Tables 1,2,3 below compare the results of Zchaff (version Z2001.2.17), BerkMin56 and BerkMin561 on the instances used at the second stage of the SAT-2002 competition in the category of industrial benchmarks. All the three programs were run on the same SUNW, Ultra-80 system with clock frequency of 450MHz. In Tables 1,2,3 we list only those CNF formulas (out of 31 instances) that were solved by at least one of the three solvers. For all the instances BerkMin561 was run with the same strategy (namely the default strategy that is strategy 0). The time limit was set to 48 hours (172,800 sec.). Tables 1,2,3 compare the results of (Zchaff, BerkMin56), (BerkMin56,BerkMin561) and (Zchaff,BerkMin56) respectively. Marking a runtime with the suffix "*" means that the corresponding instance was not solved within the time limit (i.e. 48 hours). For each pair of solvers the best (out of two) result is shown in bold. The last column of each table gives the ratio of runtimes.

As one can see from Table 1 BerkMin561 significantly outperforms Zchaff. BerkMin561 compeleted all the instances while Zchaff could not solve four of them. Zchaff is faster only on three 3 instances and the performance of BerkMin on those instances is only slightly worse. On the other hand, BerkMin561 is significantly faster than zChaff on the rest of the instances.

Table 1. Results on second stage instances of the SAT-2002 competition
(*Zchaff* versus *BerkMin561*)

Family	Instance	Sat / Unsat	Zchaff (sec.)	BerkMin561 (sec.)	Zchaff / BerkMin561
bmc2	cnt10	Sat	172,800.0*	**5,910.7**	> 29.2
Comb	Comb2	Unsat	100,834.0	**365.5**	275.9
Comb	Comb3	Unsat	66,758.8	**781.6**	37.4
dinphil-UNSAT	dp11u10	Unsat	172,800.0*	**1,785.6**	> 96.8
f2clk	f2clk_40	Unsat	172,800.0*	**2,445.3**	> 70.7
fifo	fifo8_300	Unsat	**16,788.8**	20,122.4	0.83
fifo	fifo8_400	Unsat	**99,179.8**	116,524.5	0.85
fvp-unsat-2.0	6pipe	Unsat	18,439.4	**205.8**	89.6
fvp-unsat-2.0	6pipe_6_ooo	Unsat	8,900.6	**344.6**	25.8
fvp-unsat-2.0	7pipe	Unsat	54,928.9	**873.2**	62.9
ip	ip36	Unsat	6,818.6	**323.0**	21.1
ip	ip38	Unsat	4,579.8	**399.3**	11.5
ip	ip50	Unsat	101,121.0	**426.34**	237.2
satex-challenges	cnf-r4-b1-k1.1-comp	Sat	95,817.1	**5,778.6**	16.4
satex-challenges	cnf-r4-b1-k1.2-comp	Sat	172,800.0*	**12,779.1**	> 13.5
w08	w08_14	Sat	**5,391.0**	5,850.2	0.92
w08	w08_15	Sat	46,017.6	**6,954.8**	6.6

In Table 2 we compare the performance of BerkMin561 and BerkMin56. As one can see BerkMin561 outperforms BerkMin56. BerkMin56 was faster only on one instance (namely cnf-r4-b1-k1.1-comp), which can be attributed to pure luck because the formula is satisfiable.

Table 2. Results on second stage instances of the SAT-2002 competition
(BerkMin56 versus *BerkMin561)*

Family	Instance	Sat / Unsat	BerkMin56 (sec.)	BerkMin561 (sec.)	BerkMin56 / BerkMin561
bmc2	cnt10	Sat	15,345.3	**5,910.7**	2.6
Comb	Comb2	Unsat	1,540.5	**365.5**	4.2
Comb	Comb3	Unsat	1,090.3	**781.6**	1.4
dinphil-UNSAT	dp11u10	Unsat	3,396.1	**1,785.6**	1.9
f2clk	f2clk_40	Unsat	10,144.1	**2,445.3**	4.1
fifo	fifo8_300	Unsat	50,115.0	**20,122.4**	2.5
fifo	fifo8_400	Unsat	146,626.9	**116,524.5**	1.3
fvp-unsat-2.0	6pipe	Unsat	1,174.5	**205.8**	5.7
fvp-unsat-2.0	6pipe_6_ooo	Unsat	1,011.3	**344.6**	2.9
fvp-unsat-2.0	7pipe	Unsat	5,156.2	**873.2**	5.9
ip	ip36	Unsat	395.5	**323.0**	1.2
ip	ip38	Unsat	831.5	**399.3**	2.1
ip	ip50	Unsat	2,170.5	**426.34**	5.1
satex-challenges	cnf-r4-b1-k1.1-comp	Sat	**324.4**	5,778.6	0.06
satex-challenges	cnf-r4-b1-k1.2-comp	Sat	16,566.9	**12,779.1**	1.3
w08	w08_14	Sat	9,609.4	**5,850.2**	1.6
w08	w08_15	Sat	18,016.2	**6,954.8**	2.6

Table 3 compares the results of Zchaf and BerkMin56. They are similar to those of Table 1. BerkMin is slower (not too much) on 3 instances and faster (sometimes significantly) on the rest of the instances.

Table 3. Results on second stage instances of the SAT-2002 competition
(*Zchaff* versus *BerkMin56*)

Family	Instance	Sat / Unsat	Zchaff (sec.)	BerkMin56 (sec.)	Zchaff / BerkMin56
bmc2	cnt10	Sat	172,800.0*	**15,345.3**	11.3
Comb	Comb2	Unsat	100,834.0	**1,540.5**	65.5
Comb	Comb3	Unsat	66,758.8	**1,090.3**	61.2
dinphil-UNSAT	dp11u10	Unsat	172,800.0*	**3,396.1**	50.9
f2clk	f2clk_40	Unsat	172,800.0*	**10,144.1**	17.0
fifo	fifo8_300	Unsat	**16,788.8**	50,115.0	0.3
fifo	fifo8_400	Unsat	**99,179.8**	146,626.9	0.7
fvp-unsat-2.0	6pipe	Unsat	18,439.4	**1,174.5**	16.0
fvp-unsat-2.0	6pipe_6_ooo	Unsat	8,900.6	**1,011.3**	8.8
fvp-unsat-2.0	7pipe	Unsat	54,928.9	**5,156.2**	10.7
ip	ip36	Unsat	6,818.6	**395.5**	17.2
ip	ip38	Unsat	4,579.8	**831.5**	5.5
ip	ip50	Unsat	101,121.0	**2,170.5**	46.6
satex-challenges	cnf-r4-b1-k1.1-comp	Sat	95,817.1	**324.4**	295.4
satex-challenges	cnf-r4-b1-k1.2-comp	Sat	172,800.0*	**16,566.9**	10.4
w08	w08_14	Sat	**5,391.0**	9,609.4	0.6
w08	w08_15	Sat	46,017.6	**18,016.2**	2.6