21	87.59(6)	25.83(4)	0.00 (0)	3.31 (3)	76.35(3)	129.24(5)	0.00 (0)	14.79(2)
WCSP/SPOTS/LOG/	21	14.92(6)	0.68 (4)	0.00 (0)	10.04(4)	63.76(3)	111.67(4)	0.00 (0)	19.60(2)

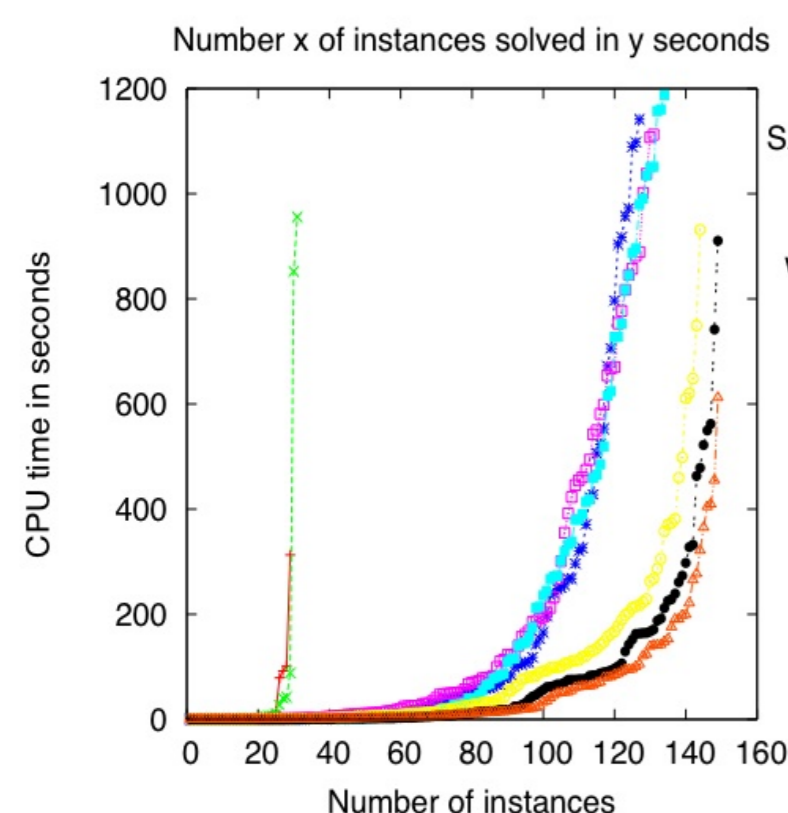
Benchmarks provided by Knot Pipatsrisawat from the Max-SAT Evaluation 2007

Industrial

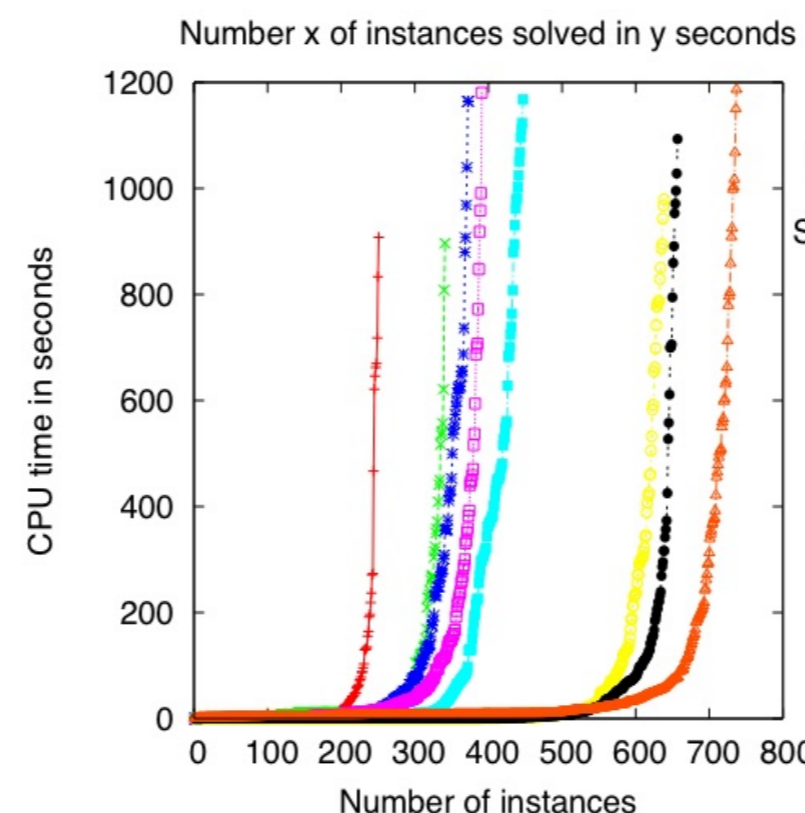
Instance set	#	Clone	IncWMaxsatz	LB-PSAT	MiniMaxSAT	SAT4J MAXSAT	Toolbar3	W-MaxSatz	wmaxsatz_icss
PROTEIN_INS/	12	27.64(1)	321.70(2)	0.00 (0)	482.12(8)	6.05 (1)	4.10 (1)	0.00 (0)	0.23 (1)

Benchmarks contributed by Federico Heras

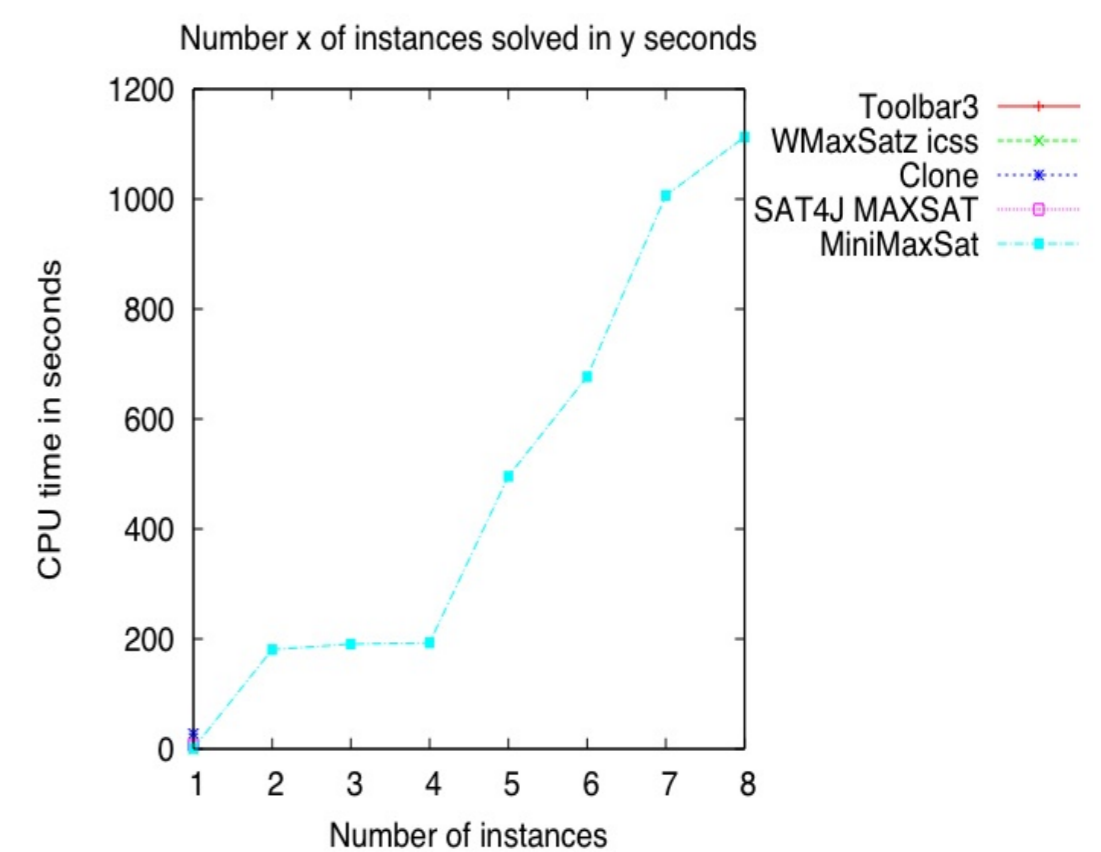
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