

Max-SAT Evaluation 2009

Unweighted Categories

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Unweighted Max-SAT Category

Random

Instance_set	#	IUT_BMB_Maxsatz	IUT_BMB_LSMaksa	IncMaxsatz	WMaxSatz-2.5	WMaxSatz-1.6	MSUnCore	SAT4J-Maxsat	pm2	wbo	wpm1
highgirth/4SAT/	50	414.02(11)	1231.13(8)	841.01(23)	1186.80(4)	1262.62(6)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
highgirth/5SAT/	50	0.01(25)	0.41(25)	0.25(25)	0.61(25)	0.53(25)	0.14(25)	2.31(25)	0.25(25)	1.03(25)	0.26(25)
max2sat/100v/	50	14.10(50)	16.21(50)	90.93(50)	44.38(50)	126.52(50)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
max2sat/120v/	50	120.25(50)	120.94(50)	427.78(45)	289.46(49)	485.06(42)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
max2sat/140v/	50	371.76(48)	377.75(48)	709.27(27)	542.69(43)	772.33(23)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
max3sat/60v/	50	112.43(50)	145.66(50)	115.49(50)	221.91(50)	266.29(50)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
max3sat/70v/	50	380.33(48)	459.96(48)	397.27(49)	528.96(44)	508.06(41)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
max3sat/80v/	50	271.25(49)	325.91(48)	283.95(49)	452.78(48)	420.57(46)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
Solved instances	450		331	327	318	313	283	25	25	25	25

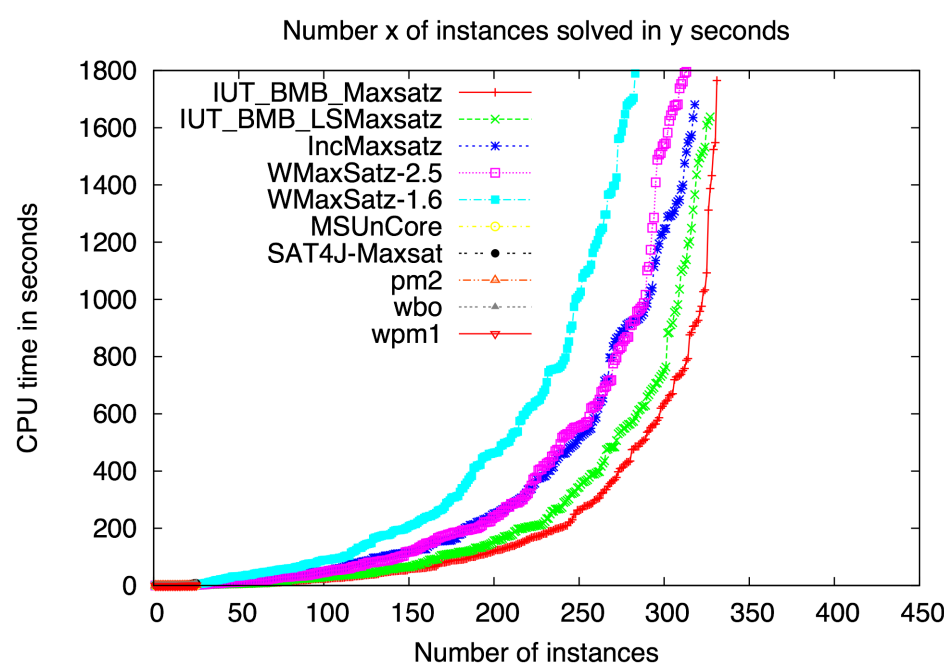
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Instance_set	#	IUT_BMB_Maxsatz	IUT_BMB_LSMaksa	IncMaxsatz	WMaxSatz-1.6	WMaxSatz-2.5	pm2	wbo	wpm1	MSUnCore	SAT4J-Maxsat
MAXCUT/DIMACS_MOD/	62	98.70(52)	103.86(52)	81.53(52)	151.55(52)	183.39(52)		194.40(10)	0.01(4)	0.01(3)	0.57(2)
MAXCUT/SPINGLASS/	5	12.85(3)	12.97(3)	29.02(3)	4.88(3)	5.57(3)	3.92(2)	16.32(2)	0.84(2)	612.12(1)	0.00(0)
bipartite/maxcut-140-630-0.7/	50	213.06(50)	219.08(50)	434.82(50)	447.06(49)	481.87(49)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
bipartite/maxcut-140-630-0.8/	50	156.19(50)	159.74(50)	313.49(50)	336.97(50)	422.94(50)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
Solved instances	167		155	155	155	154	12	6	6	4	2

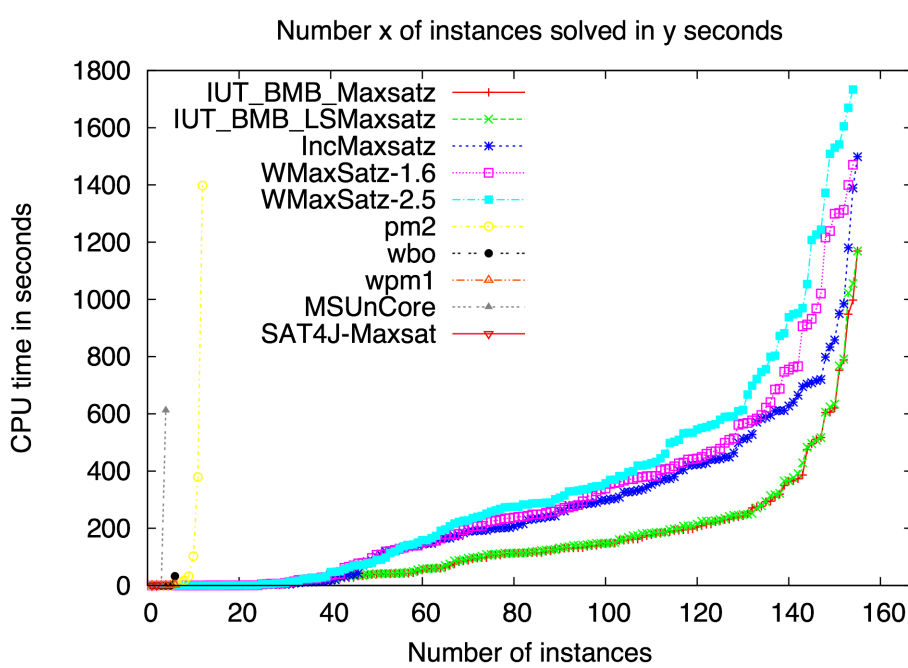
Industrial

Instance_set	#	MSUnCore	wbo	wpm1	pm2	SAT4J-Maxsat	IncMaxsatz	WMaxSatz-1.6	WMaxSatz-2.5
CircuitDebuggingProblems/	9	17.50(8)	178.88(8)	19.52(5)	20.32(5)	33.37(2)	0.00(0)	0.00(0)	0.00(0)
SeanSafarpour/	112	37.97(84)	110.29(82)	48.72(73)	30.41(61)	174.42(32)	3.59(2)	84.69(2)	6.06(2)
Solved instances	121	92	90	78	66	34	2	2	2

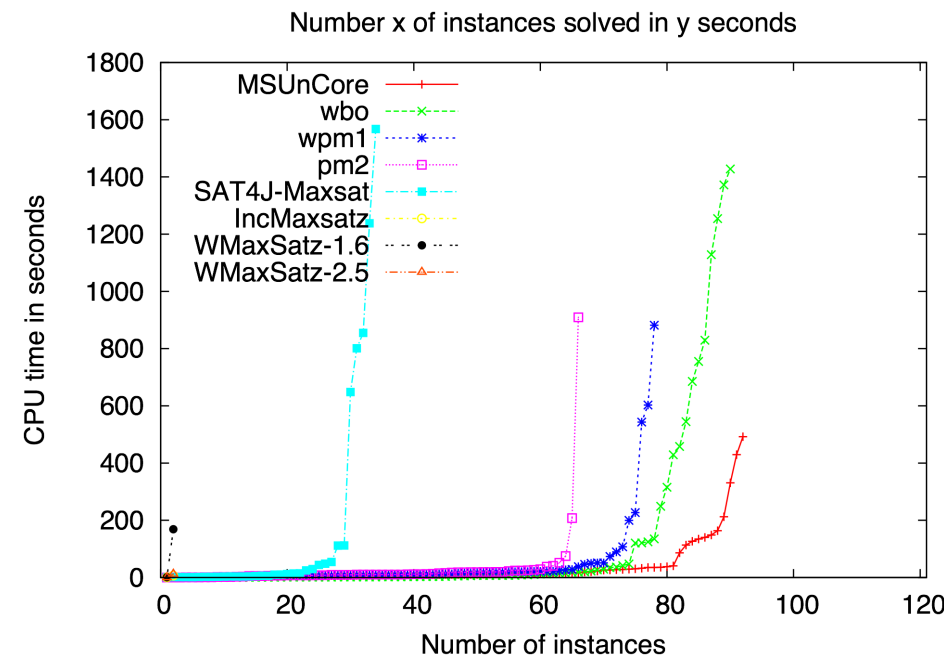
Random



Crafted



Industrial



Partial Max-SAT Category

Random

Instance_set	#	IUT_BCMB_WMaxsa	WMaxSatz-2.5	WMaxSatz-1.6	IncWMaxsatz	IUT_BCMB_LSWMax	pm2	MSUnCore	wpm1	wbo	SAT4J-Maxsat	Clone
pmax2sat/hi/	30	10.30(30)	21.85(30)	52.07(30)	135.07(30)	36.36(30)	0.01(1)	4.65(1)	0.01(1)	3.58(1)	1.43(1)	8.59(1)
pmax2sat/lo/	30	0.73(30)	0.91(30)	1.50(30)	1.88(30)	1.21(29)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
pmax2sat/me/	30	4.03(30)	8.95(30)	17.42(30)	30.50(30)	12.07(28)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
pmax3sat/hi/	30	68.93(30)	106.16(30)	104.90(30)	195.11(30)	98.47(30)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
pmax3sat/lo/	30	0.33(30)	0.69(30)	0.64(30)	0.61(30)	0.61(30)	19.17(27)	65.10(25)	33.17(25)	17.29(24)	57.76(23)	21.84(22)
Solved instances	150		150	150	150	147	28	26	26	25	24	23

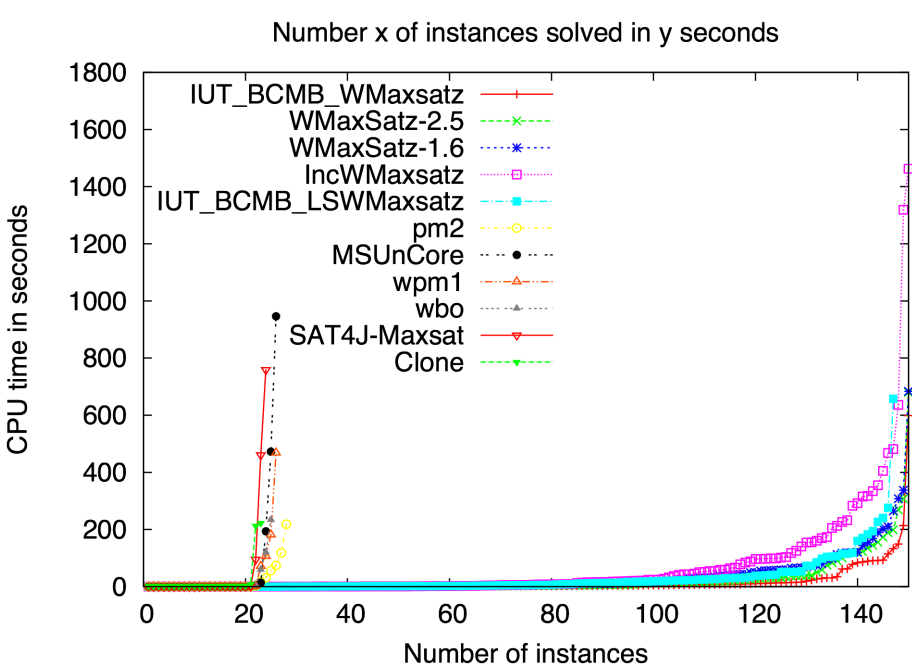
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Instance_set	#	WMaxSatz-2.5	WMaxSatz-1.6	IUT_BCMB_WMaxsatz	pm2	Clone	SAT4J-Maxsat	wpm1	wbo	MSUnCore
JobShop/	4	0.00(0)	0.00(0)	0.00(0)	151.78(3)	0.00(0)	547.54(3)	134.87(2)	98.06(2)	161.76(2)
MAXCLIQUE/RANDOM/	96	74.71(82)	61.44(81)	74.41(82)	178.47(57)	163.25(81)	162.76(52)	52.26(1)	0.00(0)	0.00(0)
MAXCLIQUE/STRUCTURED/	62	183.87(24)	164.12(23)	164.27(22)	525.58(17)	209.58(14)	58.39(13)	9.55(10)	15.10(10)	1.44(4)
MAXONE/3SAT/	80	191.95(77)	183.16(77)	166.78(80)	21.43(80)	473.62(56)	141.42(32)	8.14(45)	3.85(32)	36.63(37)
MAXONE/STRUCTURED/	60	159.59(58)	139.25(57)	163.84(36)	430.70(41)	264.97(34)	5.71(63)	0.71(2)	0.00(0)	0.00(0)
PSEUDO/miplib/	4	0.12(2)	0.13(2)	0.18(2)	22.26(4)	383.89(3)	2.57(3)	0.15(2)	0.45(2)	2.35(2)
partial_crafted/frb/	25	0.00(0)	0.00(0)	0.00(0)	896.50(3)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
min-enc/kbtree/	54	256.90(19)	355.85(19)	225.63(19)	121.95(17)	201.87(9)	5.58(12)	0.48(12)	1.35(12)	0.32(12)
Solved instances	385	262	259	241	222	197	175	74	58	57

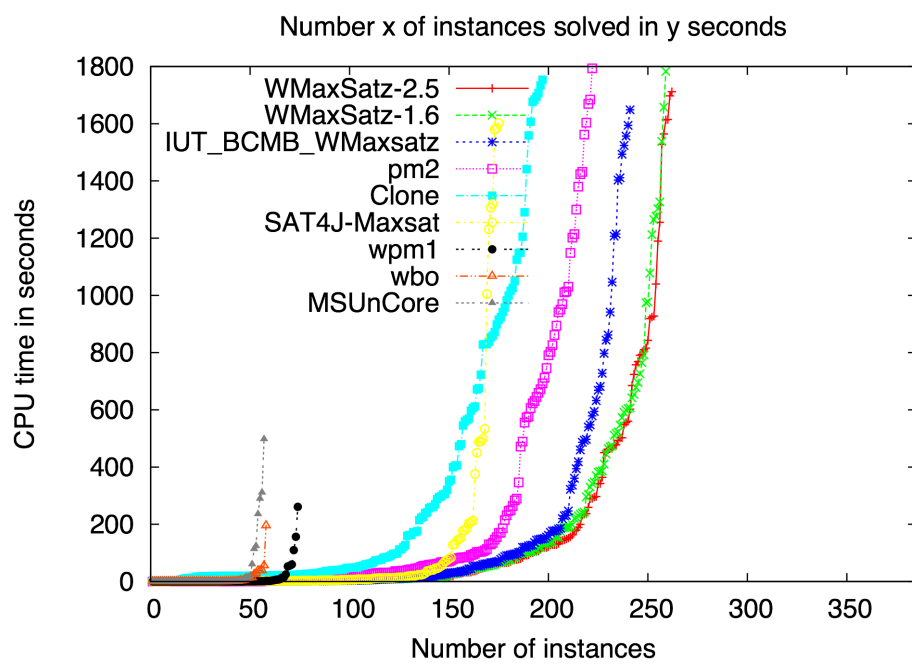
Industrial

Instance_set	#	pm2	SAT4J-Maxsat	wpm1	wbo	MSUnCore	WMaxSatz-2.5	WMaxSatz-1.6	IUT_BCMB_LSWMax	Clone	IUT_BCMB_WMaxsa
CircuitTraceCompaction/	4	442.99(3)	431.75(3)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
PrototypeAssembly/	6	34.52(5)	0.00(0)	31.70(5)	9.72(5)	31.52(5)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
PROTEIN_INS/	12	56.83(2)	319.63(2)	44.11(1)	11.96(1)	534.08(1)	0.26(1)	0.22(1)	0.29(1)	26.99(1)	1.49(1)
bcp-fir/	59	13.60(57)	7.99(10)	27.99(56)	112.01(37)	53.11(49)	6.99(7)	14.83(7)	7.34(7)	118.32(8)	10.53(7)
bcp-hipp-yRa1/SU/	38	101.65(28)	268.15(8)	21.44(11)	109.84(10)	57.08(10)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
bcp-hipp-yRa1/simp/	138	8.10(136)	19.95(132)	1.40(130)	3.56(131)	1.35(130)	218.83(44)	242.21(43)	202.00(44)	105.18(74)	187.72(40)
bcp-msp/	148	91.31(94)	7.54(95)	12.25(42)	45.35(24)	102.03(23)	30.18(94)	38.61(94)	30.35(93)	77.38(91)	32.50(90)
bcp-mtg/	215	1.36(215)	67.03(196)	6.03(170)	15.67(173)	6.38(166)	118.80(153)	48.11(143)	84.52(119)	45.70(104)	58.06(102)
bcp-syn/	74	12.64(38)	98.81(20)	5.70(31)	31.76(30)	35.20(32)	148.71(22)	133.83(22)	139.79(22)	183.55(23)	127.35(24)
pbo-mqc/nencdr/	128	233.02(92)	318.54(114)	82.62(50)	73.63(63)	35.74(48)	544.37(59)	597.77(58)	512.29(54)	0.00(0)	0.00(0)
pbo-mqc/nlogencdr/	128	148.66(108)	176.42(125)	69.84(75)	76.27(67)	56.44(67)	331.39(95)	383.59(92)	353.89(95)	333.79(86)	0.00(0)
pbo-routing/	15	1.18(15)	223.31(12)	0.99(15)	0.96(15)	0.63(15)	5.82(5)	7.27(5)	5.63(2)	10.97(5)	13.64(2)
Solved instances	965	793	717	586	556	546	480	465	437	392	266

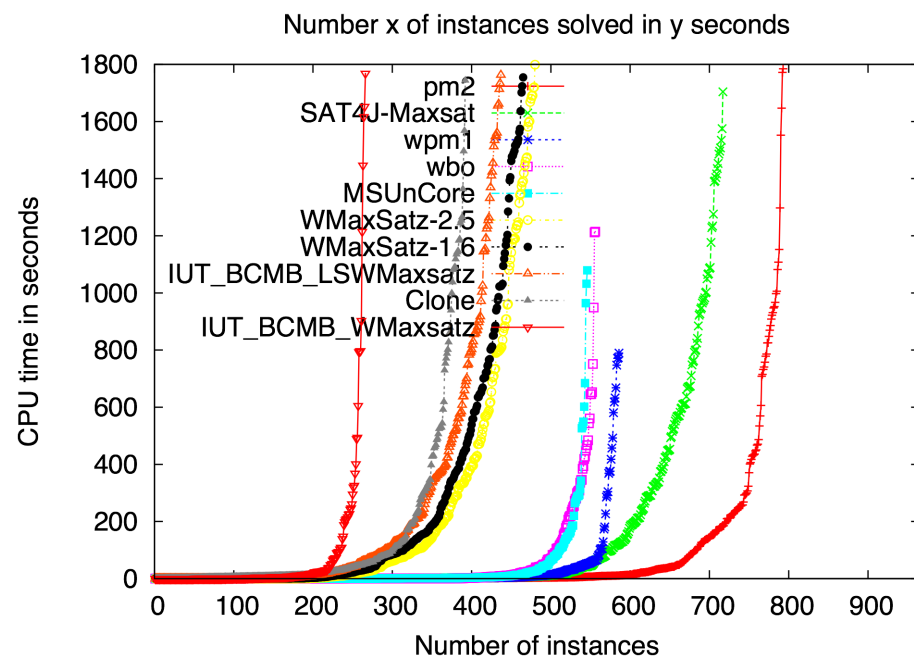
Random



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Industrial



Computational resources:

- The experiments were performed on a Linux Cluster with 160 processors, where each processor is a 2GHz AMD Opteron with 512MB of RAM.

The cluster was provided by the Universitat de Lleida.

The Max-SAT Evaluation has been organized by:

Authors by solver:

- Clone: Knot Pipatsrisawat, Akop Palyan, Mark Chavira, Arthur Choi, Adnan Darwiche
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- MSuncore: Joao Marques-Silva, Vasco Manquinho, Jordi Planes
- PM2: Carlos Ansótegui, Maria Luisa Bonet, Jordi Levy
- SAT4J MAXSAT: Daniel Le Berre
- WBO: Vasco Manquinho, Joao Marques-Silva, Jordi Planes
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Max-SAT Evaluation 2009

Weighted Categories

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Weighted Max-SAT Category

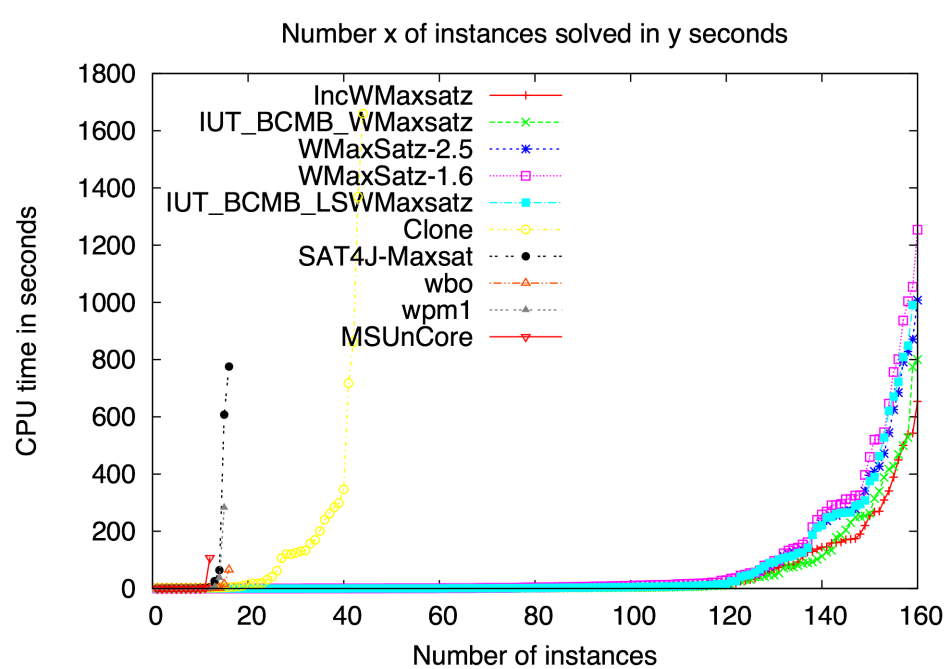
Random

Instance_set	#	IncWMaxsatz	IUT_BCMB_WMaxsa	WMaxSatz-2.5	WMaxSatz-1.6	IUT_BCMB_LSWMax	Clone	SAT4J-Maxsat	wbo	wpm1	MSUnCore
wmax2sat/hi/	40	4.74(40)	2.43(40)	4.63(40)	9.29(40)	3.57(40)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
wmax2sat/lo/	40	0.12(40)	0.25(40)	0.26(40)	0.47(40)	0.21(40)	247.26(21)	775.78(1)	16.64(4)	12.80(3)	0.00(0)
wmax3sat/hi/	40	187.48(40)	205.45(40)	288.67(40)	338.66(40)	278.44(39)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
wmax3sat/lo/	40	2.13(40)	2.43(40)	4.05(40)	4.22(40)	3.82(40)	103.30(23)	47.56(15)	1.36(12)	24.01(12)	9.14(12)
Solved instances	160	160	160	160	160	159	44	16	16	15	12

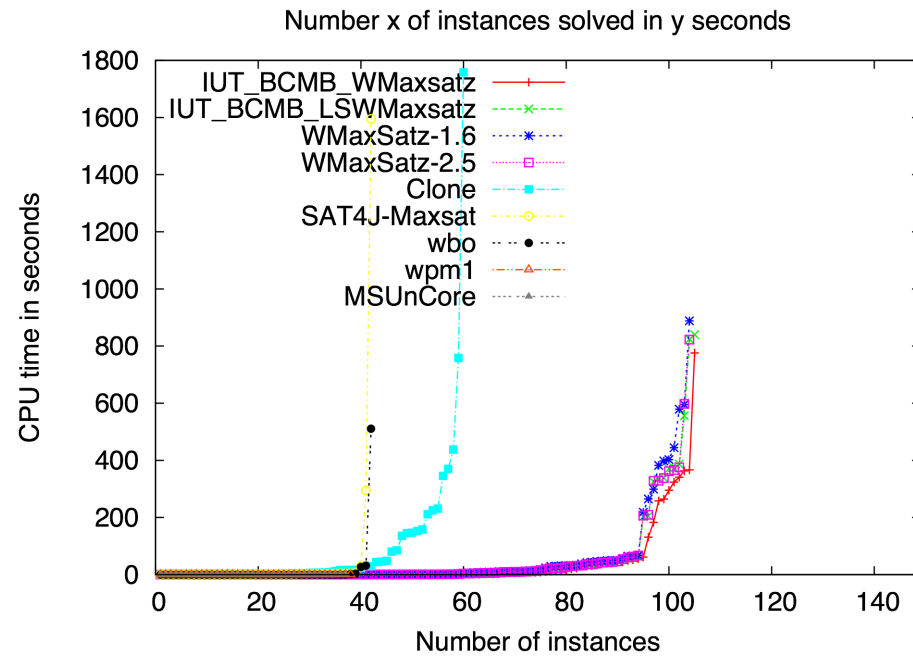
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Instance_set	#	IUT_BCMB_WMaxsa	IUT_BCMB_LSWMax	WMaxSatz-2.5	WMaxSatz-1.6	Clone	SAT4J-Maxsat	wbo	wpm1	MSUnCore
KeXu/rfb/	34	21.72(9)	22.37(9)	21.96(9)	24.17(9)	76.66(9)	4.75(4)	142.99(4)	0.00(0)	0.00(0)
RAMSEY/	48	7.65(37)	38.53(37)	18.68(36)	18.41(36)	29.35(27)	54.41(36)	0.06(34)	0.05(34)	0.03(34)
WMAXCUT/DIMACS_MOD/	62	62.46(55)	68.16(55)	67.78(55)	78.35(55)	186.83(22)	0.55(2)	0.01(4)	0.12(4)	0.02(3)
WMAXCUT/SPINGLASS/	5	33.17(4)	53.22(4)	53.59(4)	76.96(4)	3.01(2)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
Solved instances	149	105	105	104	104	60	42	42	38	37

Random



Crafted



Weighted Partial Max-SAT Category

Random

Instance_set	#	WMaxSatz-2.5	WMaxSatz-1.6	IncWMaxsatz	Clone	SAT4J-Maxsat	wbo	MSUnCore	wpm1
wpmx2sat/hi/	30	17.83(30)	228.65(30)	214.38(29)	8.45(1)	1.35(1)	37.01(1)	89.37(1)	0.01(1)
wpmx2sat/lo/	30	2.36(30)	3.82(30)	2.28(30)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
wpmx2sat/me/	30	23.33(30)	52.10(30)	52.77(30)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
wpmx3sat/hi/	30	127.49(30)	137.86(30)	101.17(30)	0.00(0)	0.00(0)	0.00(0)	0.00(0)	0.00(0)
wpmx3sat/lo/	30	0.81(30)	0.85(30)	0.42(30)	20.49(29)	8.54(29)	6.45(25)	1.55(24)	4.36(24)
Solved instances	150	150	150	149	30	26	25	25	25

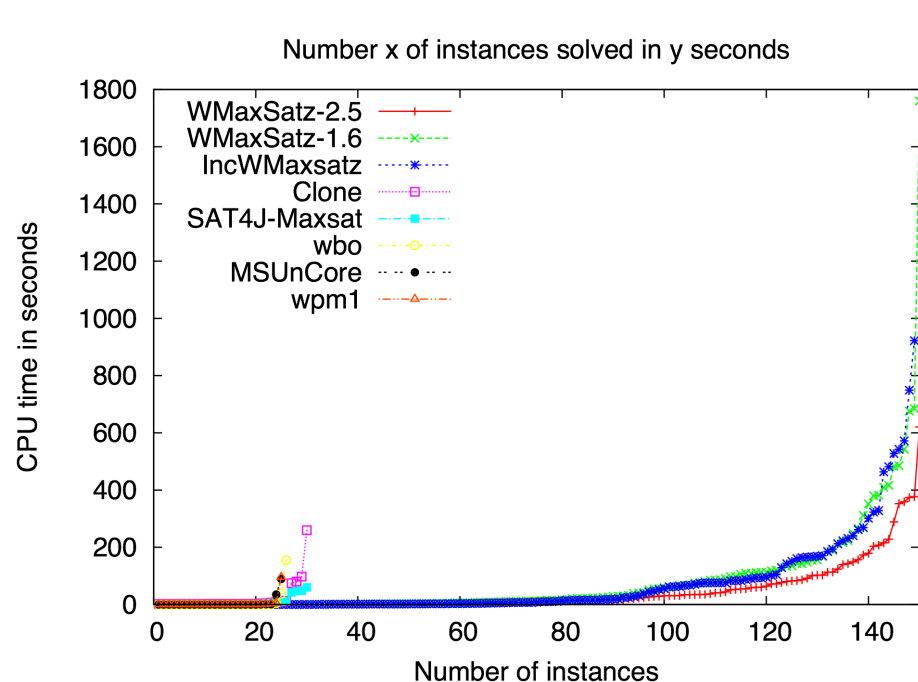
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Instance_set	#	IncWMaxsatz	Clone	WMaxSatz-2.5	WMaxSatz-1.6	wbo	SAT4J-Maxsat	wpm1	MSUnCore
AUCTIONS/AUC_PATHS/	88	9.42(88)	32.13(88)	199.62(71)	234.74(71)	0.00(0)	567.98(12)	0.00(0)	0.00(0)
AUCTIONS/AUC_SCHEDULING/	84	114.80(82)	189.06(76)	95.74(83)	89.78(83)	0.00(0)	291.78(38)	0.00(0)	0.00(0)
KnotPipatsisawati/	191	196.56(34)	47.05(165)	329.76(21)	284.52(20)	13.99(161)	56.58(2)	205.58(87)	128.14(60)
PSEUDO/factor/	186	0.07(186)	7.62(79)	0.17(186)	0.20(186)	7.63(166)	1.15(186)	7.30(120)	29.82(127)
PSEUDO/miplib/	12	23.07(3)	4.02(2)	264.14(3)	426.44(3)	0.00(0)	36.60(3)	0.63(1)	0.09(1)
QCP/	25	11.29(20)	34.03(15)	164.89(13)	188.81(15)	0.00(25)	4.02(25)	0.28(25)	0.13(25)
WCSP/SPOTS/DIR/	21	25.67(4)	55.81(6)	11.79(2)	14.20(2)	1.03(5)	60.85(3)	2.29(5)	13.28(3)
WCSP/SPOTS/LOG/	21	0.67(4)	31.04(6)	15.71(2)	18.91(2)	12.55(6)	96.91(3)	0.51(5)	15.70(4)
min-enc/planning/	56	96.60(38)	22.01(25)	147.47(48)	124.06(46)	0.46(23)	2.89(56)	6.02(28)	2.65(27)
min-enc/warehouses/	18	141.61(13)	1.20(1)	0.32(1)	0.34(1)	0.00(0)	1.10(1)	1.43(6)	0.01(1)
Solved instances	702	472	463	430	429	386	329	277	248

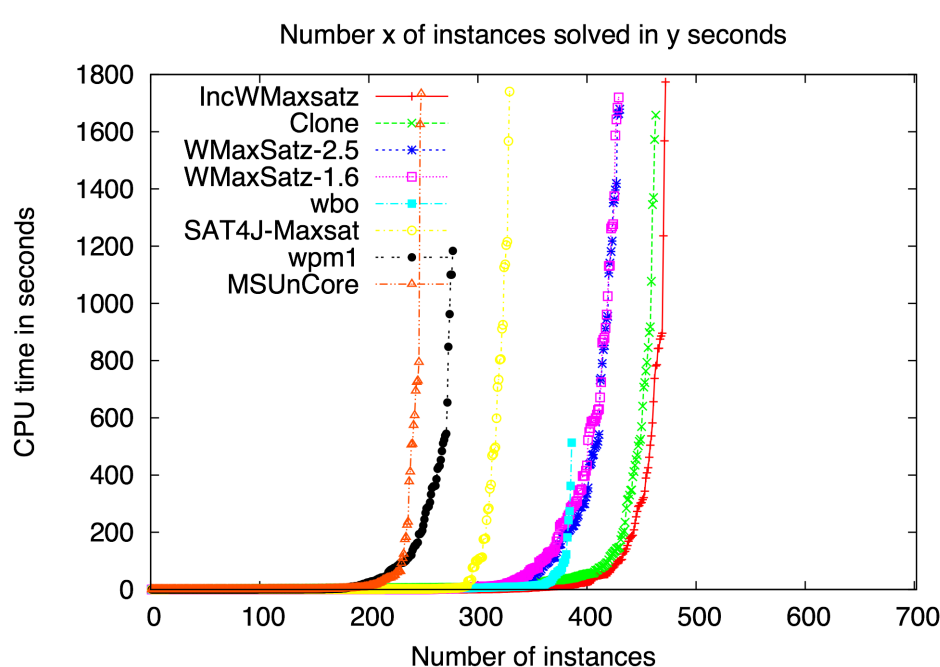
Industrial

Instance_set	#	SAT4J-Maxsat	IncWMaxsatz	MSUnCore	wpm1	wbo	WMaxSatz-1.6	WMaxSatz-2.5	Clone	IUT_BCMB_WMaxa
up-u98/10/	20	4.77(20)	12.88(20)	13.56(20)	25.17(20)	26.08(20)	824.61(19)	1532.46(12)	0.00(0)	0.00(0)
up-u98/20/	20	5.11(20)	14.61(20)	15.56(20)	29.57(20)	30.65(20)	943.86(15)	1480.15(2)	0.00(0)	0.00(0)
up-u98/30/	20	5.27(20)	15.35(20)	17.33(20)	31.45(20)	32.64(20)	799.62(9)	1450.66(3)	0.00(0)	0.00(0)
up-u98/40/	20	5.32(20)	18.16(20)	18.63(20)	35.28(20)	37.20(20)	1112.42(9)	1162.37(3)	0.00(0)	0.00(0)
Solved instances	80	80	80	80	80	80	52	20	0	0

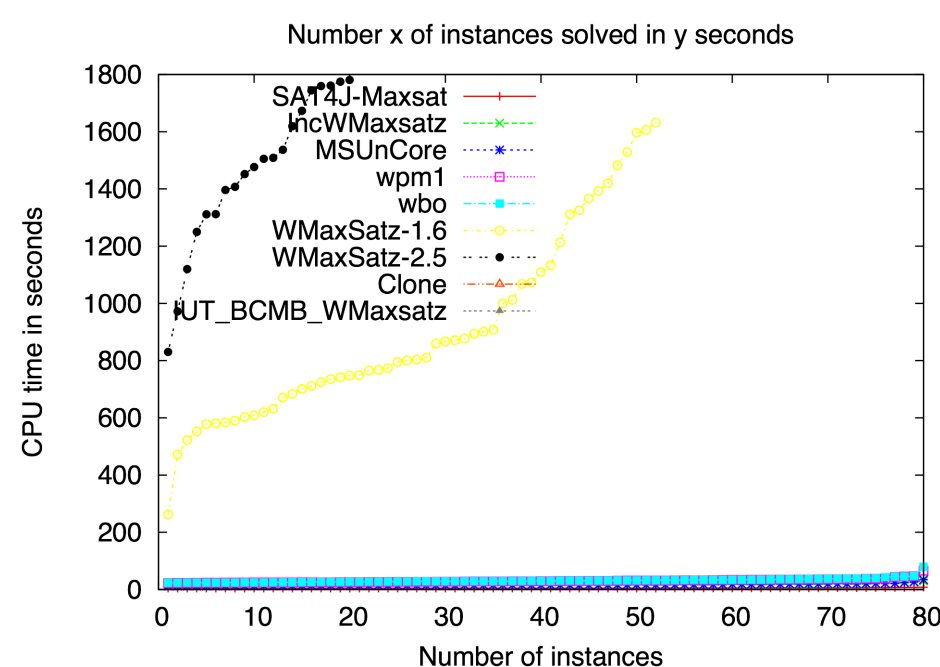
Random



Crafted



Industrial



Computational resources:

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- Clone:** Knot Pipatsrisawat, Akop Palyan, Mark Chavira, Arthur Choi, Adnan Darwiche
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- WPM1:** Carlos Ansótegui, Maria Luisa Bonet, Jordi Levy
- SAT4J MAXSAT:** Daniel Le Berre
- WBO:** Vasco Manquinho, Joao Marques-Silva, Jordi Planes
- W-MaxSatz:** Chu Min Li, Felip Manyà, Josep Argelich

