

# ONLINE SUPPLEMENT FOR: POLYTOPES ASSOCIATED WITH SYMMETRY HANDLING

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This document provides supplementary material for the article “Polytopes Associated with Symmetry Handling”. It gives detailed results on the computations therein. We refer to this article for details.

We recall that we use the test sets listed in Table 1. Table 2 gives an overview of the settings used. We use SCIP 3.2.1 and CPLEX 12.6.1 as LP-solver.

The experiments were run on a Linux cluster with 3.2 GHz Intel i3 processors, 8 GB of main memory, and 4 MB of cache, running a single process at a time.

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TABLE 1. Test sets for experiments

Shortcut	explanation
Margot1	16 instances used by François Margot; we complemented the STS instances as described there.
M2003-sym	all 18 instances from MIPLIB 2003 for which we found a non-trivial symmetry group after presolving ( <a href="http://miplib.zib.de/miplib2003">http://miplib.zib.de/miplib2003</a> )
M2010-sym	all 154 instances from the MIPLIB 2010 for which we found a non-trivial symmetry group after presolving ( <a href="http://miplib.zib.de">http://miplib.zib.de</a> )
M2010-bench	all 87 instances from the MIPLIB 2010 benchmark suite
SONET	50 instances that were randomly generated.
WB	120 instances used by Ghoniem and Sherali.

TABLE 2. Settings for experiments

Setting	explanation
orbi-max-p	add symmetry handling constraints with activated propagation routine and enabled max-heuristic to detect orbitopes
orbi-max-s	add symmetry handling constraints with activated separation routine and enabled max-heuristic to detect orbitopes
orbi-max-sp	add symmetry handling constraints with activated propagation and separation routines and enabled max-heuristic to detect orbitopes
orbi-min-p	add symmetry handling constraints with activated propagation routine and enabled min-heuristic to detect orbitopes
orbi-min-s	add symmetry handling constraints with activated separation routine and enabled min-heuristic to detect orbitopes
orbi-min-sp	add symmetry handling constraints with activated propagation and separation routines and enabled min-heuristic to detect orbitopes
symre-p	add symresack constraints with activated propagation routine
symre-s	add symresack constraints with activated separation routine
symre-sp	add syresack constraints with activated propagation and separation routines
ISP-NST	ISP with “no subtree”: symmetry handling is turned off in the subtree of a node for which the stabilizer of the fixed variables is empty
S-orbitmin	add inequalities (16) for all orbits using the minimal element

TABLE 3. Description of columns in results

Shortcut	explanation
Name	instance name
#Nodes	number of nodes in main SCIP
Time	total time in seconds
#Calls	number of calls to particular method
#Red	number of domain reductions performed by method
#Cutoffs	number of node cutoffs performed by method
X-time	time used for method X in seconds
#pporb	number of packing/partitioning orbitopes handled by method
#forb	number of full orbitopes handled by method via orbisacks
#orbi	number of orbisack constraints added by method to handle full orbitopes
#symre	number of symresack constraints added by method
#cyc	number of cyclic groups/orbits handled by method
#tot	total number of inequalities added by method
AM	Arithmetic Mean
GM	Geometric Mean
SGM	Shifted Geometric Mean

The different columns of the tables are explained in Table 3. At the bottom of each table, we give the Arithmetic Means (AM) and Geometric Means (GM) for most columns. Moreover, we present the Shifted Geometric Mean (SGM) for the running time and number of nodes. Recall that the shifted geometric mean of values  $t_1, \dots, t_n$  is defined as

$$\left( \prod (t_i + s) \right)^{1/n} - s$$

with shift  $s$ . We use a shift  $s = 10$  for time and  $s = 100$  for nodes in order to decrease the strong influence of the very easy instances in the mean values.

**Remarks.**

- The computation of some instances was prematurely interrupted, because no memory was left. In some cases, this also avoids the output of statistics. In these cases, the corresponding instances are marked with "—" in each statistical column. These instances are accounted for with a node number of 0 and time of one hour.
- Since bliss does not allow the specification of a time limit, it might happen that the (symmetry) computation exceeds one hour.

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TABLE 4. Margot1 testset: default settings

Name	#Nodes	Time
cov954	43,928	73.23
cov1053	1,595,370	3600.00
cov1054	202,406	3600.00
cov1075	762,770	3600.01
cov1076	806,324	3600.00
cov1174	859,934	3600.00
sts27-complemented	3917	1.03
sts45-complemented	50,962	21.65
sts63-complemented	6,324,066	3600.00
sts81-complemented	4,561,535	3600.00
cod83	1,580,913	3600.00
cod83r	531,769	990.62
cod93	159,438	3600.00
cod93r	234,989	3600.00
cod105	39,515	3600.00
cod105r	5185	363.05
AM (# 16)	1,110,188.8	2565.60
GM (# 16)	252,830.9	984.04
SGM (# 16)	253,575.3	1173.02

TABLE 5. M2003-sym testset: default settings

Name	#Nodes	Time
glass4	5,356,647	3600.03
mas74	3,670,035	837.98
mas76	446,102	94.00
misc07	32,473	28.16
mkc	461,877	3600.00
mod011	1782	74.94
msc98-ip	4396	3600.01
mzzv11	1650	512.22
net12	3311	1065.29
noswot	1,034,000	291.20
nsrand-ix	618,133	3379.03
p2756	8	1.37
protfold	27,421	3600.00
qiu	14,178	85.83
rout	41,195	46.35
seymour	79,538	3600.00
timtab1	885,790	516.75
timtab2	3,943,068	3600.01
AM (# 18)	923,422.4	1585.18
GM (# 18)	60,778.0	448.87
SGM (# 18)	70,854.8	522.19

TABLE 6. M2010-sym testset: default settings

Name	#Nodes	Time
30_70_45_095_100	1082	1446.88
acc-tight4	216	145.84
ash608gpia-3col	13	34.23
bab3	1	3600.27
bab5	34,234	3600.00
berlin_5_8_0	2,118,664	3600.01
biella1	5865	354.80
circ10-3	36	3599.98
co-100	13,956	3600.00
core2536-691	423	157.30
core4872-1529	1141	3600.00
cov1075	778,355	3600.00
dc1c	5242	3600.00
dc1l	767	3600.01
dolom1	2162	3600.05
enlight13	1	0.01
enlight14	1	0.02
enlight15	1	0.01
enlight16	1	0.03
enlight9	1	0.00
ex10	1	1025.70
ex9	1	92.65
glass4	5,385,453	3600.03
go19	1,204,948	3600.00
lectsched-1	3077	171.17
lectsched-1-obj	93,366	3600.00
lectsched-2	1019	51.49
lectsched-3	2972	132.20
lectsched-4-obj	5325	80.49
macrophage	772,350	3600.00
map06	1071	1177.82
map10	1645	995.23
map14	858	834.56
map18	259	320.48
map20	407	296.11
maxgasflow	188,749	3600.00
mcsched	13,338	128.30
methanosarcina	87,998	3600.00
mkc	461,939	3600.00
msc98-ip	4385	3600.00
mzzv11	1650	511.73
n3seq24	25,172	3600.02
n4-3	41,145	610.00
n9-3	51,538	3600.01
neos-1109824	23,160	228.37
neos-1171692	201	29.98
neos-1171737	95,004	3600.01
neos-1224597	1	2.18
neos-1311124	4,160,148	3600.02
neos-1337307	255,664	3600.00

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Name	#Nodes	Time
neos-1396125	113,478	441.94
neos13	41,254	1806.52
neos-1426635	4,905,436	3600.05
neos-1426662	812,631	3600.01
neos-1429212	2621	3600.02
neos-1436709	1,830,046	3600.01
neos-1440460	2,687,808	3600.01
neos-1442119	1,384,835	3600.01
neos-1442657	1,584,992	3600.01
neos-1620770	232,642	3600.00
neos18	5660	51.97
neos-476283	792	332.75
neos-555424	446,270	3024.20
neos-738098	6393	3600.01
neos-777800	124	25.39
neos-785912	122	14.21
neos788725	87,009	195.15
neos808444	279	1333.25
neos-820146	1,625,558	3600.00
neos-820157	1,189,477	3600.00
neos-824661	1	46.13
neos-824695	8	32.80
neos-826650	257,589	3600.00
neos-826694	1	13.58
neos-826812	1	3.68
neos-826841	242,992	3600.01
neos-849702	26,770	647.16
neos-859770	1	168.12
neos-885086	31,469	2308.40
neos-885524	44,224	3600.00
neos-911880	4,339,762	3600.02
neos-932816	8018	3600.00
neos-933638	20	203.15
neos-933966	35	138.74
neos-934278	272	600.87
neos-935627	154	266.67
neos-935769	21	178.07
neos-937511	52	232.56
neos-937815	5302	3600.02
neos-941262	3123	3600.00
neos-941313	9	581.06
neos-948126	1748	3600.01
neos-957389	9	16.40
neos-984165	2083	3600.08
net12	4128	1469.96
noswot	1,034,000	291.92
ns1111636	285	3600.51
ns1116954	8	3599.87
ns1158817	1	117.07
ns1208400	5124	600.57
ns1456591	50,402	3600.00
ns1702808	157,101	292.38
ns1758913	1	3600.37
ns1853823	1	3591.15

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Name	#Nodes	Time
ns1854840	1	3598.79
ns1905797	32,911	3600.00
ns1905800	228,859	3600.00
ns1952667	12,887	3600.59
ns2118727	751	3600.00
ns2124243	5894	3600.88
ns2137859	106,049	3600.00
ns4-pr9	549,098	3600.00
nsr8k	59	3600.03
nu60-pr9	143,770	3600.00
p2m2p1m1p0n100	36,024,393	3600.00
p6b	85,472	3600.00
pigeon-10	5,058,193	3600.00
pigeon-11	3,301,741	3600.00
pigeon-12	3,656,212	3600.00
pigeon-13	2,556,280	3600.00
pigeon-19	1,274,922	3600.00
protfold	27,288	3600.00
pw-myciel4	419,880	3600.00
qiu	14,178	85.69
queens-30	18,301	3600.21
ramos3	25	3600.12
rvb-sub	38,249	3600.00
sct1	7722	3600.01
sct32	69,876	3600.00
sct5	2685	3600.02
seymour-disj-10	41,885	3600.00
seymour	79,756	3600.00
shipsched	77,024	3600.01
shs1023	1	3669.33
siena1	1789	3600.00
sing161	1	3600.12
sing245	12	3610.20
sing2	3884	3600.00
sts405	75,770	3600.00
sts729	330	3600.06
swath	316,615	3600.00
tanglegram1	67	602.38
tanglegram2	3	3.98
timtab1	885,790	514.12
toll-like	784,211	3600.01
uc-case11	2057	3600.02
uc-case3	2106	3600.02
uct-subprob	671,018	3600.00
unitcal_7	55,485	3600.01
usAbbrv-8-25_70	588,900	3600.00
vpphard2	763	3602.57
vpphard	1686	3600.02
wachplan	88,003	3600.00
zib54-UUE	440,423	3600.00
AM (# 154)	628,379.4	2363.27
GM (# 154)	4175.8	951.76
SGM (# 154)	9179.8	1080.04

TABLE 7. M2010-bench testset: default settings

Name	#Nodes	Time
30n20b8	2	154.28
acc-tight5	248	60.89
aflow40b	157,839	1367.91
air04	7	20.35
app1-2	6345	3600.02
ash608gpia-3col	13	34.42
bab5	34,307	3600.01
beasleyC3	631,610	3600.01
biella1	5865	354.54
bienst2	112,679	150.09
binkar10_1	202,929	343.14
bley_xl1	22	386.90
bnatt350	2775	408.84
core2536-691	423	157.79
cov1075	779,772	3600.00
csched010	681,662	3600.00
danoint	916,779	3600.00
dfn-gwin-UUM	51,667	91.77
eil33-2	705	54.07
eilB101	9103	150.88
enlight13	1	0.01
enlight14	1	0.02
ex9	1	91.76
glass4	5,374,094	3600.03
gmu-35-40	5,782,318	3600.02
iis-100-0-cov	81,999	1577.02
iis-bupa-cov	103,972	3600.00
iis-pima-cov	11,775	774.98
lectsched-4-obj	5325	80.89
m100n500k4r1	4,688,135	3600.00
macrophage	771,971	3600.00
map18	259	314.44
map20	407	295.91
mcsched	13,338	128.00
mik-250-1-100-1	4,850,221	1678.72
mine-166-5	1850	41.79
mine-90-10	29,517	189.83
msc98-ip	4382	3600.01
mspp16	—	—
mzzv11	1650	511.79
n3div36	85,164	3600.00
n3seq24	25,183	3600.03
n4-3	41,145	610.08
neos-1109824	23,160	228.63
neos-1337307	255,304	3600.01
neos-1396125	113,478	440.70
neos13	41,254	1824.42
neos-1601936	3615	1874.40
neos18	5660	51.80
neos-476283	792	332.98

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Name	#Nodes	Time
neos-686190	10,484	146.88
neos-849702	26,770	648.32
neos-916792	316,872	3600.00
neos-934278	272	577.62
net12	4128	1459.72
netdiversion	3	463.44
newdano	1,965,930	3600.00
noswot	1,034,000	291.19
ns1208400	5124	599.90
ns1688347	1989	220.16
ns1758913	1	3600.36
ns1766074	932,344	1230.01
ns1830653	34,114	455.58
opm2-z7-s2	2866	724.32
pg5_34	211,190	1188.88
pigeon-10	5,077,500	3600.00
pw-myciel4	420,923	3600.00
qiu	14,178	85.45
rail507	1032	100.34
ran16x16	330,038	296.53
reblock67	77,553	226.60
rmatr100-p10	950	80.54
rmatr100-p5	391	103.73
rmine6	688,879	3600.00
rocll-4-11	17,112	479.18
rococoC10-001000	153,018	755.61
roll3000	576,688	3600.01
satellites1-25	4367	1172.91
sp98ic	212,357	3600.00
sp98ir	6361	69.84
tanglegram1	67	604.88
tanglegram2	3	3.96
timtab1	885,790	516.04
triptim1	1	392.61
unitcal_7	56,020	3600.01
vpphard	1687	3600.03
zib54-UUE	440,463	3600.00
AM (# 87)	453,128.6	1435.39
GM (# 87)	8703.6	524.44
SGM (# 87)	15,162.0	574.01

TABLE 8. OR testset: default settings

Name	#Nodes	Time
orScheduling_120_ophthalmology1.zpl	11,888,518	3600.04
orScheduling_120_ophthalmology2.zpl	2	0.12
orScheduling_120_oral1.zpl	10,850,549	3600.05
orScheduling_120_oral2.zpl	9	0.48
orScheduling_120_pain1.zpl	6,831,859	3600.03
orScheduling_120_pain2.zpl	13,333,911	3600.05
orScheduling_120_pain3.zpl	10,434,710	3600.06
orScheduling_120_pain4.zpl	12,928,729	3600.04
orScheduling_120_pain5.zpl	12,556,735	3600.10
orScheduling_120_urology1.zpl	202	0.30
orScheduling_120_urology2.zpl	10,965,757	3600.00
orScheduling_120_urology3.zpl	1	0.05
orScheduling_120_urology4.zpl	1	0.04
orScheduling_120_urology5.zpl	1	0.06
orScheduling_280_ophthalmology1.zpl	1	0.20
orScheduling_280_ophthalmology2.zpl	8,128,156	3600.11
orScheduling_280_oral1.zpl	1	0.04
orScheduling_280_oral2.zpl	45,174	17.04
orScheduling_280_pain1.zpl	2	0.59
orScheduling_280_pain2.zpl	2	0.46
orScheduling_280_pain3.zpl	1	0.29
orScheduling_280_pain4.zpl	1	0.12
orScheduling_280_pain5.zpl	2	0.36
orScheduling_280_urology1.zpl	1871	1.24
orScheduling_280_urology2.zpl	1	0.12
orScheduling_280_urology3.zpl	6495	2.16
orScheduling_280_urology4.zpl	1	0.03
orScheduling_280_urology5.zpl	1	0.16
orScheduling_400_ophthalmology1.zpl	1	0.22
orScheduling_400_ophthalmology2.zpl	4	0.26
orScheduling_400_oral1.zpl	1	0.29
orScheduling_400_oral2.zpl	2	0.51
orScheduling_400_pain1.zpl	2	0.37
orScheduling_400_pain2.zpl	343	1.68
orScheduling_400_pain3.zpl	1522	1.80
orScheduling_400_pain4.zpl	326	0.96
orScheduling_400_pain5.zpl	1	0.26
orScheduling_400_urology1.zpl	2	0.48
orScheduling_400_urology2.zpl	1	0.07
orScheduling_400_urology3.zpl	10,361,952	3600.10
orScheduling_400_urology4.zpl	1	0.23
orScheduling_400_urology5.zpl	10,403,145	3600.08
AM (# 42)	2,827,142.8	943.61
GM (# 42)	286.8	9.60
SGM (# 42)	3276.7	39.41

TABLE 9. SONENT testset: default settings

Name	#Nodes	Time
n13m24_10.zpl	89,115	104.19
n13m24_11.zpl	68,073	68.04
n13m24_12.zpl	87,725	118.03
n13m24_13.zpl	27,549	37.49
n13m24_14.zpl	17,790	21.30
n13m24_15.zpl	51,050	69.08
n13m24_16.zpl	90,282	84.02
n13m24_17.zpl	269,677	260.87
n13m24_18.zpl	178,787	187.11
n13m24_19.zpl	859,961	830.65
n13m24_1.zpl	28,911	34.59
n13m24_20.zpl	71,701	75.55
n13m24_21.zpl	27,643	30.96
n13m24_22.zpl	25,076	30.57
n13m24_23.zpl	177,860	203.40
n13m24_24.zpl	613	1.64
n13m24_25.zpl	52,417	59.24
n13m24_26.zpl	29,640	35.29
n13m24_27.zpl	12,885	18.29
n13m24_28.zpl	271,318	293.29
n13m24_29.zpl	85,257	93.53
n13m24_2.zpl	92,074	102.59
n13m24_30.zpl	23,877	32.62
n13m24_31.zpl	108,468	106.19
n13m24_32.zpl	23,586	30.12
n13m24_33.zpl	185,947	220.89
n13m24_34.zpl	28,483	34.32
n13m24_35.zpl	122,144	159.12
n13m24_36.zpl	321,066	297.29
n13m24_37.zpl	1,083,936	1086.62
n13m24_38.zpl	17,422	20.43
n13m24_39.zpl	31,376	28.48
n13m24_3.zpl	133,733	168.74
n13m24_40.zpl	69,221	84.63
n13m24_41.zpl	1,545,594	1322.31
n13m24_42.zpl	165,880	140.83
n13m24_43.zpl	61,146	83.59
n13m24_44.zpl	29,591	40.41
n13m24_45.zpl	729,851	877.55
n13m24_46.zpl	805,238	789.03
n13m24_47.zpl	67,843	88.20
n13m24_48.zpl	50,841	66.68
n13m24_49.zpl	1,760,898	1753.39
n13m24_4.zpl	56,024	74.19
n13m24_50.zpl	68,534	82.23
n13m24_5.zpl	228,970	215.51
n13m24_6.zpl	236,314	257.08
n13m24_7.zpl	283,304	340.57
n13m24_8.zpl	6890	8.93
n13m24_9.zpl	21,346	26.87

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Name	#Nodes	Time
AM (# 50)	217,658.5	223.93
GM (# 50)	81,362.7	94.48
SGM (# 50)	81,679.4	103.85

TABLE 10. WB testset: default settings

Name	#Nodes	Time
n100m4-10	11,170,758	3600.13
n100m4-11	11,577,512	3600.12
n100m4-12	11,525,406	3600.12
n100m4-13	13,336,574	3600.09
n100m4-14	12,087,406	3600.07
n100m4-15	13,597,391	3600.08
n100m4-16	12,888,066	3600.12
n100m4-17	12,162,636	3600.11
n100m4-18	10,186,715	3600.12
n100m4-19	12,866,467	3600.16
n100m4-1	13,119,994	3600.13
n100m4-20	13,150,051	3600.09
n100m4-2	13,731,179	3600.09
n100m4-3	12,608,669	3600.07
n100m4-4	10,833,491	3600.08
n100m4-5	1210	1.38
n100m4-6	12,958,605	3600.10
n100m4-7	14,481,211	3600.06
n100m4-8	46	0.30
n100m4-9	10,467,352	3600.13
n40m4-10	17,862,995	3600.12
n40m4-11	16,958,622	3600.14
n40m4-12	17,845,739	3600.12
n40m4-13	20,790,271	3600.06
n40m4-14	16,860,300	3600.14
n40m4-15	19,715,981	3600.11
n40m4-16	17,513,942	3600.13
n40m4-17	16,307,551	3600.19
n40m4-18	14,569,028	3600.10
n40m4-19	16,205,408	3600.14
n40m4-1	17,797,916	3600.12
n40m4-20	19,573,941	3600.10
n40m4-2	15,807,688	3600.15
n40m4-3	19,757,832	3600.08
n40m4-4	14,701,661	3600.18
n40m4-5	19,024,653	3600.10
n40m4-6	16,636,132	3600.12
n40m4-7	18,161,909	3600.09
n40m4-8	17,760,137	3600.12
n40m4-9	16,675,391	3600.10
n50m5-10	14,617,307	3600.11
n50m5-11	15,714,228	3600.09
n50m5-12	15,926,574	3600.04
n50m5-13	12,931,537	3600.10
n50m5-14	17,069,015	3600.06
n50m5-15	15,200,202	3600.09
n50m5-16	13,464,353	3600.15
n50m5-17	16,174,317	3600.09
n50m5-18	13,234,417	3600.14
n50m5-19	12,917,075	3600.13

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Name	#Nodes	Time
n50m5-1	14,583,931	3600.15
n50m5-20	16,275,408	3600.12
n50m5-2	15,215,873	3600.08
n50m5-3	12,896,134	3600.15
n50m5-4	15,261,036	3600.11
n50m5-5	15,743,928	3600.10
n50m5-6	14,935,767	3600.12
n50m5-7	13,694,325	3600.16
n50m5-8	15,123,049	3600.04
n50m5-9	12,561,406	3600.15
n60m5-10	15,142,058	3600.07
n60m5-11	13,845,795	3600.11
n60m5-12	12,214,527	3600.14
n60m5-13	14,007,330	3600.03
n60m5-14	13,285,512	3600.08
n60m5-15	13,934,247	3600.07
n60m5-16	14,989,376	3600.10
n60m5-17	13,339,744	3600.09
n60m5-18	14,013,386	3600.09
n60m5-19	16,153,558	3600.04
n60m5-1	15,140,555	3600.08
n60m5-20	14,898,187	3600.07
n60m5-2	14,376,171	3600.09
n60m5-3	12,987,669	3600.09
n60m5-4	14,489,930	3600.07
n60m5-5	12,870,959	3600.09
n60m5-6	15,546,899	3600.04
n60m5-7	14,489,203	3600.07
n60m5-8	15,187,841	3600.08
n60m5-9	13,491,496	3600.09
n80m5-10	12,562,297	3600.07
n80m5-11	13,133,502	3600.06
n80m5-12	11,887,196	3600.09
n80m5-13	12,491,651	3600.12
n80m5-14	11,187,160	3600.07
n80m5-15	12,649,640	3600.09
n80m5-16	14,039,183	3600.06
n80m5-17	12,165,032	3600.10
n80m5-18	14,232,391	3600.07
n80m5-19	11,890,930	3600.10
n80m5-1	12,561,860	3600.08
n80m5-20	12,309,211	3600.06
n80m5-2	12,803,447	3600.08
n80m5-3	14,491,333	3600.08
n80m5-4	13,791,595	3600.06
n80m5-5	12,217,039	3600.10
n80m5-6	14,589,478	3600.07
n80m5-7	11,655,437	3600.08
n80m5-8	14,242,641	3600.04
n80m5-9	12,313,496	3600.08
n60m6-10	13,797,997	3600.04
n60m6-11	13,698,641	3600.08
n60m6-12	14,341,647	3600.07
n60m6-13	13,983,957	3600.06

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Name	#Nodes	Time
n60m6-14	11,975,737	3600.06
n60m6-15	13,858,074	3600.09
n60m6-16	14,736,590	3600.10
n60m6-17	12,653,565	3600.05
n60m6-18	13,164,722	3600.09
n60m6-19	14,968,145	3600.02
n60m6-1	12,655,134	3600.11
n60m6-20	14,391,414	3600.02
n60m6-2	15,136,461	3600.03
n60m6-3	14,539,678	3600.03
n60m6-4	14,477,614	3600.08
n60m6-5	13,694,091	3600.07
n60m6-6	14,212,751	3600.07
n60m6-7	12,700,229	3600.08
n60m6-8	13,353,064	3600.08
n60m6-9	15,076,864	3600.06
AM (# 120)	14,048,775.5	3540.10
GM (# 120)	11,778,705.6	3149.25
SGM (# 120)	11,900,475.3	3266.94





















TABLE 20. Margot1 testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
cov954	175	2.89	174	399	6	0.05
cov1053	5679	18.22	5678	3572	122	2.26
cov1054	20,127	428.77	20,126	893	5	0.64
cov1075	271	6.94	270	935	7	0.21
cov1076	497,414	1935.25	497,413	3617	451	20.52
cov1174	787,653	3600.00	787,652	70,890	6888	262.57
sts27-complemented	15	0.10	14	124	0	0.00
sts45-complemented	3141	1.84	3140	104	3	0.03
sts63-complemented	9767	7.17	9766	467	6	0.08
sts81-complemented	4688	10.56	4688	1063	36	4.93
cod83	19	4.26	18	855	0	0.03
cod83r	25	3.26	24	393	0	0.02
cod93	1607	59.44	1606	2930	31	3.80
cod93r	8206	99.14	8205	4042	41	3.42
cod105	7	148.95	6	2135	0	0.12
cod105r	3	29.99	2	461	0	0.06
AM (# 16)	83,674.8	397.30	83,673.9	5805.0	474.8	18.67
GM (# 16)	968.8	26.40		1135.6	11.2	2.33
SGM (# 16)	2038.5	45.14				4.34























TABLE 31. M2003-sym testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
glass4	5,291,157	3600.01	6,070,958	6384	0	75.86
mas74	3,400,730	823.57	3,401,704	13,519	0	38.11
mas76	446,102	97.93	446,412	0	0	3.12
misc07	4986	8.18	6232	1901	1	0.98
mkc	492,246	3600.00	492,245	2	0	13.04
mod011	1782	75.14	1781	0	0	0.11
msc98-ip	4367	3600.00	6819	0	0	0.90
mzzv11	1650	512.71	2337	0	0	0.11
net12	3311	1062.61	6412	0	0	0.68
noswot	1,034,000	290.92	0	0	0	0.30
nsrand-ipx	649,006	3600.00	649,007	24	0	52.87
p2756	7	1.34	3	0	0	0.01
protfold	37,969	3600.00	55,114	42	0	0.44
qiu	3815	27.43	3814	41	0	0.19
rout	41,195	46.50	0	0	0	0.01
seymour	76,877	3600.00	76,876	6	0	3.09
timtab1	885,790	524.62	924,316	0	0	6.95
timtab2	3,883,039	3600.01	4,182,753	0	0	43.76
AM (# 18)	903,223.8	1592.83	907,043.5	1217.7	0.1	13.36
GM (# 18)	51,371.2	395.16		8.7	1.0	3.49
SGM (# 18)	60,405.2	477.37				6.96





TABLE 33. M2010-sym testset: orbi-max-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	274.66	0	0	0	0	1	1	0	0.07
acc-tight4	1136	582.79	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	6.35	1	0	0	0	0	1	3	0.27
bab3	1	3607.56	0	0	0	0	3	3	0	46.46
bab5	32,675	3600.19	0	0	0	0	5	5	0	0.42
berlin_5_8_0	1,823,329	3600.01	0	0	0	0	1	1	0	0.00
biella1	5867	312.67	0	0	0	0	334	515	0	1.20
circ10-3	33	3600.56	1	0	0	0	0	1	1	0.86
co-100	6941	3600.28	0	0	0	0	2	2	0	1.40
core2536-691	215	110.87	0	0	0	0	9	11	0	1.65
core4872-1529	1137	3600.02	0	0	0	0	7	7	0	2.26
cov1075	308,873	1249.91	0	0	0	0	1	119	0	0.08
dc1c	4236	3600.11	0	0	0	0	915	1059	0	8.03
dc1l	770	3600.97	0	0	0	0	1187	1476	0	14.51
dolom1	1939	3600.06	0	0	0	0	1008	1150	0	9.99
enlight13	1	0.03	0	0	0	0	1	1	0	0.00
enlight14	1	0.04	0	0	0	0	1	1	0	0.01
enlight15	1	0.03	0	0	0	0	1	1	0	0.00
enlight16	1	0.03	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.01
ex10	1	1044.24	1	0	0	0	0	1	1	0.00
ex9	1	92.26	1	0	0	0	0	1	1	0.00
glass4	4,812,850	3600.03	0	0	0	0	1	1	0	0.00
go19	1,122,081	3600.00	0	0	0	0	1	3	0	0.01
lectsched-1	102,368	1168.86	0	0	0	0	129	188	0	0.29
lectsched-1-obj	65,138	3600.00	0	38	107	0	478	673	0	531.23
lectsched-2	378	49.38	0	0	0	0	78	111	0	0.12
lectsched-3	2137	108.82	0	0	0	0	120	189	0	0.27
lectsched-4-obj	10,054	126.52	0	6	14	0	81	112	0	0.94
macrophage	829,129	3600.00	0	2	8	0	167	183	0	1.05
map06	771	860.67	0	0	0	0	39	40	0	0.29
map10	1560	938.59	0	0	0	0	39	40	0	0.30
map14	819	733.78	0	0	0	0	39	40	0	0.29
map18	277	271.12	0	0	0	0	39	40	0	0.30
map20	471	358.22	0	0	0	0	39	40	0	0.30
maxgasflow	149,493	3600.00	0	1	2	0	2	4	0	0.02
mcsched	24,455	214.92	0	0	0	0	15	15	0	0.03
methanosarcina	63,347	3600.00	0	0	0	0	1500	1500	0	10.25
mkc	467,739	3600.00	0	14	33	0	52	122	0	2.13
msc98-ip	7080	1865.30	0	0	0	0	4	4	0	0.14
mzzv11	635	367.41	0	0	0	0	1	1	0	0.05
n3seq24	23,894	3600.03	0	1	3	0	28	31	0	28.71
n4-3	39,260	587.88	0	0	0	0	2	2	0	0.02
n9-3	61,846	3600.00	0	0	0	0	4	5	0	0.02
neos-1109824	17,262	200.03	1	0	0	0	0	1	1	0.10
neos-1171692	583	41.17	0	1	20	0	0	20	0	1.19
neos-1171737	63,708	3600.00	0	1	29	0	0	29	0	4.79
neos-1224597	1	2.67	1	0	0	0	20	181	1	0.74
neos-1311124	4,055,657	3600.01	0	1	20	0	0	20	0	0.46
neos-1337307	44,687	732.61	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	50,452	224.84	0	1	2	0	0	2	0	0.02
neos13	56,619	3600.00	0	0	0	0	1	1	0	0.60
neos-1426635	5,036,202	3600.03	0	1	9	0	0	9	0	0.03
neos-1426662	1,730,426	3600.00	0	1	15	0	0	15	0	0.15
neos-1429212	8015	3600.05	0	0	0	0	1	1	0	2.26
neos-1436709	1,605,244	3600.00	0	1	12	0	0	12	0	0.07
neos-1440460	2,276,353	3600.00	0	1	8	0	0	8	0	0.02
neos-1442119	1,429,832	3600.00	0	1	13	0	0	13	0	0.09
neos-1442657	1,423,856	3600.00	0	1	11	0	0	11	0	0.06
neos-1620770	622,762	3600.00	0	0	0	0	1	69	0	0.09
neos18	6382	65.36	0	0	0	0	19	55	0	0.05
neos-476283	1027	490.94	0	0	0	0	12	12	0	3.88
neos-555424	463,783	3600.00	0	0	0	0	2	68	0	9.59
neos-738098	5165	3600.02	0	0	0	0	1	35	0	0.59
neos-777800	60	23.18	1	0	0	0	0	1	1	1.02
neos-785912	105	16.14	0	0	0	0	1	14	0	0.09
neos788725	280,814	416.27	1	0	0	0	0	1	1	0.01
neos808444	282	1156.90	0	0	0	0	1	1	0	0.16
neos-820146	1,747,443	3600.00	1	0	0	0	0	1	1	0.07
neos-820157	1,204,731	3600.00	1	0	0	0	0	1	1	0.08
neos-824661	7	92.63	1	0	0	0	0	1	3780	24.76
neos-824695	2	22.13	1	0	0	0	0	1	2275	12.43
neos-826650	217,511	3600.00	0	0	0	0	1	31	0	31.40
neos-826694	1	15.63	0	1	89	0	0	89	0	4.43
neos-826812	1	12.45	0	1	89	0	0	89	0	4.36
neos-826841	341,298	3600.00	1	0	0	0	0	1	1	28.81
neos-849702	35,767	600.37	1	0	0	0	0	1	1	0.11
neos-859770	1	187.94	0	0	0	0	15	16	0	0.25
neos-885086	29,987	3600.01	0	1	44	0	0	44	0	47.41
neos-885524	110,897	3600.00	0	0	0	0	1236	1500	0	10.16
neos-911880	3,735,429	3600.01	0	7	17	0	0	17	0	0.03
neos-932816	77,176	3600.00	0	1	3	0	0	3	0	0.15
neos-933638	10	169.79	0	0	0	0	5	17	0	0.45
neos-933966	19	140.90	0	1	2	0	4	16	0	0.57
neos-934278	85	185.78	0	0	0	0	8	16	0	0.34
neos-935627	4	63.15	0	0	0	0	6	14	0	0.26
neos-935769	470	713.68	0	4	8	0	5	18	0	0.31
neos-937511	65	226.68	0	4	8	0	5	17	0	0.38
neos-937815	4659	3600.02	0	0	0	0	8	13	0	0.33
neos-941262	2208	3600.00	0	0	0	0	13	15	0	0.27
neos-941313	6	694.92	0	1	29	0	0	29	0	245.11
neos-948126	1930	3600.01	0	0	0	0	11	14	0	0.27
neos-957389	4	32.72	0	2	8	0	2	208	0	1.42
neos-984165	2241	3600.00	0	0	0	0	12	16	0	0.25
net12	3248	664.21	0	0	0	0	4	4	0	0.09
noswot	295,132	90.40	0	1	3	0	0	3	0	0.01
ns1111636	77	3600.02	0	1	39	0	0	39	0	502.58
ns1116954	7	3600.04	0	0	0	0	1	5	0	4.34
ns1158817	1	242.97	0	0	0	0	0	0	0	125.03
ns1208400	3037	445.07	0	0	0	0	1	2	0	0.12
ns1456591	25,770	3600.33	0	2	6	0	2	8	0	0.44
ns1702808	27,292	58.10	0	1	5	0	0	5	0	0.03
ns1758913	1	3600.15	0	0	0	0	1	1	0	1.07
ns1853823	1	3591.10	0	0	0	0	1	1	0	19.50

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TABLE 34. M2010 - sym testset: orbi-max-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	273.17	0	0	0	0	1	1	0	0.07
acc-tight4	1136	581.97	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	5.30	1	0	0	0	0	1	3	0.26
bab3	1	3616.59	0	0	0	0	3	3	0	46.50
bab5	32,661	3600.00	0	0	0	0	5	5	0	0.42
berlin_5_8_0	1,800,962	3600.01	0	0	0	0	1	1	0	0.00
biella1	5867	313.16	0	0	0	0	334	515	0	1.20
circ10-3	38	3600.01	1	0	0	0	0	1	1	0.86
co-100	6954	3600.12	0	0	0	0	2	2	0	1.40
core2536-691	215	111.14	0	0	0	0	9	11	0	1.65
core4872-1529	1154	3600.01	0	0	0	0	7	7	0	2.26
cov1075	308,873	1248.23	0	0	0	0	1	119	0	0.08
dc1c	4251	3600.13	0	0	0	0	915	1059	0	8.18
dc1l	770	3600.63	0	0	0	0	1187	1476	0	14.64
dolom1	1939	3600.05	0	0	0	0	1008	1150	0	9.91
enlight13	1	0.02	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.00
enlight15	1	0.03	0	0	0	0	1	1	0	0.00
enlight16	1	0.03	0	0	0	0	1	1	0	0.01
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1021.73	1	0	0	0	0	1	1	0.00
ex9	1	91.99	1	0	0	0	0	1	1	0.00
glass4	4,829,991	3600.03	0	0	0	0	1	1	0	0.00
go19	1,122,224	3600.01	0	0	0	0	1	3	0	0.01
lectsched-1	102,368	1168.72	0	0	0	0	129	188	0	0.28
lectsched-1-obj	87,706	3600.01	0	38	107	0	478	673	0	531.00
lectsched-2	378	49.60	0	0	0	0	78	111	0	0.13
lectsched-3	2137	108.16	0	0	0	0	120	189	0	0.28
lectsched-4-obj	2265	69.65	0	6	14	0	81	112	0	0.95
macrophage	648,873	3600.00	0	2	8	0	167	183	0	1.06
map06	771	861.63	0	0	0	0	39	40	0	0.30
map10	1560	934.46	0	0	0	0	39	40	0	0.31
map14	819	729.15	0	0	0	0	39	40	0	0.30
map18	277	268.07	0	0	0	0	39	40	0	0.30
map20	471	361.23	0	0	0	0	39	40	0	0.30
maxgasflow	219,960	3600.00	0	1	2	0	2	4	0	0.02
mcsched	24,455	216.01	0	0	0	0	15	15	0	0.04
methanosarcina	63,596	3600.01	0	0	0	0	1500	1500	0	10.44
mkc	515,347	3600.00	0	14	33	0	52	122	0	2.16
msc98-ip	7080	1859.28	0	0	0	0	4	4	0	0.14
mzzv11	635	367.82	0	0	0	0	1	1	0	0.05
n3seq24	28,511	3600.00	0	1	3	0	28	31	0	28.82
n4-3	39,260	588.27	0	0	0	0	2	2	0	0.01
n9-3	61,943	3600.00	0	0	0	0	4	5	0	0.04
neos-1109824	24,757	255.49	1	0	0	0	0	1	1	0.10
neos-1171692	2227	186.77	0	1	20	0	0	20	0	1.20
neos-1171737	18,774	3600.00	0	1	29	0	0	29	0	4.78
neos-1224597	1	2.65	1	0	0	0	20	181	1	0.72
neos-1311124	3,234,975	3600.00	0	1	20	0	0	20	0	0.46
neos-1337307	4206	173.72	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	41,618	193.05	0	1	2	0	0	2	0	0.01
neos13	56,066	3600.21	0	0	0	0	1	1	0	0.60
neos-1426635	3,774,978	3600.01	0	1	9	0	0	9	0	0.03
neos-1426662	844,101	3600.00	0	1	15	0	0	15	0	0.16
neos-1429212	8015	3600.03	0	0	0	0	1	1	0	2.25
neos-1436709	1,409,939	3600.00	0	1	12	0	0	12	0	0.08
neos-1440460	2,029,942	3600.00	0	1	8	0	0	8	0	0.03
neos-1442119	1,108,325	3600.00	0	1	13	0	0	13	0	0.09
neos-1442657	1,308,612	3600.01	0	1	11	0	0	11	0	0.05
neos-1620770	620,754	3600.00	0	0	0	0	1	69	0	0.08
neos18	6382	65.32	0	0	0	0	19	55	0	0.04
neos-476283	1027	489.91	0	0	0	0	12	12	0	3.84
neos-555424	462,657	3600.00	0	0	0	0	2	68	0	10.04
neos-738098	5306	3600.01	0	0	0	0	1	35	0	0.59
neos-777800	65	24.49	1	0	0	0	0	1	1	1.01
neos-785912	105	16.14	0	0	0	0	1	14	0	0.09
neos788725	197,636	358.05	1	0	0	0	0	1	1	0.00
neos808444	282	1159.54	0	0	0	0	1	1	0	0.14
neos-820146	1,600,661	3600.00	1	0	0	0	0	1	1	0.08
neos-820157	1,196,741	3600.00	1	0	0	0	0	1	1	0.08
neos-824661	1	54.02	1	0	0	0	0	1	3780	24.84
neos-824695	1	21.80	1	0	0	0	0	1	2275	12.43
neos-826650	217,800	3600.00	0	0	0	0	1	31	0	30.34
neos-826694	1	23.69	0	1	89	0	0	89	0	4.45
neos-826812	1	27.44	0	1	89	0	0	89	0	4.36
neos-826841	303,194	3600.01	1	0	0	0	0	1	1	28.75
neos-849702	523	42.23	1	0	0	0	0	1	1	0.12
neos-859770	1	188.53	0	0	0	0	15	16	0	0.24
neos-885086	1596	3600.01	0	1	44	0	0	44	0	48.71
neos-885524	110,887	3600.00	0	0	0	0	1236	1500	0	10.15
neos-911880	2,882,684	3600.00	0	7	17	0	0	17	0	0.02
neos-932816	42,459	3600.00	0	1	3	0	0	3	0	0.14
neos-933638	10	166.75	0	0	0	0	5	17	0	0.44
neos-933966	40	165.00	0	1	2	0	4	16	0	0.56
neos-934278	85	187.30	0	0	0	0	8	16	0	0.34
neos-935627	4	63.53	0	0	0	0	6	14	0	0.25
neos-935769	160	360.93	0	4	8	0	5	18	0	0.29
neos-937511	93	285.20	0	4	8	0	5	17	0	0.39
neos-937815	4544	3600.00	0	0	0	0	8	13	0	0.33
neos-941262	2207	3600.00	0	0	0	0	13	15	0	0.26
neos-941313	117	3600.05	0	1	29	0	0	29	0	245.40
neos-948126	1914	3600.01	0	0	0	0	11	14	0	0.27
neos-957389	3	33.41	0	2	8	0	2	208	0	1.40
neos-984165	2230	3600.01	0	0	0	0	12	16	0	0.24
net12	3248	663.96	0	0	0	0	4	4	0	0.09
noswot	250,633	89.52	0	1	3	0	0	3	0	0.01
ns1111636	1	3600.03	0	1	39	0	0	39	0	498.04
ns1116954	8	3600.01	0	0	0	0	1	5	0	4.38
ns1158817	1	242.55	0	0	0	0	0	0	0	124.30
ns1208400	3037	445.29	0	0	0	0	1	2	0	0.12
ns1456591	49,503	3600.00	0	2	6	0	2	8	0	0.43
ns1702808	32,933	77.85	0	1	5	0	0	5	0	0.03
ns1758913	1	3600.14	0	0	0	0	1	1	0	1.07
ns1853823	1	3591.20	0	0	0	0	1	1	0	19.29

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TABLE 35. M2010-sym testset: orbi-max-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	275.97	0	0	0	0	1	1	0	0.07
acc-tight4	1136	582.22	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	6.56	1	0	0	0	0	1	3	0.26
bab3	1	3610.17	0	0	0	0	3	3	0	46.46
bab5	32,687	3600.00	0	0	0	0	5	5	0	0.43
berlin_5_8_0	1,815,262	3600.01	0	0	0	0	1	1	0	0.01
biella1	5867	312.56	0	0	0	0	334	515	0	1.18
circ10-3	33	3600.29	1	0	0	0	0	1	1	0.86
co-100	6966	3602.07	0	0	0	0	2	2	0	1.40
core2536-691	215	111.05	0	0	0	0	9	11	0	1.65
core4872-1529	1138	3600.01	0	0	0	0	7	7	0	2.24
cov1075	308,873	1251.46	0	0	0	0	1	119	0	0.08
dc1c	4236	3600.07	0	0	0	0	915	1059	0	8.02
dc1l	770	3600.21	0	0	0	0	1187	1476	0	14.55
dolom1	1939	3600.28	0	0	0	0	1008	1150	0	10.00
enlight13	1	0.02	0	0	0	0	1	1	0	0.01
enlight14	1	0.03	0	0	0	0	1	1	0	0.01
enlight15	1	0.03	0	0	0	0	1	1	0	0.00
enlight16	1	0.02	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1022.31	1	0	0	0	0	1	1	0.00
ex9	1	91.97	1	0	0	0	0	1	1	0.00
glass4	4,819,500	3600.03	0	0	0	0	1	1	0	0.00
go19	1,123,747	3600.00	0	0	0	0	1	3	0	0.01
lectsched-1	102,368	1167.88	0	0	0	0	129	188	0	0.28
lectsched-1-obj	79,170	3600.00	0	38	107	0	478	673	0	530.99
lectsched-2	378	49.41	0	0	0	0	78	111	0	0.13
lectsched-3	2137	108.67	0	0	0	0	120	189	0	0.26
lectsched-4-obj	2265	69.74	0	6	14	0	81	112	0	0.97
macrophage	652,781	3600.00	0	2	8	0	167	183	0	1.06
map06	771	856.04	0	0	0	0	39	40	0	0.30
map10	1560	933.35	0	0	0	0	39	40	0	0.30
map14	819	730.56	0	0	0	0	39	40	0	0.29
map18	277	270.06	0	0	0	0	39	40	0	0.31
map20	471	354.24	0	0	0	0	39	40	0	0.31
maxgasflow	226,566	3600.00	0	1	2	0	2	4	0	0.03
mcsched	24,455	215.92	0	0	0	0	15	15	0	0.03
methanosarcina	63,947	3600.00	0	0	0	0	1500	1500	0	10.42
mkc	544,793	3600.00	0	14	33	0	52	122	0	2.14
msc98-ip	7080	1862.06	0	0	0	0	4	4	0	0.14
mzzv11	635	367.07	0	0	0	0	1	1	0	0.04
n3seq24	21,501	3600.01	0	1	3	0	28	31	0	28.75
n4-3	39,260	587.86	0	0	0	0	2	2	0	0.01
n9-3	61,958	3600.00	0	0	0	0	4	5	0	0.04
neos-1109824	17,262	200.56	1	0	0	0	0	1	1	0.10
neos-1171692	8809	453.15	0	1	20	0	0	20	0	1.17
neos-1171737	36,766	3600.04	0	1	29	0	0	29	0	4.84
neos-1224597	1	2.68	1	0	0	0	20	181	1	0.73
neos-1311124	3,543,641	3600.00	0	1	20	0	0	20	0	0.45
neos-1337307	2702	150.56	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	59,507	254.76	0	1	2	0	0	2	0	0.02
neos13	56,427	3600.00	0	0	0	0	1	1	0	0.60
neos-1426635	2,378,614	3600.01	0	1	9	0	0	9	0	0.03
neos-1426662	1,314,753	3600.01	0	1	15	0	0	15	0	0.15
neos-1429212	8007	3600.03	0	0	0	0	1	1	0	2.25
neos-1436709	1,395,188	3600.00	0	1	12	0	0	12	0	0.07
neos-1440460	2,130,085	3600.00	0	1	8	0	0	8	0	0.02
neos-1442119	1,112,352	3600.00	0	1	13	0	0	13	0	0.10
neos-1442657	1,273,454	3600.01	0	1	11	0	0	11	0	0.06
neos-1620770	622,772	3600.00	0	0	0	0	1	69	0	0.09
neos18	6382	65.46	0	0	0	0	19	55	0	0.05
neos-476283	1027	490.80	0	0	0	0	12	12	0	3.88
neos-555424	463,498	3600.00	0	0	0	0	2	68	0	9.85
neos-738098	4951	3600.00	0	0	0	0	1	35	0	0.58
neos-777800	60	23.06	1	0	0	0	0	1	1	1.01
neos-785912	105	16.10	0	0	0	0	1	14	0	0.08
neos788725	280,814	417.22	1	0	0	0	0	1	1	0.01
neos808444	282	1158.03	0	0	0	0	1	1	0	0.15
neos-820146	1,775,013	3600.00	1	0	0	0	0	1	1	0.07
neos-820157	1,196,952	3600.00	1	0	0	0	0	1	1	0.08
neos-824661	1	61.60	1	0	0	0	0	1	3780	24.77
neos-824695	1	21.86	1	0	0	0	0	1	2275	12.45
neos-826650	217,550	3600.01	0	0	0	0	1	31	0	30.76
neos-826694	202	901.14	0	1	89	0	0	89	0	4.43
neos-826812	1	25.79	0	1	89	0	0	89	0	4.37
neos-826841	343,058	3600.00	1	0	0	0	0	1	1	29.27
neos-849702	35,767	601.74	1	0	0	0	0	1	1	0.12
neos-859770	1	189.39	0	0	0	0	15	16	0	0.24
neos-885086	472	3599.99	0	1	44	0	0	44	0	48.00
neos-885524	110,864	3600.00	0	0	0	0	1236	1500	0	10.16
neos-911880	2,821,370	3600.00	0	7	17	0	0	17	0	0.02
neos-932816	52,734	3600.00	0	1	3	0	0	3	0	0.15
neos-933638	10	178.23	0	0	0	0	5	17	0	0.45
neos-933966	40	160.12	0	1	2	0	4	16	0	0.55
neos-934278	85	189.17	0	0	0	0	8	16	0	0.33
neos-935627	4	63.98	0	0	0	0	6	14	0	0.26
neos-935769	643	1204.91	0	4	8	0	5	18	0	0.29
neos-937511	165	565.27	0	4	8	0	5	17	0	0.39
neos-937815	4659	3600.01	0	0	0	0	8	13	0	0.32
neos-941262	2215	3600.00	0	0	0	0	13	15	0	0.27
neos-941313	113	3600.04	0	1	29	0	0	29	0	245.23
neos-948126	1938	3600.00	0	0	0	0	11	14	0	0.27
neos-957389	3	33.36	0	2	8	0	2	208	0	1.41
neos-984165	2251	3600.00	0	0	0	0	12	16	0	0.24
net12	3248	664.17	0	0	0	0	4	4	0	0.10
noswot	435,735	153.57	0	1	3	0	0	3	0	0.01
ns1111636	1	3600.03	0	1	39	0	0	39	0	492.43
ns1116954	7	3600.03	0	0	0	0	1	5	0	4.34
ns1158817	1	242.48	0	0	0	0	0	0	0	124.68
ns1208400	3037	445.06	0	0	0	0	1	2	0	0.12
ns1456591	71,478	3600.00	0	2	6	0	2	8	0	0.43
ns1702808	27,939	60.03	0	1	5	0	0	5	0	0.02
ns1758913	1	3600.14	0	0	0	0	1	1	0	1.06
ns1853823	1	3590.98	0	0	0	0	1	1	0	19.26

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TABLE 36. M2010-sym testset: orbi-min-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	279.21	0	0	0	0	1	1	0	0.07
acc-tight4	1136	583.91	0	0	0	0	1	19	0	0.04
ash608gpia-3col	1	6.34	1	0	0	0	0	1	3	0.26
bab3	1	3611.89	0	0	0	0	3	3	0	46.48
bab5	32,650	3600.03	0	0	0	0	5	5	0	0.42
berlin_5_8_0	1,815,118	3600.01	0	0	0	0	1	1	0	0.01
biella1	5867	312.68	0	0	0	0	334	515	0	1.18
circ10-3	33	3600.74	1	0	0	0	0	1	1	0.85
co-100	6961	3600.24	0	0	0	0	2	2	0	1.39
core2536-691	215	111.23	0	0	0	0	9	11	0	1.64
core4872-1529	1169	3600.01	0	0	0	0	7	7	0	2.26
cov1075	308,873	1253.04	0	0	0	0	1	119	0	0.08
dc1c	4236	3600.07	0	0	0	0	915	1059	0	8.13
dc1l	770	3600.87	0	0	0	0	1187	1476	0	14.61
dolom1	1939	3600.05	0	0	0	0	1008	1150	0	9.85
enlight13	1	0.02	0	0	0	0	1	1	0	0.00
enlight14	1	0.02	0	0	0	0	1	1	0	0.00
enlight15	1	0.02	0	0	0	0	1	1	0	0.00
enlight16	1	0.04	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1017.70	0	0	0	0	1	7	0	0.01
ex9	1	91.36	0	0	0	0	1	7	0	0.01
glass4	4,844,116	3600.03	0	0	0	0	1	1	0	0.00
go19	1,122,373	3600.00	0	0	0	0	1	3	0	0.00
lectsched-1	102,368	1166.27	0	0	0	0	129	188	0	0.29
lectsched-1-obj	64,848	3600.00	0	38	107	0	478	673	0	530.12
lectsched-2	378	49.58	0	0	0	0	78	111	0	0.13
lectsched-3	2137	109.32	0	0	0	0	120	189	0	0.26
lectsched-4-obj	10,054	125.08	0	6	14	0	81	112	0	0.96
macrophage	824,706	3600.00	0	2	8	0	167	183	0	1.04
map06	771	859.86	0	0	0	0	39	40	0	0.30
map10	1560	934.90	0	0	0	0	39	40	0	0.30
map14	819	728.47	0	0	0	0	39	40	0	0.30
map18	277	267.70	0	0	0	0	39	40	0	0.30
map20	471	355.02	0	0	0	0	39	40	0	0.29
maxgasflow	149,210	3600.00	0	1	2	0	2	4	0	0.02
mcsched	24,455	215.40	0	0	0	0	15	15	0	0.03
methanosarcina	63,393	3600.01	0	0	0	0	1500	1500	0	10.27
mkc	467,598	3600.00	0	14	33	0	52	122	0	2.15
msc98-ip	7080	1861.83	0	0	0	0	4	4	0	0.14
mzzv11	635	367.43	0	0	0	0	1	1	0	0.05
n3seq24	23,912	3600.00	0	1	3	0	28	31	0	28.69
n4-3	39,260	589.91	0	0	0	0	2	2	0	0.01
n9-3	61,821	3600.00	0	0	0	0	4	5	0	0.03
neos-1109824	21,761	221.20	1	0	0	0	0	1	1	0.08
neos-1171692	583	41.20	0	1	20	0	0	20	0	1.17
neos-1171737	63,810	3600.00	0	1	29	0	0	29	0	4.70
neos-1224597	1	4.37	0	0	0	0	21	181	0	0.70
neos-1311124	4,017,284	3600.00	0	1	20	0	0	20	0	0.46
neos-1337307	44,687	734.89	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	50,452	224.86	0	1	2	0	0	2	0	0.01
neos13	56,263	3600.13	0	0	0	0	1	1	0	0.60
neos-1426635	5,012,257	3600.03	0	1	9	0	0	9	0	0.03
neos-1426662	1,744,998	3600.00	0	1	15	0	0	15	0	0.16
neos-1429212	8004	3600.28	0	0	0	0	1	1	0	2.24
neos-1436709	1,597,919	3600.00	0	1	12	0	0	12	0	0.07
neos-1440460	2,280,357	3600.00	0	1	8	0	0	8	0	0.02
neos-1442119	1,422,240	3600.00	0	1	13	0	0	13	0	0.09
neos-1442657	1,430,263	3600.01	0	1	11	0	0	11	0	0.06
neos-1620770	620,903	3600.00	0	0	0	0	1	69	0	0.08
neos18	6382	65.40	0	0	0	0	19	55	0	0.04
neos-476283	1027	490.32	0	0	0	0	12	12	0	3.88
neos-555424	462,467	3600.00	0	0	0	0	2	68	0	9.80
neos-738098	4761	3600.01	0	0	0	0	1	35	0	0.58
neos-777800	61	28.40	1	0	0	0	0	1	1	4.38
neos-785912	105	16.14	0	0	0	0	1	14	0	0.08
neos788725	146,932	289.65	1	0	0	0	0	1	1	0.01
neos808444	282	1161.11	0	0	0	0	1	1	0	0.16
neos-820146	1,562,771	3600.00	1	0	0	0	0	1	1	0.07
neos-820157	1,112,506	3600.00	1	0	0	0	0	1	1	0.09
neos-824661	7	92.85	1	0	0	0	0	1	3780	24.80
neos-824695	2	22.13	1	0	0	0	0	1	2275	12.43
neos-826650	218,100	3600.01	0	0	0	0	1	31	0	31.30
neos-826694	1	15.62	0	1	89	0	0	89	0	4.42
neos-826812	1	12.41	0	1	89	0	0	89	0	4.35
neos-826841	349,405	3600.00	1	0	0	0	0	1	1	29.46
neos-849702	13,437	206.07	1	0	0	0	0	1	1	0.12
neos-859770	1	189.80	0	0	0	0	15	16	0	0.25
neos-885086	29,743	3600.00	0	1	44	0	0	44	0	47.85
neos-885524	110,848	3600.00	0	0	0	0	1236	1500	0	10.11
neos-911880	3,753,662	3600.00	0	7	17	0	0	17	0	0.02
neos-932816	76,964	3600.01	0	1	3	0	0	3	0	0.15
neos-933638	10	165.54	0	0	0	0	5	17	0	0.45
neos-933966	19	139.76	0	1	2	0	4	16	0	0.55
neos-934278	85	187.62	0	0	0	0	8	16	0	0.34
neos-935627	4	62.62	0	0	0	0	6	14	0	0.26
neos-935769	470	708.36	0	4	8	0	5	18	0	0.30
neos-937511	65	229.12	0	4	8	0	5	17	0	0.39
neos-937815	4676	3600.00	0	0	0	0	8	13	0	0.33
neos-941262	2220	3600.00	0	0	0	0	13	15	0	0.26
neos-941313	6	699.62	0	1	29	0	0	29	0	249.26
neos-948126	1918	3600.00	0	0	0	0	11	14	0	0.27
neos-957389	4	32.77	0	2	8	0	2	208	0	1.43
neos-984165	2248	3600.01	0	0	0	0	12	16	0	0.24
net12	3248	665.62	0	0	0	0	4	4	0	0.09
noswot	295,132	91.19	0	1	3	0	0	3	0	0.00
ns1111636	75	3600.01	0	1	39	0	0	39	0	508.09
ns1116954	7	3599.99	0	0	0	0	1	5	0	4.36
ns1158817	1	242.68	0	0	0	0	0	0	0	124.62
ns1208400	3037	445.22	0	0	0	0	1	2	0	0.13
ns1456591	25,762	3600.00	0	2	6	0	2	8	0	0.44
ns1702808	27,292	57.89	0	1	5	0	0	5	0	0.03
ns1758913	1	3600.17	0	0	0	0	1	1	0	1.09
ns1853823	1	3591.05	0	0	0	0	1	1	0	19.44

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TABLE 37. M2010 - sym testset: orbi-min-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	270.75	0	0	0	0	1	1	0	0.06
acc-tight4	1136	582.29	0	0	0	0	1	19	0	0.04
ash608gpia-3col	1	5.30	1	0	0	0	0	1	3	0.26
bab3	1	3608.35	0	0	0	0	3	3	0	46.47
bab5	32,661	3600.00	0	0	0	0	5	5	0	0.42
berlin_5_8_0	1,799,225	3600.01	0	0	0	0	1	1	0	0.01
biella1	5867	312.43	0	0	0	0	334	515	0	1.17
circ10-3	38	3600.01	1	0	0	0	0	1	1	0.86
co-100	6966	3600.38	0	0	0	0	2	2	0	1.40
core2536-691	215	111.04	0	0	0	0	9	11	0	1.65
core4872-1529	1154	3600.00	0	0	0	0	7	7	0	2.25
cov1075	308,873	1249.76	0	0	0	0	1	119	0	0.08
dc1c	4235	3600.00	0	0	0	0	915	1059	0	8.11
dc1l	770	3600.57	0	0	0	0	1187	1476	0	14.52
dolom1	1939	3600.05	0	0	0	0	1008	1150	0	9.97
enlight13	1	0.02	0	0	0	0	1	1	0	0.01
enlight14	1	0.02	0	0	0	0	1	1	0	0.00
enlight15	1	0.03	0	0	0	0	1	1	0	0.00
enlight16	1	0.04	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1020.15	0	0	0	0	1	7	0	0.01
ex9	1	91.88	0	0	0	0	1	7	0	0.01
glass4	4,828,096	3600.03	0	0	0	0	1	1	0	0.01
go19	1,123,383	3600.00	0	0	0	0	1	3	0	0.01
lectsched-1	102,368	1170.34	0	0	0	0	129	188	0	0.29
lectsched-1-obj	87,870	3600.01	0	38	107	0	478	673	0	530.89
lectsched-2	378	49.75	0	0	0	0	78	111	0	0.14
lectsched-3	2137	108.24	0	0	0	0	120	189	0	0.26
lectsched-4-obj	2265	69.81	0	6	14	0	81	112	0	0.96
macrophage	646,817	3600.00	0	2	8	0	167	183	0	1.05
map06	771	859.35	0	0	0	0	39	40	0	0.30
map10	1560	934.54	0	0	0	0	39	40	0	0.30
map14	819	728.31	0	0	0	0	39	40	0	0.31
map18	277	269.22	0	0	0	0	39	40	0	0.30
map20	471	365.51	0	0	0	0	39	40	0	0.30
maxgasflow	219,836	3600.00	0	1	2	0	2	4	0	0.02
mcsched	24,455	215.65	0	0	0	0	15	15	0	0.03
methanosarcina	63,690	3600.00	0	0	0	0	1500	1500	0	10.48
mkc	513,397	3600.00	0	14	33	0	52	122	0	2.12
msc98-ip	7080	1865.23	0	0	0	0	4	4	0	0.14
mzzv11	635	366.85	0	0	0	0	1	1	0	0.05
n3seq24	28,452	3600.00	0	1	3	0	28	31	0	28.68
n4-3	39,260	587.43	0	0	0	0	2	2	0	0.01
n9-3	61,914	3600.00	0	0	0	0	4	5	0	0.04
neos-1109824	13,626	168.37	1	0	0	0	0	1	1	0.09
neos-1171692	2227	186.88	0	1	20	0	0	20	0	1.18
neos-1171737	18,804	3600.00	0	1	29	0	0	29	0	4.76
neos-1224597	1	4.39	0	0	0	0	21	181	0	0.69
neos-1311124	3,247,255	3600.00	0	1	20	0	0	20	0	0.48
neos-1337307	4206	173.95	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	41,618	192.18	0	1	2	0	0	2	0	0.02
neos13	56,213	3600.01	0	0	0	0	1	1	0	0.58
neos-1426635	3,780,516	3600.01	0	1	9	0	0	9	0	0.02
neos-1426662	848,322	3600.00	0	1	15	0	0	15	0	0.15
neos-1429212	8010	3600.02	0	0	0	0	1	1	0	2.26
neos-1436709	1,406,778	3600.00	0	1	12	0	0	12	0	0.07
neos-1440460	2,032,891	3600.00	0	1	8	0	0	8	0	0.02
neos-1442119	1,103,422	3600.00	0	1	13	0	0	13	0	0.09
neos-1442657	1,310,039	3600.09	0	1	11	0	0	11	0	0.06
neos-1620770	617,829	3600.00	0	0	0	0	1	69	0	0.08
neos18	6382	65.41	0	0	0	0	19	55	0	0.04
neos-476283	1027	489.25	0	0	0	0	12	12	0	3.88
neos-555424	464,288	3600.00	0	0	0	0	2	68	0	10.00
neos-738098	5167	3600.01	0	0	0	0	1	35	0	0.58
neos-777800	67	27.86	1	0	0	0	0	1	1	4.38
neos-785912	105	16.15	0	0	0	0	1	14	0	0.08
neos788725	76,225	177.64	1	0	0	0	0	1	1	0.01
neos808444	282	1158.58	0	0	0	0	1	1	0	0.15
neos-820146	1,537,230	3600.00	1	0	0	0	0	1	1	0.07
neos-820157	1,166,521	3600.00	1	0	0	0	0	1	1	0.08
neos-824661	1	54.18	1	0	0	0	0	1	3780	24.80
neos-824695	1	21.76	1	0	0	0	0	1	2275	12.43
neos-826650	217,511	3600.00	0	0	0	0	1	31	0	31.15
neos-826694	1	23.86	0	1	89	0	0	89	0	4.42
neos-826812	1	27.50	0	1	89	0	0	89	0	4.34
neos-826841	333,908	3600.01	1	0	0	0	0	1	1	29.61
neos-849702	8827	230.13	1	0	0	0	0	1	1	0.12
neos-859770	1	188.71	0	0	0	0	15	16	0	0.25
neos-885086	1600	3600.00	0	1	44	0	0	44	0	47.25
neos-885524	110,955	3600.00	0	0	0	0	1236	1500	0	10.13
neos-911880	2,873,803	3600.00	0	7	17	0	0	17	0	0.02
neos-932816	42,533	3600.02	0	1	3	0	0	3	0	0.15
neos-933638	10	162.45	0	0	0	0	5	17	0	0.45
neos-933966	40	163.60	0	1	2	0	4	16	0	0.55
neos-934278	85	185.90	0	0	0	0	8	16	0	0.33
neos-935627	4	63.97	0	0	0	0	6	14	0	0.24
neos-935769	160	362.92	0	4	8	0	5	18	0	0.29
neos-937511	93	288.64	0	4	8	0	5	17	0	0.40
neos-937815	4676	3600.00	0	0	0	0	8	13	0	0.33
neos-941262	2211	3600.00	0	0	0	0	13	15	0	0.27
neos-941313	117	3600.03	0	1	29	0	0	29	0	243.11
neos-948126	1936	3600.02	0	0	0	0	11	14	0	0.28
neos-957389	3	33.35	0	2	8	0	2	208	0	1.42
neos-984165	2234	3600.01	0	0	0	0	12	16	0	0.24
net12	3248	664.03	0	0	0	0	4	4	0	0.09
noswot	250,633	89.20	0	1	3	0	0	3	0	0.00
ns1111636	1	3600.03	0	1	39	0	0	39	0	508.18
ns1116954	8	3600.02	0	0	0	0	1	5	0	4.36
ns1158817	1	242.69	0	0	0	0	0	0	0	125.01
ns1208400	3037	446.34	0	0	0	0	1	2	0	0.12
ns1456591	49,521	3600.04	0	2	6	0	2	8	0	0.44
ns1702808	32,933	77.80	0	1	5	0	0	5	0	0.02
ns1758913	1	3600.18	0	0	0	0	1	1	0	1.08
ns1853823	1	3590.88	0	0	0	0	1	1	0	19.41

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TABLE 38. M2010-sym testset: orbi-min-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	270.14	0	0	0	0	1	1	0	0.07
acc-tight4	1136	581.82	0	0	0	0	1	19	0	0.04
ash608gpia-3col	1	6.60	1	0	0	0	0	1	3	0.27
bab3	1	3617.25	0	0	0	0	3	3	0	46.53
bab5	32,645	3600.00	0	0	0	0	5	5	0	0.43
berlin_5_8_0	1,794,594	3600.01	0	0	0	0	1	1	0	0.01
biella1	5867	312.83	0	0	0	0	334	515	0	1.19
circ10-3	33	3600.07	1	0	0	0	0	1	1	0.85
co-100	6968	3602.70	0	0	0	0	2	2	0	1.39
core2536-691	215	111.05	0	0	0	0	9	11	0	1.65
core4872-1529	1177	3600.00	0	0	0	0	7	7	0	2.25
cov1075	308,873	1256.90	0	0	0	0	1	119	0	0.08
dc1c	4255	3600.91	0	0	0	0	915	1059	0	8.07
dc1l	770	3600.95	0	0	0	0	1187	1476	0	14.54
dolom1	1939	3600.05	0	0	0	0	1008	1150	0	9.96
enlight13	1	0.02	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.00
enlight15	1	0.03	0	0	0	0	1	1	0	0.00
enlight16	1	0.03	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1024.94	0	0	0	0	1	7	0	0.00
ex9	1	91.47	0	0	0	0	1	7	0	0.01
glass4	4,836,879	3600.03	0	0	0	0	1	1	0	0.00
go19	1,118,559	3600.01	0	0	0	0	1	3	0	0.01
lectsched-1	102,368	1167.80	0	0	0	0	129	188	0	0.28
lectsched-1-obj	79,087	3600.00	0	38	107	0	478	673	0	531.07
lectsched-2	378	49.60	0	0	0	0	78	111	0	0.13
lectsched-3	2137	108.71	0	0	0	0	120	189	0	0.27
lectsched-4-obj	2265	69.63	0	6	14	0	81	112	0	0.95
macrophage	650,465	3600.00	0	2	8	0	167	183	0	1.03
map06	771	861.72	0	0	0	0	39	40	0	0.30
map10	1560	936.54	0	0	0	0	39	40	0	0.30
map14	819	731.06	0	0	0	0	39	40	0	0.30
map18	277	267.85	0	0	0	0	39	40	0	0.31
map20	471	355.71	0	0	0	0	39	40	0	0.30
maxgasflow	226,898	3600.00	0	1	2	0	2	4	0	0.03
mcsched	24,455	216.03	0	0	0	0	15	15	0	0.03
methanosarcina	63,606	3600.02	0	0	0	0	1500	1500	0	10.31
mkc	545,605	3600.00	0	14	33	0	52	122	0	2.15
msc98-ip	7080	1878.15	0	0	0	0	4	4	0	0.14
mzzv11	635	367.28	0	0	0	0	1	1	0	0.04
n3seq24	21,460	3600.00	0	1	3	0	28	31	0	28.73
n4-3	39,260	588.05	0	0	0	0	2	2	0	0.02
n9-3	61,907	3600.00	0	0	0	0	4	5	0	0.04
neos-1109824	21,761	221.23	1	0	0	0	0	1	1	0.09
neos-1171692	8809	453.08	0	1	20	0	0	20	0	1.16
neos-1171737	36,766	3600.03	0	1	29	0	0	29	0	4.76
neos-1224597	1	4.36	0	0	0	0	21	181	0	0.70
neos-1311124	3,545,298	3600.00	0	1	20	0	0	20	0	0.46
neos-1337307	2702	150.18	0	1	6	0	0	6	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	59,507	255.07	0	1	2	0	0	2	0	0.02
neos13	56,331	3600.01	0	0	0	0	1	1	0	0.60
neos-1426635	2,380,988	3600.01	0	1	9	0	0	9	0	0.02
neos-1426662	1,314,203	3600.00	0	1	15	0	0	15	0	0.14
neos-1429212	8009	3600.03	0	0	0	0	1	1	0	2.25
neos-1436709	1,396,780	3600.01	0	1	12	0	0	12	0	0.08
neos-1440460	2,132,015	3600.00	0	1	8	0	0	8	0	0.02
neos-1442119	1,110,902	3600.00	0	1	13	0	0	13	0	0.09
neos-1442657	1,272,072	3600.18	0	1	11	0	0	11	0	0.06
neos-1620770	620,906	3600.00	0	0	0	0	1	69	0	0.08
neos18	6382	65.37	0	0	0	0	19	55	0	0.04
neos-476283	1027	490.02	0	0	0	0	12	12	0	3.90
neos-555424	464,490	3600.00	0	0	0	0	2	68	0	9.85
neos-738098	5446	3600.00	0	0	0	0	1	35	0	0.57
neos-777800	61	28.34	1	0	0	0	0	1	1	4.37
neos-785912	105	16.16	0	0	0	0	1	14	0	0.08
neos788725	146,932	291.28	1	0	0	0	0	1	1	0.01
neos808444	282	1161.78	0	0	0	0	1	1	0	0.15
neos-820146	1,570,748	3600.00	1	0	0	0	0	1	1	0.08
neos-820157	1,108,168	3600.00	1	0	0	0	0	1	1	0.08
neos-824661	1	62.14	1	0	0	0	0	1	3780	25.00
neos-824695	1	21.86	1	0	0	0	0	1	2275	12.48
neos-826650	217,511	3600.00	0	0	0	0	1	31	0	30.59
neos-826694	202	899.72	0	1	89	0	0	89	0	4.43
neos-826812	1	26.08	0	1	89	0	0	89	0	4.38
neos-826841	348,835	3600.00	1	0	0	0	0	1	1	29.16
neos-849702	13,437	205.89	1	0	0	0	0	1	1	0.11
neos-859770	1	189.32	0	0	0	0	15	16	0	0.25
neos-885086	462	3600.01	0	1	44	0	0	44	0	48.32
neos-885524	110,887	3600.00	0	0	0	0	1236	1500	0	10.21
neos-911880	2,822,994	3600.00	0	7	17	0	0	17	0	0.02
neos-932816	52,757	3600.01	0	1	3	0	0	3	0	0.15
neos-933638	10	169.88	0	0	0	0	5	17	0	0.43
neos-933966	40	160.14	0	1	2	0	4	16	0	0.56
neos-934278	85	186.64	0	0	0	0	8	16	0	0.34
neos-935627	4	62.85	0	0	0	0	6	14	0	0.25
neos-935769	643	1207.83	0	4	8	0	5	18	0	0.29
neos-937511	165	562.83	0	4	8	0	5	17	0	0.39
neos-937815	4676	3600.00	0	0	0	0	8	13	0	0.33
neos-941262	2195	3600.00	0	0	0	0	13	15	0	0.27
neos-941313	108	3600.22	0	1	29	0	0	29	0	318.77
neos-948126	1812	3600.00	0	0	0	0	11	14	0	0.28
neos-957389	3	33.12	0	2	8	0	2	208	0	1.42
neos-984165	2233	3600.01	0	0	0	0	12	16	0	0.24
net12	3248	663.83	0	0	0	0	4	4	0	0.10
noswot	435,735	152.48	0	1	3	0	0	3	0	0.00
ns1111636	1	3600.03	0	1	39	0	0	39	0	533.88
ns1116954	7	3599.98	0	0	0	0	1	5	0	4.36
ns1158817	1	242.25	0	0	0	0	0	0	0	124.28
ns1208400	3037	446.43	0	0	0	0	1	2	0	0.12
ns1456591	71,433	3599.99	0	2	6	0	2	8	0	0.45
ns1702808	27,939	60.71	0	1	5	0	0	5	0	0.03
ns1758913	1	3600.15	0	0	0	0	1	1	0	1.08
ns1853823	1	3591.10	0	0	0	0	1	1	0	19.41

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TABLE 39. M2010-sym testset: symre-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	402	766.69	0	0	0	0	2	2	0	0.07
acc-tight4	1136	582.68	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	6.35	1	0	0	0	1	3	3	0.27
bab3	6	3600.04	0	0	0	0	6	6	0	46.47
bab5	32,600	3600.01	0	0	0	0	10	10	0	0.42
berlin_5_8_0	1,792,501	3600.01	0	0	0	0	2	2	0	0.00
biella1	5867	313.69	0	0	0	0	668	1030	0	1.44
circ10-3	43	3599.98	0	0	0	2	1	11	0	0.41
co-100	8950	3600.16	0	0	0	0	4	4	0	1.38
core2536-691	215	111.18	0	0	0	0	17	19	0	1.65
core4872-1529	1177	3600.01	0	0	0	0	14	14	0	2.26
cov1075	44,117	200.98	0	0	0	9	1	128	0	0.08
dc1c	4236	3600.07	0	0	0	0	1830	2118	0	8.63
dc1l	770	3600.61	0	0	0	0	2374	2952	0	15.31
dolom1	1933	3600.23	0	0	0	0	2016	2300	0	10.54
enlight13	1	0.02	0	0	0	0	2	2	0	0.00
enlight14	1	0.01	0	0	0	0	2	2	0	0.00
enlight15	1	0.03	0	0	0	0	2	2	0	0.00
enlight16	1	0.04	0	0	0	0	2	2	0	0.01
enlight9	1	0.02	0	0	0	0	2	2	0	0.00
ex10	1	1015.76	0	0	0	7	1	14	0	0.00
ex9	1	91.80	0	0	0	7	1	14	0	0.01
glass4	4,834,781	3600.03	0	0	0	0	2	2	0	0.00
go19	1,121,878	3600.00	0	0	0	0	1	3	0	0.01
lectsched-1	1990	141.78	0	0	0	0	258	376	0	0.38
lectsched-1-obj	82,457	3600.00	0	38	107	0	994	1346	0	530.80
lectsched-2	313	52.76	0	0	0	0	156	222	0	0.18
lectsched-3	1285	104.52	0	0	0	0	240	378	0	0.35
lectsched-4-obj	1835	55.46	0	6	14	0	168	224	0	1.00
macrophage	745,931	3600.00	0	2	8	0	335	359	0	1.14
map06	630	858.68	0	0	0	0	78	80	0	0.39
map10	1798	1010.84	0	0	0	0	78	80	0	0.41
map14	1578	768.15	0	0	0	0	78	80	0	0.42
map18	249	253.28	0	0	0	0	78	80	0	0.41
map20	374	259.28	0	0	0	0	78	80	0	0.41
maxgasflow	160,977	3600.00	0	1	2	0	5	8	0	0.03
mcsched	24,455	215.74	0	0	0	0	30	30	0	0.03
methanosarcina	63,723	3600.00	0	0	0	0	3000	3000	0	11.18
mkc	453,883	3600.00	0	14	33	0	113	231	0	2.22
msc98-ip	14,170	1858.18	0	0	0	0	8	8	0	0.14
mzzv11	938	358.16	0	0	0	0	2	2	0	0.04
n3seq24	27,269	3600.01	0	1	3	0	57	62	0	28.69
n4-3	35,934	525.67	0	0	0	0	4	4	0	0.01
n9-3	61,863	3600.00	0	0	0	0	8	10	0	0.03
neos-1109824	17,737	257.52	0	0	0	4	1	7	0	0.08
neos-1171692	201	33.75	0	1	20	0	1	40	0	1.18
neos-1171737	88,751	3600.01	0	1	29	0	1	58	0	4.97
neos-1224597	1	3.74	0	0	0	52	41	413	0	0.79
neos-1311124	4,045,896	3600.01	0	1	20	0	1	40	0	0.48
neos-1337307	8501	230.50	0	1	6	0	1	12	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	43,335	175.00	0	1	2	0	1	4	0	0.02
neos13	56,528	3600.00	0	0	0	0	2	2	0	0.62
neos-1426635	5,037,992	3600.04	0	1	9	0	1	18	0	0.02
neos-1426662	1,734,802	3600.01	0	1	15	0	1	30	0	0.16
neos-1429212	8004	3600.16	0	0	0	0	2	2	0	2.25
neos-1436709	1,609,570	3600.01	0	1	12	0	1	24	0	0.08
neos-1440460	2,756,700	3600.00	0	1	8	0	1	16	0	0.02
neos-1442119	1,393,491	3600.00	0	1	13	0	1	26	0	0.09
neos-1442657	1,434,651	3600.01	0	1	11	0	1	22	0	0.05
neos-1620770	621,621	3600.00	0	0	0	0	1	69	0	0.09
neos18	6382	65.28	0	0	0	0	38	110	0	0.07
neos-476283	1027	490.65	0	0	0	0	24	24	0	3.89
neos-555424	464,121	3600.00	0	0	0	0	2	68	0	9.89
neos-738098	4624	3600.01	0	0	0	0	1	35	0	0.59
neos-777800	62	22.72	0	0	0	2	1	9	0	0.07
neos-785912	105	16.13	0	0	0	0	1	14	0	0.08
neos788725	169,449	305.74	0	0	0	2	1	3	0	0.00
neos808444	402	1358.00	0	0	0	0	2	2	0	0.15
neos-820146	1,263,267	3600.00	0	0	0	23	1	247	0	0.18
neos-820157	1,060,713	3600.00	0	0	0	22	1	161	0	0.14
neos-824661	7	93.63	1	0	0	0	1	170	3780	25.20
neos-824695	2	22.34	1	0	0	0	1	170	2275	12.62
neos-826650	217,912	3600.01	0	0	0	0	1	31	0	31.02
neos-826694	1	18.08	0	1	89	0	1	178	0	4.47
neos-826812	1	10.49	0	1	89	0	1	178	0	4.40
neos-826841	350,933	3600.00	0	0	0	32	1	95	0	29.11
neos-849702	46,139	946.81	0	0	0	7	1	12	0	0.04
neos-859770	1	188.38	0	0	0	0	29	30	0	0.26
neos-885086	27,880	3600.01	0	1	44	0	1	88	0	47.90
neos-885524	110,848	3600.00	0	0	0	0	2472	3000	0	10.97
neos-911880	3,390,342	3600.00	0	7	17	0	7	34	0	0.04
neos-932816	51,130	3600.00	0	1	3	0	1	6	0	0.14
neos-933638	26	185.10	0	0	0	0	6	18	0	0.41
neos-933966	26	147.74	0	1	2	0	6	19	0	0.55
neos-934278	179	233.47	0	0	0	0	11	19	0	0.33
neos-935627	41	187.19	0	0	0	0	7	15	0	0.26
neos-935769	232	277.48	0	4	8	0	9	26	0	0.30
neos-937511	51	227.78	0	4	8	0	9	25	0	0.38
neos-937815	2779	3600.01	0	0	0	0	11	16	0	0.32
neos-941262	1880	3600.00	0	0	0	0	22	24	0	0.28
neos-941313	11	700.46	0	1	29	0	1	58	0	247.82
neos-948126	2487	3600.01	0	0	0	0	17	20	0	0.28
neos-957389	6	33.81	0	2	8	0	5	217	0	1.42
neos-984165	1731	3600.00	0	0	0	0	20	24	0	0.25
net12	1576	540.67	0	0	0	0	8	8	0	0.11
noswot	239,303	73.83	0	1	3	0	1	6	0	0.00
ns1111636	174	3600.02	0	1	39	0	1	78	0	500.73
ns1116954	7	3600.00	0	0	0	0	1	5	0	4.39
ns1158817	1	242.40	0	0	0	0	0	0	0	124.40
ns1208400	3037	445.90	0	0	0	0	1	2	0	0.12
ns1456591	68,237	3600.01	0	2	6	0	6	16	0	0.43
ns1702808	33,923	61.68	0	1	5	0	1	10	0	0.03
ns1758913	2	3600.21	0	0	0	0	2	2	0	1.08
ns1853823	1	3590.94	0	0	0	0	1	1	0	19.55

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TABLE 40. M2010-sym testset: symre-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	402	771.81	0	0	0	0	2	2	0	0.07
acc-tight4	1136	583.78	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	5.28	1	0	0	0	1	3	3	0.27
bab3	6	3600.06	0	0	0	0	6	6	0	46.50
bab5	32,720	3600.01	0	0	0	0	10	10	0	0.43
berlin_5_8_0	1,822,044	3600.01	0	0	0	0	2	2	0	0.01
biella1	5867	314.04	0	0	0	0	668	1030	0	1.43
circ10-3	41	3600.48	0	0	0	2	1	11	0	0.41
co-100	8931	3600.02	0	0	0	0	4	4	0	1.41
core2536-691	215	111.21	0	0	0	0	17	19	0	1.66
core4872-1529	1180	3600.01	0	0	0	0	14	14	0	2.26
cov1075	70,116	521.32	0	0	0	9	1	128	0	0.08
dc1c	4206	3600.00	0	0	0	0	1830	2118	0	8.62
dc1l	770	3600.49	0	0	0	0	2374	2952	0	15.30
dolom1	1933	3600.06	0	0	0	0	2016	2300	0	10.52
enlight13	1	0.00	0	0	0	0	2	2	0	0.00
enlight14	1	0.03	0	0	0	0	2	2	0	0.00
enlight15	1	0.03	0	0	0	0	2	2	0	0.01
enlight16	1	0.02	0	0	0	0	2	2	0	0.01
enlight9	1	0.01	0	0	0	0	2	2	0	0.00
ex10	1	1028.47	0	0	0	7	1	14	0	0.00
ex9	1	91.89	0	0	0	7	1	14	0	0.00
glass4	4,808,440	3600.03	0	0	0	0	2	2	0	0.01
go19	1,123,118	3600.00	0	0	0	0	1	3	0	0.00
lectsched-1	1990	141.77	0	0	0	0	258	376	0	0.38
lectsched-1-obj	76,290	3600.00	0	38	107	0	994	1346	0	530.95
lectsched-2	313	52.57	0	0	0	0	156	222	0	0.18
lectsched-3	1285	104.32	0	0	0	0	240	378	0	0.36
lectsched-4-obj	1835	55.55	0	6	14	0	168	224	0	1.01
macrophage	662,318	3600.01	0	2	8	0	335	359	0	1.12
map06	630	860.62	0	0	0	0	78	80	0	0.41
map10	1798	1019.46	0	0	0	0	78	80	0	0.40
map14	1578	769.87	0	0	0	0	78	80	0	0.40
map18	249	249.83	0	0	0	0	78	80	0	0.40
map20	374	260.07	0	0	0	0	78	80	0	0.41
maxgasflow	207,541	3600.01	0	1	2	0	5	8	0	0.02
mcsched	24,455	215.92	0	0	0	0	30	30	0	0.04
methanosarcina	63,267	3600.00	0	0	0	0	3000	3000	0	11.17
mkc	421,442	3600.00	0	14	33	0	113	231	0	2.21
msc98-ip	14,170	1852.38	0	0	0	0	8	8	0	0.14
mzzv11	938	357.99	0	0	0	0	2	2	0	0.05
n3seq24	17,399	3600.01	0	1	3	0	57	62	0	28.73
n4-3	35,934	525.29	0	0	0	0	4	4	0	0.01
n9-3	61,996	3600.00	0	0	0	0	8	10	0	0.03
neos-1109824	12,213	298.46	0	0	0	4	1	7	0	0.07
neos-1171692	5076	157.15	0	1	20	0	1	40	0	1.15
neos-1171737	8967	3600.00	0	1	29	0	1	58	0	4.74
neos-1224597	31	8.18	0	0	0	52	41	413	0	0.78
neos-1311124	3,398,484	3600.00	0	1	20	0	1	40	0	0.48
neos-1337307	4006	161.31	0	1	6	0	1	12	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	32,789	162.49	0	1	2	0	1	4	0	0.01
neos13	56,860	3600.00	0	0	0	0	2	2	0	0.60
neos-1426635	3,902,387	3600.07	0	1	9	0	1	18	0	0.03
neos-1426662	1,259,714	3600.00	0	1	15	0	1	30	0	0.15
neos-1429212	8004	3600.37	0	0	0	0	2	2	0	2.25
neos-1436709	1,400,084	3600.00	0	1	12	0	1	24	0	0.08
neos-1440460	2,048,731	3600.00	0	1	8	0	1	16	0	0.03
neos-1442119	1,272,497	3600.00	0	1	13	0	1	26	0	0.10
neos-1442657	1,312,645	3600.01	0	1	11	0	1	22	0	0.05
neos-1620770	622,047	3600.00	0	0	0	0	1	69	0	0.07
neos18	6382	65.31	0	0	0	0	38	110	0	0.07
neos-476283	1027	491.37	0	0	0	0	24	24	0	3.87
neos-555424	465,469	3600.00	0	0	0	0	2	68	0	9.90
neos-738098	5274	3600.00	0	0	0	0	1	35	0	0.58
neos-777800	73	27.33	0	0	0	2	1	9	0	0.06
neos-785912	105	16.09	0	0	0	0	1	14	0	0.08
neos788725	512,038	1084.25	0	0	0	2	1	3	0	0.01
neos808444	402	1356.63	0	0	0	0	2	2	0	0.16
neos-820146	649,656	3600.00	0	0	0	23	1	247	0	0.18
neos-820157	514,277	3600.00	0	0	0	22	1	161	0	0.15
neos-824661	1	55.49	1	0	0	0	1	170	3780	25.26
neos-824695	1	22.06	1	0	0	0	1	170	2275	12.61
neos-826650	217,659	3600.00	0	0	0	0	1	31	0	31.63
neos-826694	190	3599.99	0	1	89	0	1	178	0	4.47
neos-826812	406	2811.51	0	1	89	0	1	178	0	4.42
neos-826841	19,448	3600.00	0	0	0	32	1	95	0	28.66
neos-849702	35,126	1245.83	0	0	0	7	1	12	0	0.04
neos-859770	1	188.72	0	0	0	0	29	30	0	0.24
neos-885086	938	3600.00	0	1	44	0	1	88	0	47.35
neos-885524	110,794	3600.00	0	0	0	0	2472	3000	0	10.94
neos-911880	1,996,860	3600.00	0	7	17	0	7	34	0	0.03
neos-932816	2682	3600.00	0	1	3	0	1	6	0	0.15
neos-933638	26	184.83	0	0	0	0	6	18	0	0.44
neos-933966	56	148.59	0	1	2	0	6	19	0	0.56
neos-934278	179	238.98	0	0	0	0	11	19	0	0.34
neos-935627	41	193.66	0	0	0	0	7	15	0	0.26
neos-935769	1007	1600.90	0	4	8	0	9	26	0	0.29
neos-937511	134	402.26	0	4	8	0	9	25	0	0.39
neos-937815	2796	3600.00	0	0	0	0	11	16	0	0.34
neos-941262	1846	3600.01	0	0	0	0	22	24	0	0.27
neos-941313	196	3600.03	0	1	29	0	1	58	0	243.59
neos-948126	2484	3600.01	0	0	0	0	17	20	0	0.28
neos-957389	3	31.54	0	2	8	0	5	217	0	1.42
neos-984165	1693	3600.01	0	0	0	0	20	24	0	0.25
net12	1576	538.39	0	0	0	0	8	8	0	0.11
noswot	285,135	92.19	0	1	3	0	1	6	0	0.01
ns1111636	1	3600.03	0	1	39	0	1	78	0	493.20
ns1116954	8	3600.03	0	0	0	0	1	5	0	4.36
ns1158817	1	242.99	0	0	0	0	0	0	0	125.02
ns1208400	3037	445.80	0	0	0	0	1	2	0	0.12
ns1456591	54,344	3600.00	0	2	6	0	6	16	0	0.45
ns1702808	36,971	100.80	0	1	5	0	1	10	0	0.02
ns1758913	2	3600.20	0	0	0	0	2	2	0	1.05
ns1853823	1	3590.91	0	0	0	0	1	1	0	19.38

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TABLE 41. M2010-sym testset: symre-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	402	771.68	0	0	0	0	2	2	0	0.06
acc-tight4	1136	583.01	0	0	0	0	1	19	0	0.05
ash608gpia-3col	1	6.58	1	0	0	0	1	3	3	0.26
bab3	6	3600.08	0	0	0	0	6	6	0	46.48
bab5	32,673	3600.06	0	0	0	0	10	10	0	0.43
berlin_5_8_0	1,814,253	3600.01	0	0	0	0	2	2	0	0.01
biella1	5867	313.31	0	0	0	0	668	1030	0	1.45
circ10-3	43	3599.97	0	0	0	2	1	11	0	0.41
co-100	8931	3600.02	0	0	0	0	4	4	0	1.39
core2536-691	215	111.24	0	0	0	0	17	19	0	1.65
core4872-1529	1164	3600.63	0	0	0	0	14	14	0	2.26
cov1075	17,963	137.50	0	0	0	9	1	128	0	0.08
dc1c	4233	3600.00	0	0	0	0	1830	2118	0	8.60
dc1l	770	3600.46	0	0	0	0	2374	2952	0	15.30
dolom1	1931	3600.00	0	0	0	0	2016	2300	0	10.61
enlight13	1	0.02	0	0	0	0	2	2	0	0.00
enlight14	1	0.03	0	0	0	0	2	2	0	0.00
enlight15	1	0.03	0	0	0	0	2	2	0	0.01
enlight16	1	0.04	0	0	0	0	2	2	0	0.00
enlight9	1	0.00	0	0	0	0	2	2	0	0.00
ex10	1	1019.52	0	0	0	7	1	14	0	0.01
ex9	1	91.89	0	0	0	7	1	14	0	0.01
glass4	4,825,808	3600.03	0	0	0	0	2	2	0	0.01
go19	1,125,315	3600.00	0	0	0	0	1	3	0	0.00
lectsched-1	1990	143.23	0	0	0	0	258	376	0	0.38
lectsched-1-obj	75,175	3600.01	0	38	107	0	994	1346	0	531.22
lectsched-2	313	52.59	0	0	0	0	156	222	0	0.18
lectsched-3	1285	104.24	0	0	0	0	240	378	0	0.36
lectsched-4-obj	1835	55.78	0	6	14	0	168	224	0	1.00
macrophage	767,217	3600.00	0	2	8	0	335	359	0	1.13
map06	630	860.03	0	0	0	0	78	80	0	0.40
map10	1798	1014.86	0	0	0	0	78	80	0	0.40
map14	1578	768.70	0	0	0	0	78	80	0	0.40
map18	249	250.92	0	0	0	0	78	80	0	0.41
map20	374	263.98	0	0	0	0	78	80	0	0.41
maxgasflow	192,585	3600.01	0	1	2	0	5	8	0	0.03
mcsched	24,455	215.74	0	0	0	0	30	30	0	0.04
methanosarcina	63,347	3600.01	0	0	0	0	3000	3000	0	11.21
mkc	433,132	3600.00	0	14	33	0	113	231	0	2.21
msc98-ip	14,170	1851.38	0	0	0	0	8	8	0	0.14
mzzv11	938	358.27	0	0	0	0	2	2	0	0.05
n3seq24	20,263	3600.02	0	1	3	0	57	62	0	28.73
n4-3	35,934	524.72	0	0	0	0	4	4	0	0.01
n9-3	61,879	3600.00	0	0	0	0	8	10	0	0.03
neos-1109824	24,453	480.09	0	0	0	4	1	7	0	0.08
neos-1171692	1344	95.67	0	1	20	0	1	40	0	1.18
neos-1171737	89,075	3600.00	0	1	29	0	1	58	0	4.90
neos-1224597	26	8.16	0	0	0	52	41	413	0	0.79
neos-1311124	3,620,396	3600.01	0	1	20	0	1	40	0	0.48
neos-1337307	3003	135.50	0	1	6	0	1	12	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	58,455	256.38	0	1	2	0	1	4	0	0.02
neos13	56,622	3600.00	0	0	0	0	2	2	0	0.59
neos-1426635	3,678,607	3600.01	0	1	9	0	1	18	0	0.03
neos-1426662	1,442,889	3600.07	0	1	15	0	1	30	0	0.17
neos-1429212	8004	3600.08	0	0	0	0	2	2	0	2.26
neos-1436709	1,282,272	3600.00	0	1	12	0	1	24	0	0.08
neos-1440460	2,180,683	3600.00	0	1	8	0	1	16	0	0.02
neos-1442119	1,181,351	3600.00	0	1	13	0	1	26	0	0.10
neos-1442657	1,187,014	3600.01	0	1	11	0	1	22	0	0.06
neos-1620770	620,461	3600.00	0	0	0	0	1	69	0	0.08
neos18	6382	65.36	0	0	0	0	38	110	0	0.07
neos-476283	1027	492.49	0	0	0	0	24	24	0	3.87
neos-555424	464,951	3600.00	0	0	0	0	2	68	0	9.80
neos-738098	5139	3600.01	0	0	0	0	1	35	0	0.59
neos-777800	73	27.29	0	0	0	2	1	9	0	0.07
neos-785912	105	16.09	0	0	0	0	1	14	0	0.09
neos788725	295,346	687.35	0	0	0	2	1	3	0	0.00
neos808444	402	1353.74	0	0	0	0	2	2	0	0.16
neos-820146	757,832	3600.00	0	0	0	23	1	247	0	0.17
neos-820157	557,517	3600.00	0	0	0	22	1	161	0	0.14
neos-824661	1	62.07	1	0	0	0	1	170	3780	25.19
neos-824695	1	22.06	1	0	0	0	1	170	2275	12.63
neos-826650	217,683	3600.00	0	0	0	0	1	31	0	30.78
neos-826694	202	990.41	0	1	89	0	1	178	0	4.48
neos-826812	201	846.84	0	1	89	0	1	178	0	4.39
neos-826841	21,107	3600.00	0	0	0	32	1	95	0	28.91
neos-849702	91,803	3600.00	0	0	0	7	1	12	0	0.03
neos-859770	1	188.18	0	0	0	0	29	30	0	0.26
neos-885086	378	3600.00	0	1	44	0	1	88	0	47.90
neos-885524	110,887	3600.00	0	0	0	0	2472	3000	0	11.01
neos-911880	2,157,609	3600.00	0	7	17	0	7	34	0	0.03
neos-932816	85,097	3151.59	0	1	3	0	1	6	0	0.15
neos-933638	26	183.70	0	0	0	0	6	18	0	0.44
neos-933966	56	148.91	0	1	2	0	6	19	0	0.56
neos-934278	179	232.54	0	0	0	0	11	19	0	0.33
neos-935627	41	196.45	0	0	0	0	7	15	0	0.25
neos-935769	788	1367.87	0	4	8	0	9	26	0	0.29
neos-937511	183	703.60	0	4	8	0	9	25	0	0.39
neos-937815	2773	3600.01	0	0	0	0	11	16	0	0.32
neos-941262	1888	3600.00	0	0	0	0	22	24	0	0.26
neos-941313	158	3600.03	0	1	29	0	1	58	0	250.08
neos-948126	2407	3600.00	0	0	0	0	17	20	0	0.28
neos-957389	3	31.59	0	2	8	0	5	217	0	1.42
neos-984165	1717	3600.00	0	0	0	0	20	24	0	0.24
net12	1576	542.29	0	0	0	0	8	8	0	0.11
noswot	202,892	69.69	0	1	3	0	1	6	0	0.01
ns1111636	1	3600.02	0	1	39	0	1	78	0	509.84
ns1116954	7	3599.98	0	0	0	0	1	5	0	4.37
ns1158817	1	242.79	0	0	0	0	0	0	0	124.78
ns1208400	3037	446.84	0	0	0	0	1	2	0	0.13
ns1456591	48,438	3600.00	0	2	6	0	6	16	0	0.44
ns1702808	36,446	75.42	0	1	5	0	1	10	0	0.03
ns1758913	2	3600.21	0	0	0	0	2	2	0	1.08
ns1853823	1	3591.16	0	0	0	0	1	1	0	19.34

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TABLE 42. M2010-sym testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
30_70_45_095_100	1082	1446.20	1081	0	0	0.17
acc-tight4	96	104.61	112	246	3	0.78
ash608gpia-3col	18	36.54	22	3	0	0.31
bab3	1	3618.25	0	0	0	44.99
bab5	11,671	3600.31	14,519	222,538	0	2181.04
berlin_5_8_0	2,144,535	3600.01	2,433,392	27,889	125	36.91
biella1	5865	357.22	8789	1	0	2.05
circ10-3	35	3600.03	39	38	0	0.39
co-100	13,915	3600.00	16,044	0	0	2.22
core2536-691	505	250.22	530	1	0	3.89
core4872-1529	1101	3600.02	1100	0	0	2.43
cov1075	256	6.68	255	886	10	0.19
dc1c	5181	3600.03	5588	0	0	7.95
dc1l	402	3977.47	401	0	0	2850.82
dolom1	2162	3600.06	2161	0	0	9.43
enlight13	1	0.02	0	0	0	0.00
enlight14	1	0.02	0	0	0	0.01
enlight15	1	0.02	0	0	0	0.00
enlight16	1	0.04	0	0	0	0.00
enlight9	1	0.01	0	0	0	0.00
ex10	1	1026.96	0	0	0	0.00
ex9	1	91.55	0	0	0	0.00
glass4	5,309,952	3600.01	6,096,631	6467	0	76.55
go19	1,100,687	3600.00	1,100,686	301	0	1.76
lectsched-1	3077	168.85	5408	0	0	0.29
lectsched-1-obj	74,520	3600.16	101,283	13	0	442.32
lectsched-2	1019	51.46	2458	0	0	0.10
lectsched-3	2972	131.78	4488	0	0	0.31
lectsched-4-obj	3064	68.74	3832	4	0	0.25
macrophage	767,432	3600.00	770,164	0	0	11.05
map06	1071	1206.68	1070	0	0	0.32
map10	1645	1003.38	1644	0	0	0.45
map14	858	845.91	857	0	0	0.27
map18	259	316.03	258	0	0	0.22
map20	407	299.54	406	0	0	0.28
maxgasflow	186,964	3600.00	206,210	0	0	18.31
mcsched	13,672	139.67	13,671	918	0	5.56
methanosarcina	87,127	3600.01	87,346	0	0	26.09
mkc	491,015	3600.00	491,014	2	0	12.90
msc98-ip	4381	3600.00	6836	0	0	0.86
mzzv11	1650	513.62	2337	0	0	0.17
n3seq24	453	3601.67	697	9535	0	2320.48
n4-3	41,145	609.81	0	0	0	0.05
n9-3	51,570	3600.00	0	0	0	0.05
neos-1109824	91	18.09	91	551	0	0.53
neos-1171692	201	36.53	200	314	0	5.56
neos-1171737	724	3601.14	723	283	0	3536.54
neos-1224597	1	2.24	0	0	0	0.06
neos-1311124	1123	3605.76	1122	540	39	3602.46
neos-1337307	2256	113.38	2254	1208	0	8.00

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
neos-1396125	26,550	113.82	30,571	34	0	0.34
neos13	41,254	1812.77	41,253	0	0	3.13
neos-1426635	2,607,864	3600.00	2,607,863	213,137	30,911	2142.65
neos-1426662	42,702	3600.04	42,701	78,147	2115	3436.44
neos-1429212	2426	3600.02	3553	0	0	23.14
neos-1436709	634,836	3600.00	634,835	102,428	9415	2368.80
neos-1440460	118,470	210.24	118,469	10,400	836	62.83
neos-1442119	402,698	3600.01	402,697	108,797	9170	2707.66
neos-1442657	782,078	3600.00	782,077	142,292	14,589	2183.48
neos-1620770	61,082	368.50	95,229	5493	47	26.17
neos18	4841	51.28	6391	357	1	2.54
neos-476283	925	367.39	924	10	0	4.44
neos-555424	257,327	1796.27	266,244	75	0	6.70
neos-738098	763	3601.19	1026	200	0	1421.95
neos-777800	68	23.23	67	7	0	0.06
neos-785912	113	15.54	203	293	0	0.49
neos788725	74,039	205.79	82,405	1260	0	53.70
neos808444	294	1466.30	336	1	0	0.24
neos-820146	241,726	2578.62	419,592	42,371	8084	1831.48
neos-820157	197,713	3600.00	302,988	65,837	8935	2988.84
neos-824661	1	50.37	0	0	0	4.70
neos-824695	21	64.39	20	169	0	2.86
neos-826650	7594	3600.00	11,705	37,142	39	3281.68
neos-826694	1	14.30	0	0	0	0.82
neos-826812	1	4.43	0	0	0	0.76
neos-826841	876	3730.86	1283	2448	21	3690.82
neos-849702	43,163	552.18	65,644	125	0	1.51
neos-859770	1	168.65	0	0	0	0.21
neos-885086	—	—	—	—	—	—
neos-885524	44,193	3600.00	44,499	0	0	23.10
neos-911880	201,789	3600.00	207,776	216,032	162	3361.04
neos-932816	4862	3600.01	4861	860	0	138.27
neos-933638	21	214.04	20	19	0	5.23
neos-933966	39	180.02	98	157	0	37.10
neos-934278	450	929.33	449	87	1	116.66
neos-935627	258	475.00	257	14	0	73.52
neos-935769	71	206.90	71	14	0	15.10
neos-937511	96	318.62	95	23	0	32.32
neos-937815	2157	3600.33	2157	136	0	722.82
neos-941262	2707	3600.01	2721	1439	0	1008.41
neos-941313	8	687.71	7	115	0	113.02
neos-948126	1480	3600.01	1504	84	0	313.85
neos-957389	7	16.28	6	4	0	0.83
neos-984165	1499	3600.00	1499	101	0	290.99
net12	4128	1464.61	7554	0	0	0.72
noswot	1,034,000	291.65	0	0	0	0.28
ns1111636	105	3609.33	104	780	0	1082.26
ns1116954	9	3600.03	8	203	0	4.92
ns1158817	1	166.65	0	0	0	49.58
ns1208400	1020	205.70	1883	525	0	4.79
ns1456591	18,048	3600.03	32,603	10,184	0	2089.04
ns1702808	32,797	177.69	51,454	104,189	0	118.10
ns1758913	1	3600.41	0	0	0	1.06
ns1853823	1	3591.12	0	0	0	4.23

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
ns1854840	1	3598.78	0	0	0	1.79
ns1905797	32,899	3600.01	0	0	0	0.35
ns1905800	212,995	3600.01	299,640	731	0	14.82
ns1952667	12,900	3600.31	0	0	0	0.06
ns2118727	735	3599.99	2897	0	0	0.13
ns2124243	5894	3601.26	5893	0	0	11.62
ns2137859	105,351	3600.00	141,140	0	0	13.21
ns4-pr9	550,013	3600.00	0	0	0	0.33
nsr8k	58	3600.03	57	0	0	1.08
nu60-pr9	139,243	3600.00	142,812	376,039	2	163.04
p2m2p1m1p0n100	284,504	3600.00	284,511	277,711	0	3567.34
p6b	105,607	3600.00	105,606	84	0	0.58
pigeon-10	859,404	626.95	861,596	4863	188	16.36
pigeon-11	2,229,411	2305.26	2,231,264	6603	1156	51.04
pigeon-12	3,567,555	3600.00	3,570,910	3454	462	45.36
pigeon-13	2,570,173	3600.00	2,571,940	5406	89	155.33
pigeon-19	1,311,352	3600.00	1,312,285	1553	0	12.59
protfold	37,978	3600.00	55,126	42	0	0.44
pw-myciel4	121,837	988.64	173,829	1405	1	4.19
qiu	3815	27.41	3814	41	0	0.21
queens-30	12,044	3600.02	12,043	137	0	0.20
ramos3	24	3600.01	23	1617	0	0.37
rvb-sub	38,944	3600.29	39,299	15	0	22.84
sct1	7618	3600.01	7617	0	0	1.74
sct32	68,879	3600.00	68,918	0	0	2.65
sct5	2704	3600.00	2703	0	0	9.00
seymour-disj-10	41,572	3600.00	41,571	36	0	8.34
seymour	77,275	3600.00	77,274	6	0	3.19
shipsched	76,363	3600.01	103,868	0	0	4.50
shs1023	1	3670.18	0	0	0	1.41
siena1	1800	3600.01	1799	0	0	1.08
sing161	1	3600.14	0	0	0	4.12
sing245	12	3614.70	11	0	0	2.97
sing2	5616	3600.04	6012	763	0	42.52
sts405	69,603	3600.00	69,602	547	0	2.27
sts729	422	3599.99	421	5024	2	332.81
swath	314,471	3600.00	0	0	0	0.80
tanglegram1	67	615.55	66	0	0	12.45
tanglegram2	3	10.10	2	0	0	6.08
timtab1	885,790	524.99	924,316	0	0	7.42
toll-like	789,401	3600.00	790,416	4	0	30.38
uc-case11	2143	3600.02	2142	16	0	1.94
uc-case3	1029	3600.02	1302	11	0	139.20
uct-subprob	671,435	3600.00	703,735	0	0	6.24
unitcal_7	6694	3600.28	7192	15,872	0	3004.37
usAbbrv-8-25_70	615,884	3600.01	640,645	472	0	29.45
vpphard2	763	3609.95	762	0	0	7.70
vpphard	1687	3600.03	1887	0	0	12.13
wachplan	29,663	1602.53	38,312	48,453	20	250.24
zib54-UUE	411,311	3600.00	412,255	3773	0	83.82
AM (# 154)	217,664.2	2214.16	216,759.3	14,106.5	561.2	384.18
GM (# 154)	2228.6	828.85		35.6	2.3	12.40
SGM (# 154)	5021.8	944.13				29.93

TABLE 43. M2010-sym testset: S-orbitmin settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30_70_45_095_100	331	279.36	0	0	0	0	1	1	0	0.07
acc-tight4	1136	580.67	0	0	0	0	1	19	0	0.04
ash608gpia-3col	14	19.83	0	0	0	0	1	2	0	0.22
bab3	1	3613.06	0	0	0	0	3	3	0	44.90
bab5	32,735	3600.00	0	0	0	0	5	5	0	0.36
berlin_5_8_0	1,830,105	3600.01	0	0	0	0	1	1	0	0.00
biella1	5867	312.50	0	0	0	0	334	515	0	1.18
circ10-3	32	3599.93	0	0	0	0	1	9	0	0.39
co-100	6966	3601.14	0	0	0	0	2	2	0	1.38
core2536-691	215	111.36	0	0	0	0	9	11	0	1.59
core4872-1529	1173	3600.01	0	0	0	0	7	7	0	2.20
cov1075	308,873	1259.56	0	0	0	0	1	119	0	0.08
dc1c	4265	3600.01	0	0	0	0	915	1059	0	8.08
dc1l	770	3600.82	0	0	0	0	1187	1476	0	14.87
dolom1	1945	3600.01	0	0	0	0	1008	1150	0	9.88
enlight13	1	0.02	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.00
enlight15	1	0.02	0	0	0	0	1	1	0	0.00
enlight16	1	0.02	0	0	0	0	1	1	0	0.00
enlight9	1	0.01	0	0	0	0	1	1	0	0.00
ex10	1	1015.28	0	0	0	0	1	7	0	0.00
ex9	1	91.29	0	0	0	0	1	7	0	0.00
glass4	4,836,530	3600.03	0	0	0	0	1	1	0	0.00
go19	1,123,394	3600.00	0	0	0	0	1	3	0	0.00
lectsched-1	102,368	1164.22	0	0	0	0	129	188	0	0.28
lectsched-1-obj	81,600	3600.00	0	0	0	0	516	673	0	2.39
lectsched-2	378	49.74	0	0	0	0	78	111	0	0.12
lectsched-3	2137	108.19	0	0	0	0	120	189	0	0.27
lectsched-4-obj	4892	87.19	0	0	0	0	87	112	0	0.10
macrophage	753,485	3600.00	0	0	0	0	170	186	0	0.15
map06	771	856.73	0	0	0	0	39	40	0	0.30
map10	1560	934.69	0	0	0	0	39	40	0	0.30
map14	819	741.40	0	0	0	0	39	40	0	0.29
map18	277	268.82	0	0	0	0	39	40	0	0.31
map20	471	354.27	0	0	0	0	39	40	0	0.29
maxgasflow	153,814	3600.01	0	0	0	0	3	4	0	0.02
mcsched	24,455	215.01	0	0	0	0	15	15	0	0.00
methanosarcina	63,520	3600.00	0	0	0	0	1500	1500	0	10.22
mkc	397,093	3600.00	0	0	0	0	66	122	0	0.21
msc98-ip	7080	1862.18	0	0	0	0	4	4	0	0.13
mzzv11	635	366.49	0	0	0	0	1	1	0	0.05
n3seq24	15,568	3600.00	0	0	0	0	29	31	0	21.86
n4-3	39,260	587.47	0	0	0	0	2	2	0	0.01
n9-3	61,960	3600.00	0	0	0	0	4	5	0	0.03
neos-1109824	21,373	302.83	0	0	0	0	1	3	0	0.05
neos-1171692	1766	70.80	0	0	0	0	1	20	0	0.11
neos-1171737	78,162	3600.01	0	0	0	0	1	29	0	0.19
neos-1224597	1	4.31	0	0	0	0	21	181	0	0.63
neos-1311124	3,947,142	3600.02	0	0	0	0	1	20	0	0.03
neos-1337307	169,254	2645.34	0	0	0	0	1	6	0	0.07

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
neos-1396125	55,222	252.07	0	0	0	0	1	2	0	0.00
neos13	56,577	3600.01	0	0	0	0	1	1	0	0.59
neos-1426635	4,932,979	3600.04	0	0	0	0	1	9	0	0.01
neos-1426662	1,284,431	3600.02	0	0	0	0	1	15	0	0.02
neos-1429212	8004	3600.10	0	0	0	0	1	1	0	2.21
neos-1436709	1,674,541	3600.01	0	0	0	0	1	12	0	0.02
neos-1440460	2,797,300	3600.01	0	0	0	0	1	8	0	0.01
neos-1442119	1,577,686	3600.01	0	0	0	0	1	13	0	0.02
neos-1442657	1,920,238	3600.01	0	0	0	0	1	11	0	0.02
neos-1620770	622,138	3600.00	0	0	0	0	1	69	0	0.07
neos18	6382	65.39	0	0	0	0	19	55	0	0.03
neos-476283	1027	488.97	0	0	0	0	12	12	0	3.82
neos-555424	464,094	3600.00	0	0	0	0	2	68	0	0.22
neos-738098	5178	3600.01	0	0	0	0	1	35	0	0.37
neos-777800	66	24.27	0	0	0	0	1	7	0	0.03
neos-785912	105	16.05	0	0	0	0	1	14	0	0.04
neos788725	142,125	272.92	0	0	0	0	1	1	0	0.01
neos808444	282	1160.73	0	0	0	0	1	1	0	0.12
neos-820146	1,611,883	3600.00	0	0	0	0	1	224	0	0.12
neos-820157	1,280,637	3600.00	0	0	0	0	1	139	0	0.09
neos-824661	1	52.54	0	0	0	0	1	169	0	5.05
neos-824695	7	40.47	0	0	0	0	1	169	0	2.15
neos-826650	219,015	3600.00	0	0	0	0	1	31	0	0.09
neos-826694	2	12.86	0	0	0	0	1	89	0	0.85
neos-826812	1	8.70	0	0	0	0	1	89	0	0.81
neos-826841	309,749	3600.01	0	0	0	0	1	63	0	0.10
neos-849702	685	39.66	0	0	0	0	1	5	0	0.02
neos-859770	1	188.11	0	0	0	0	15	16	0	0.22
neos-885086	7487	724.91	0	0	0	0	1	44	0	1.19
neos-885524	110,815	3600.00	0	0	0	0	1236	1500	0	10.23
neos-911880	4,121,328	3600.01	0	0	0	0	7	17	0	0.01
neos-932816	4033	3600.00	0	0	0	0	1	3	0	0.05
neos-933638	10	172.30	0	0	0	0	5	17	0	0.30
neos-933966	35	168.68	0	0	0	0	5	16	0	0.36
neos-934278	85	188.92	0	0	0	0	8	16	0	0.24
neos-935627	4	62.97	0	0	0	0	6	14	0	0.18
neos-935769	86	197.66	0	0	0	0	9	18	0	0.17
neos-937511	103	501.53	0	0	0	0	9	17	0	0.24
neos-937815	4676	3600.00	0	0	0	0	8	13	0	0.22
neos-941262	2234	3600.01	0	0	0	0	13	15	0	0.15
neos-941313	8	575.66	0	0	0	0	1	29	0	2.66
neos-948126	1901	3600.00	0	0	0	0	11	14	0	0.17
neos-957389	10	32.86	0	0	0	0	4	208	0	0.84
neos-984165	2264	3600.00	0	0	0	0	12	16	0	0.14
net12	3248	661.81	0	0	0	0	4	4	0	0.09
noswot	606,660	171.46	0	0	0	0	1	3	0	0.01
ns1111636	81	3601.25	0	0	0	0	1	39	0	3.13
ns1116954	8	3600.03	0	0	0	0	1	5	0	3.65
ns1158817	1	180.41	0	0	0	0	1	166	0	61.52
ns1208400	3037	445.43	0	0	0	0	1	2	0	0.10
ns1456591	26,249	3600.01	0	0	0	0	4	8	0	0.37
ns1702808	209,144	397.02	0	0	0	0	1	5	0	0.01
ns1758913	1	3600.16	0	0	0	0	1	1	0	1.08
ns1853823	1	3591.12	0	0	0	0	1	1	0	4.19

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TABLE 44. M2010-bench testset: orbi-max-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.43	0	0	0	0	0	0	0	0.02
acc-tight5	248	60.90	0	0	0	0	0	0	0	0.00
aflow40b	157,839	1370.43	0	0	0	0	0	0	0	0.00
air04	7	20.47	0	0	0	0	0	0	0	0.03
app1-2	6369	3600.94	0	0	0	0	0	0	0	0.47
ash608gpia-3col	1	6.35	1	0	0	0	0	1	3	0.27
bab5	32,623	3600.00	0	0	0	0	5	5	0	0.43
beasleyC3	626,771	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.30	0	0	0	0	334	515	0	1.18
bienst2	112,679	149.99	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	340.15	0	0	0	0	0	0	0	0.00
bley_xl1	22	386.41	0	0	0	0	0	0	0	0.09
bnatt350	2775	409.35	0	0	0	0	0	0	0	0.01
core2536-691	215	110.98	0	0	0	0	9	11	0	1.65
cov1075	308,873	1252.47	0	0	0	0	1	119	0	0.09
csched010	675,661	3600.00	0	0	0	0	0	0	0	0.01
daint	914,752	3600.00	0	0	0	0	0	0	0	0.00
dfn-gwin-UUM	51,667	92.52	0	0	0	0	0	0	0	0.00
eil33-2	705	54.14	0	0	0	0	0	0	0	0.01
eilB101	9103	150.95	0	0	0	0	0	0	0	0.01
enlight13	1	0.01	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.00
ex9	1	91.48	1	0	0	0	0	1	1	0.00
glass4	4,844,876	3600.03	0	0	0	0	1	1	0	0.00
gmu-35-40	5,757,387	3600.02	0	0	0	0	0	0	0	0.01
iis-100-0-cov	81,999	1568.24	0	0	0	0	0	0	0	0.00
iis-bupa-cov	103,660	3600.00	0	0	0	0	0	0	0	0.02
iis-pima-cov	11,775	776.53	0	0	0	0	0	0	0	0.01
lectsched-4-obj	10,054	125.10	0	6	14	0	81	112	0	0.96
m100n500k4r1	4,703,390	3600.00	0	0	0	0	0	0	0	0.00
macrophage	831,715	3600.00	0	2	8	0	167	183	0	1.06
map18	277	279.32	0	0	0	0	39	40	0	0.30
map20	471	355.37	0	0	0	0	39	40	0	0.30
mcsched	24,455	215.60	0	0	0	0	15	15	0	0.03
mik-250-1-100-1	4,850,221	1676.97	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.80	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.45	0	0	0	0	0	0	0	0.01
msc98-ip	7080	1867.65	0	0	0	0	4	4	0	0.15
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	367.03	0	0	0	0	1	1	0	0.04
n3div36	84,837	3600.01	0	0	0	0	0	0	0	0.46
n3seq24	23,879	3600.00	0	1	3	0	28	31	0	28.66
n4-3	39,260	588.44	0	0	0	0	2	2	0	0.01
neos-1109824	17,262	200.54	1	0	0	0	0	1	1	0.10
neos-1337307	44,687	734.91	0	1	6	0	0	6	0	0.13
neos-1396125	50,452	224.65	0	1	2	0	0	2	0	0.02
neos13	56,538	3600.01	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1875.94	0	0	0	0	0	0	0	0.03
neos18	6382	65.36	0	0	0	0	19	55	0	0.05
neos-476283	1027	488.99	0	0	0	0	12	12	0	3.88

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TABLE 45. M2010-bench testset: orbi-max-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.06	0	0	0	0	0	0	0	0.03
acc-tight5	248	60.87	0	0	0	0	0	0	0	0.01
aflow40b	157,839	1369.01	0	0	0	0	0	0	0	0.00
air04	7	20.40	0	0	0	0	0	0	0	0.03
app1-2	6379	3600.00	0	0	0	0	0	0	0	0.49
ash608gpia-3col	1	5.28	1	0	0	0	0	1	3	0.26
bab5	32,737	3600.15	0	0	0	0	5	5	0	0.42
beasleyC3	628,411	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.32	0	0	0	0	334	515	0	1.19
bienst2	112,679	150.40	0	0	0	0	0	0	0	0.01
binkar10_1	202,929	341.17	0	0	0	0	0	0	0	0.00
bley_xl1	22	386.12	0	0	0	0	0	0	0	0.08
bnatt350	2775	408.92	0	0	0	0	0	0	0	0.02
core2536-691	215	111.42	0	0	0	0	9	11	0	1.65
cov1075	308,873	1248.93	0	0	0	0	1	119	0	0.08
csched010	679,431	3600.00	0	0	0	0	0	0	0	0.00
daint	918,558	3600.00	0	0	0	0	0	0	0	0.00
dfn-gwin-UUM	51,667	91.96	0	0	0	0	0	0	0	0.00
eil33-2	705	54.26	0	0	0	0	0	0	0	0.01
eilB101	9103	150.89	0	0	0	0	0	0	0	0.01
enlight13	1	0.02	0	0	0	0	1	1	0	0.01
enlight14	1	0.02	0	0	0	0	1	1	0	0.00
ex9	1	91.98	1	0	0	0	0	1	1	0.00
glass4	4,823,294	3600.03	0	0	0	0	1	1	0	0.00
gmu-35-40	5,763,080	3600.02	0	0	0	0	0	0	0	0.01
iis-100-0-cov	81,999	1602.77	0	0	0	0	0	0	0	0.00
iis-bupa-cov	103,847	3600.01	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	782.83	0	0	0	0	0	0	0	0.02
lectsched-4-obj	2265	69.85	0	6	14	0	81	112	0	0.96
m100n500k4r1	4,701,988	3600.00	0	0	0	0	0	0	0	0.00
macrophage	648,632	3600.00	0	2	8	0	167	183	0	1.06
map18	277	268.74	0	0	0	0	39	40	0	0.30
map20	471	356.52	0	0	0	0	39	40	0	0.30
mcsched	24,455	216.65	0	0	0	0	15	15	0	0.03
mik-250-1-100-1	4,850,221	1677.86	0	0	0	0	0	0	0	0.00
mine-166-5	1850	41.68	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	189.61	0	0	0	0	0	0	0	0.01
msc98-ip	7080	1861.90	0	0	0	0	4	4	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	367.22	0	0	0	0	1	1	0	0.05
n3div36	84,943	3600.01	0	0	0	0	0	0	0	0.47
n3seq24	28,576	3600.00	0	1	3	0	28	31	0	28.68
n4-3	39,260	589.49	0	0	0	0	2	2	0	0.01
neos-1109824	24,757	255.42	1	0	0	0	0	1	1	0.10
neos-1337307	4206	173.93	0	1	6	0	0	6	0	0.14
neos-1396125	41,618	193.17	0	1	2	0	0	2	0	0.01
neos13	56,350	3600.00	0	0	0	0	1	1	0	0.59
neos-1601936	3615	1875.92	0	0	0	0	0	0	0	0.03
neos18	6382	65.65	0	0	0	0	19	55	0	0.04
neos-476283	1027	490.23	0	0	0	0	12	12	0	3.89

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TABLE 46. M2010-bench testset: orbi-max-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.46	0	0	0	0	0	0	0	0.03
acc-tight5	248	60.92	0	0	0	0	0	0	0	0.00
aflow40b	157,839	1368.29	0	0	0	0	0	0	0	0.00
air04	7	20.48	0	0	0	0	0	0	0	0.03
app1-2	6332	3600.02	0	0	0	0	0	0	0	0.47
ash608gpia-3col	1	6.59	1	0	0	0	0	1	3	0.26
bab5	32,584	3600.08	0	0	0	0	5	5	0	0.42
beasleyC3	628,851	3600.01	0	0	0	0	0	0	0	0.01
biella1	5867	312.43	0	0	0	0	334	515	0	1.18
bienst2	112,679	150.22	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	342.41	0	0	0	0	0	0	0	0.01
bley_xl1	22	386.65	0	0	0	0	0	0	0	0.08
bnatt350	2775	408.99	0	0	0	0	0	0	0	0.01
core2536-691	215	111.10	0	0	0	0	9	11	0	1.65
cov1075	308,873	1248.52	0	0	0	0	1	119	0	0.08
csched010	674,022	3600.00	0	0	0	0	0	0	0	0.01
daint	917,286	3600.00	0	0	0	0	0	0	0	0.01
dfn-gwin-UUM	51,667	92.74	0	0	0	0	0	0	0	0.00
eil33-2	705	54.20	0	0	0	0	0	0	0	0.01
eilB101	9103	150.66	0	0	0	0	0	0	0	0.00
enlight13	1	0.02	0	0	0	0	1	1	0	0.01
enlight14	1	0.03	0	0	0	0	1	1	0	0.01
ex9	1	91.76	1	0	0	0	0	1	1	0.00
glass4	4,865,468	3600.03	0	0	0	0	1	1	0	0.01
gmu-35-40	5,787,135	3600.02	0	0	0	0	0	0	0	0.00
iis-100-0-cov	81,999	1569.94	0	0	0	0	0	0	0	0.01
iis-bupa-cov	104,069	3600.01	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	776.41	0	0	0	0	0	0	0	0.02
lectsched-4-obj	2265	69.85	0	6	14	0	81	112	0	0.97
m100n500k4r1	4,703,417	3600.00	0	0	0	0	0	0	0	0.00
macrophage	651,365	3600.02	0	2	8	0	167	183	0	1.07
map18	277	269.11	0	0	0	0	39	40	0	0.30
map20	471	355.97	0	0	0	0	39	40	0	0.31
mcsched	24,455	215.48	0	0	0	0	15	15	0	0.03
mik-250-1-100-1	4,850,221	1680.11	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.78	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.29	0	0	0	0	0	0	0	0.02
msc98-ip	7080	1863.51	0	0	0	0	4	4	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	367.73	0	0	0	0	1	1	0	0.04
n3div36	84,967	3600.00	0	0	0	0	0	0	0	0.47
n3seq24	21,515	3600.01	0	1	3	0	28	31	0	28.78
n4-3	39,260	587.58	0	0	0	0	2	2	0	0.00
neos-1109824	17,262	200.68	1	0	0	0	0	1	1	0.11
neos-1337307	2702	150.20	0	1	6	0	0	6	0	0.14
neos-1396125	59,507	254.86	0	1	2	0	0	2	0	0.02
neos13	56,185	3600.01	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1876.66	0	0	0	0	0	0	0	0.03
neos18	6382	65.57	0	0	0	0	19	55	0	0.04
neos-476283	1027	490.56	0	0	0	0	12	12	0	3.89

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TABLE 47. M2010-bench testset: orbi-min-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.02	0	0	0	0	0	0	0	0.02
acc-tight5	248	60.99	0	0	0	0	0	0	0	0.00
aflow40b	157,839	1369.34	0	0	0	0	0	0	0	0.01
air04	7	20.42	0	0	0	0	0	0	0	0.03
app1-2	6369	3600.46	0	0	0	0	0	0	0	0.48
ash608gpia-3col	1	6.34	1	0	0	0	0	1	3	0.27
bab5	32,619	3600.00	0	0	0	0	5	5	0	0.42
beasleyC3	629,700	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.86	0	0	0	0	334	515	0	1.19
bienst2	112,679	150.57	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	339.54	0	0	0	0	0	0	0	0.00
bley_xl1	22	387.22	0	0	0	0	0	0	0	0.09
bnatt350	2775	409.50	0	0	0	0	0	0	0	0.02
core2536-691	215	110.91	0	0	0	0	9	11	0	1.65
cov1075	308,873	1250.02	0	0	0	0	1	119	0	0.08
csched010	678,197	3600.00	0	0	0	0	0	0	0	0.00
daint	913,284	3600.00	0	0	0	0	0	0	0	0.00
dfn-gwin-UUM	51,667	93.00	0	0	0	0	0	0	0	0.01
eil33-2	705	54.53	0	0	0	0	0	0	0	0.01
eilB101	9103	151.10	0	0	0	0	0	0	0	0.01
enlight13	1	0.03	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.01
ex9	1	91.56	0	0	0	0	1	7	0	0.01
glass4	4,850,545	3600.03	0	0	0	0	1	1	0	0.01
gmu-35-40	5,783,650	3600.02	0	0	0	0	0	0	0	0.00
iis-100-0-cov	81,999	1572.05	0	0	0	0	0	0	0	0.01
iis-bupa-cov	103,920	3600.00	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	776.30	0	0	0	0	0	0	0	0.01
lectsched-4-obj	10,054	125.12	0	6	14	0	81	112	0	0.95
m100n500k4r1	4,683,519	3600.00	0	0	0	0	0	0	0	0.00
macrophage	833,459	3600.00	0	2	8	0	167	183	0	1.04
map18	277	269.41	0	0	0	0	39	40	0	0.29
map20	471	355.48	0	0	0	0	39	40	0	0.31
mcsched	24,455	216.56	0	0	0	0	15	15	0	0.02
mik-250-1-100-1	4,850,221	1671.44	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.92	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.31	0	0	0	0	0	0	0	0.01
msc98-ip	7080	1864.74	0	0	0	0	4	4	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	367.71	0	0	0	0	1	1	0	0.05
n3div36	84,701	3600.10	0	0	0	0	0	0	0	0.48
n3seq24	23,824	3600.02	0	1	3	0	28	31	0	28.77
n4-3	39,260	588.65	0	0	0	0	2	2	0	0.01
neos-1109824	21,761	220.94	1	0	0	0	0	1	1	0.08
neos-1337307	44,687	734.06	0	1	6	0	0	6	0	0.14
neos-1396125	50,452	224.62	0	1	2	0	0	2	0	0.01
neos13	56,931	3600.00	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1877.39	0	0	0	0	0	0	0	0.02
neos18	6382	65.48	0	0	0	0	19	55	0	0.04
neos-476283	1027	489.13	0	0	0	0	12	12	0	3.89

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TABLE 48. M2010-bench testset: orbi-min-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.78	0	0	0	0	0	0	0	0.03
acc-tight5	248	60.91	0	0	0	0	0	0	0	0.00
aflow40b	157,839	1371.01	0	0	0	0	0	0	0	0.00
air04	7	20.43	0	0	0	0	0	0	0	0.02
app1-2	6332	3600.02	0	0	0	0	0	0	0	0.48
ash608gpia-3col	1	5.30	1	0	0	0	0	1	3	0.26
bab5	32,634	3600.06	0	0	0	0	5	5	0	0.42
beasleyC3	629,656	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.09	0	0	0	0	334	515	0	1.19
bienst2	112,679	150.31	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	338.21	0	0	0	0	0	0	0	0.00
bley_xl1	22	386.36	0	0	0	0	0	0	0	0.08
bnatt350	2775	410.70	0	0	0	0	0	0	0	0.01
core2536-691	215	111.46	0	0	0	0	9	11	0	1.65
cov1075	308,873	1256.05	0	0	0	0	1	119	0	0.08
csched010	679,892	3600.00	0	0	0	0	0	0	0	0.01
daint	916,649	3600.00	0	0	0	0	0	0	0	0.01
dfn-gwin-UUM	51,667	91.95	0	0	0	0	0	0	0	0.00
eil33-2	705	54.22	0	0	0	0	0	0	0	0.01
eilB101	9103	151.04	0	0	0	0	0	0	0	0.01
enlight13	1	0.03	0	0	0	0	1	1	0	0.00
enlight14	1	0.03	0	0	0	0	1	1	0	0.01
ex9	1	91.30	0	0	0	0	1	7	0	0.01
glass4	4,850,017	3600.03	0	0	0	0	1	1	0	0.00
gmu-35-40	5,776,630	3600.02	0	0	0	0	0	0	0	0.00
iis-100-0-cov	81,999	1572.03	0	0	0	0	0	0	0	0.01
iis-bupa-cov	103,175	3600.00	0	0	0	0	0	0	0	0.00
iis-pima-cov	11,775	777.88	0	0	0	0	0	0	0	0.02
lectsched-4-obj	2265	69.95	0	6	14	0	81	112	0	0.99
m100n500k4r1	4,718,147	3600.00	0	0	0	0	0	0	0	0.00
macrophage	646,736	3600.00	0	2	8	0	167	183	0	1.05
map18	277	267.55	0	0	0	0	39	40	0	0.29
map20	471	353.79	0	0	0	0	39	40	0	0.30
mcsched	24,455	215.87	0	0	0	0	15	15	0	0.02
mik-250-1-100-1	4,850,221	1687.00	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.85	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.02	0	0	0	0	0	0	0	0.02
msc98-ip	7080	1860.89	0	0	0	0	4	4	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	366.92	0	0	0	0	1	1	0	0.04
n3div36	84,662	3600.00	0	0	0	0	0	0	0	0.47
n3seq24	28,462	3600.01	0	1	3	0	28	31	0	28.68
n4-3	39,260	587.05	0	0	0	0	2	2	0	0.00
neos-1109824	13,626	168.71	1	0	0	0	0	1	1	0.10
neos-1337307	4206	174.11	0	1	6	0	0	6	0	0.14
neos-1396125	41,618	193.52	0	1	2	0	0	2	0	0.01
neos13	56,315	3600.14	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1876.28	0	0	0	0	0	0	0	0.03
neos18	6382	65.49	0	0	0	0	19	55	0	0.04
neos-476283	1027	489.99	0	0	0	0	12	12	0	3.84

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TABLE 49. M2010-bench testset: orbi-min-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	154.92	0	0	0	0	0	0	0	0.02
acc-tight5	248	60.85	0	0	0	0	0	0	0	0.01
aflow40b	157,839	1369.59	0	0	0	0	0	0	0	0.00
air04	7	20.40	0	0	0	0	0	0	0	0.02
app1-2	6262	3600.02	0	0	0	0	0	0	0	0.48
ash608gpia-3col	1	6.54	1	0	0	0	0	1	3	0.27
bab5	32,706	3600.00	0	0	0	0	5	5	0	0.42
beasleyC3	628,956	3600.01	0	0	0	0	0	0	0	0.01
biella1	5867	312.38	0	0	0	0	334	515	0	1.17
bienst2	112,679	151.15	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	340.62	0	0	0	0	0	0	0	0.00
bley_xl1	22	386.15	0	0	0	0	0	0	0	0.09
bnatt350	2775	410.83	0	0	0	0	0	0	0	0.02
core2536-691	215	111.31	0	0	0	0	9	11	0	1.64
cov1075	308,873	1249.75	0	0	0	0	1	119	0	0.08
csched010	679,249	3600.00	0	0	0	0	0	0	0	0.00
daint	914,131	3600.00	0	0	0	0	0	0	0	0.01
dfn-gwin-UUM	51,667	92.16	0	0	0	0	0	0	0	0.00
eil33-2	705	54.27	0	0	0	0	0	0	0	0.01
eilB101	9103	150.79	0	0	0	0	0	0	0	0.01
enlight13	1	0.01	0	0	0	0	1	1	0	0.00
enlight14	1	0.02	0	0	0	0	1	1	0	0.00
ex9	1	91.59	0	0	0	0	1	7	0	0.00
glass4	4,807,677	3600.03	0	0	0	0	1	1	0	0.00
gmu-35-40	5,770,064	3600.02	0	0	0	0	0	0	0	0.01
iis-100-0-cov	81,999	1571.67	0	0	0	0	0	0	0	0.00
iis-bupa-cov	104,283	3600.01	0	0	0	0	0	0	0	0.00
iis-pima-cov	11,775	780.52	0	0	0	0	0	0	0	0.02
lectsched-4-obj	2265	69.85	0	6	14	0	81	112	0	0.96
m100n500k4r1	4,713,510	3600.00	0	0	0	0	0	0	0	0.00
macrophage	650,781	3600.00	0	2	8	0	167	183	0	1.07
map18	277	268.10	0	0	0	0	39	40	0	0.30
map20	471	357.49	0	0	0	0	39	40	0	0.29
mcsched	24,455	215.83	0	0	0	0	15	15	0	0.03
mik-250-1-100-1	4,850,221	1671.06	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.87	0	0	0	0	0	0	0	0.02
mine-90-10	29,517	190.37	0	0	0	0	0	0	0	0.01
msc98-ip	7080	1860.86	0	0	0	0	4	4	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	368.05	0	0	0	0	1	1	0	0.05
n3div36	84,733	3600.00	0	0	0	0	0	0	0	0.48
n3seq24	21,472	3600.02	0	1	3	0	28	31	0	28.68
n4-3	39,260	587.97	0	0	0	0	2	2	0	0.01
neos-1109824	21,761	221.67	1	0	0	0	0	1	1	0.09
neos-1337307	2702	150.06	0	1	6	0	0	6	0	0.14
neos-1396125	59,507	255.36	0	1	2	0	0	2	0	0.01
neos13	56,337	3600.00	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1878.09	0	0	0	0	0	0	0	0.03
neos18	6382	65.52	0	0	0	0	19	55	0	0.05
neos-476283	1027	490.18	0	0	0	0	12	12	0	3.89

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TABLE 50. M2010-bench testset: symre-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.14	0	0	0	0	0	0	0	0.03
acc-tight5	248	60.86	0	0	0	0	0	0	0	0.01
aflow40b	157,839	1370.55	0	0	0	0	0	0	0	0.00
air04	7	20.61	0	0	0	0	0	0	0	0.03
app1-2	6353	3600.02	0	0	0	0	0	0	0	0.49
ash608gpia-3col	1	6.37	1	0	0	0	1	3	3	0.27
bab5	32,704	3600.00	0	0	0	0	10	10	0	0.43
beasleyC3	630,019	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.98	0	0	0	0	668	1030	0	1.44
bienst2	112,679	149.87	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	338.71	0	0	0	0	0	0	0	0.01
bley_xl1	22	386.30	0	0	0	0	0	0	0	0.09
bnatt350	2775	409.66	0	0	0	0	0	0	0	0.01
core2536-691	215	111.18	0	0	0	0	17	19	0	1.66
cov1075	44,117	200.11	0	0	0	9	1	128	0	0.08
csched010	680,678	3600.00	0	0	0	0	0	0	0	0.01
daint	913,986	3600.00	0	0	0	0	0	0	0	0.00
dfn-gwin-UUM	51,667	93.27	0	0	0	0	0	0	0	0.00
eil33-2	705	54.54	0	0	0	0	0	0	0	0.01
eilB101	9103	151.23	0	0	0	0	0	0	0	0.01
enlight13	1	0.02	0	0	0	0	2	2	0	0.01
enlight14	1	0.03	0	0	0	0	2	2	0	0.01
ex9	1	92.09	0	0	0	7	1	14	0	0.01
glass4	4,839,382	3600.03	0	0	0	0	2	2	0	0.00
gmu-35-40	5,779,042	3600.02	0	0	0	0	0	0	0	0.01
iis-100-0-cov	81,999	1582.14	0	0	0	0	0	0	0	0.01
iis-bupa-cov	104,213	3600.01	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	778.74	0	0	0	0	0	0	0	0.01
lectsched-4-obj	1835	55.59	0	6	14	0	168	224	0	1.02
m100n500k4r1	4,701,788	3600.00	0	0	0	0	0	0	0	0.00
macrophage	744,376	3600.00	0	2	8	0	335	359	0	1.14
map18	249	249.46	0	0	0	0	78	80	0	0.40
map20	374	261.22	0	0	0	0	78	80	0	0.40
mcsched	24,455	215.79	0	0	0	0	30	30	0	0.04
mik-250-1-100-1	4,850,221	1670.28	0	0	0	0	0	0	0	0.00
mine-166-5	1850	41.77	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.24	0	0	0	0	0	0	0	0.01
msc98-ip	14,170	1850.96	0	0	0	0	8	8	0	0.14
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	938	357.24	0	0	0	0	2	2	0	0.04
n3div36	84,568	3600.00	0	0	0	0	0	0	0	0.46
n3seq24	27,325	3600.04	0	1	3	0	57	62	0	28.75
n4-3	35,934	525.12	0	0	0	0	4	4	0	0.01
neos-1109824	17,737	256.68	0	0	0	4	1	7	0	0.06
neos-1337307	8501	230.67	0	1	6	0	1	12	0	0.14
neos-1396125	43,335	174.44	0	1	2	0	1	4	0	0.02
neos13	56,889	3600.00	0	0	0	0	2	2	0	0.61
neos-1601936	3615	1874.70	0	0	0	0	0	0	0	0.03
neos18	6382	65.39	0	0	0	0	38	110	0	0.07
neos-476283	1027	490.23	0	0	0	0	24	24	0	3.93

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TABLE 51. M2010-bench testset: symre-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.26	0	0	0	0	0	0	0	0.02
acc-tight5	248	60.91	0	0	0	0	0	0	0	0.00
aflow40b	157,839	1372.77	0	0	0	0	0	0	0	0.00
air04	7	20.42	0	0	0	0	0	0	0	0.03
app1-2	6381	3600.03	0	0	0	0	0	0	0	0.48
ash608gpia-3col	1	5.32	1	0	0	0	1	3	3	0.27
bab5	32,695	3600.00	0	0	0	0	10	10	0	0.43
beasleyC3	626,680	3600.01	0	0	0	0	0	0	0	0.01
biella1	5867	313.75	0	0	0	0	668	1030	0	1.44
bienst2	112,679	151.26	0	0	0	0	0	0	0	0.01
binkar10_1	202,929	338.64	0	0	0	0	0	0	0	0.00
bley_xl1	22	386.69	0	0	0	0	0	0	0	0.09
bnatt350	2775	411.22	0	0	0	0	0	0	0	0.02
core2536-691	215	110.99	0	0	0	0	17	19	0	1.65
cov1075	70,116	521.12	0	0	0	9	1	128	0	0.08
csched010	683,543	3600.00	0	0	0	0	0	0	0	0.01
daint	914,325	3600.00	0	0	0	0	0	0	0	0.00
dfn-gwin-UUM	51,667	92.27	0	0	0	0	0	0	0	0.00
eil33-2	705	54.54	0	0	0	0	0	0	0	0.01
eilB101	9103	151.54	0	0	0	0	0	0	0	0.01
enlight13	1	0.02	0	0	0	0	2	2	0	0.00
enlight14	1	0.03	0	0	0	0	2	2	0	0.00
ex9	1	91.43	0	0	0	7	1	14	0	0.00
glass4	4,845,707	3600.03	0	0	0	0	2	2	0	0.00
gmu-35-40	5,768,731	3600.02	0	0	0	0	0	0	0	0.01
iis-100-0-cov	81,999	1572.09	0	0	0	0	0	0	0	0.01
iis-bupa-cov	104,077	3600.00	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	781.19	0	0	0	0	0	0	0	0.01
lectsched-4-obj	1835	55.60	0	6	14	0	168	224	0	1.02
m100n500k4r1	4,699,317	3600.00	0	0	0	0	0	0	0	0.00
macrophage	662,807	3600.00	0	2	8	0	335	359	0	1.12
map18	249	250.58	0	0	0	0	78	80	0	0.41
map20	374	260.13	0	0	0	0	78	80	0	0.41
mcsched	24,455	215.24	0	0	0	0	30	30	0	0.04
mik-250-1-100-1	4,850,221	1674.90	0	0	0	0	0	0	0	0.00
mine-166-5	1850	41.89	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	189.60	0	0	0	0	0	0	0	0.01
msc98-ip	14,170	1846.91	0	0	0	0	8	8	0	0.15
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	938	358.51	0	0	0	0	2	2	0	0.05
n3div36	85,099	3600.57	0	0	0	0	0	0	0	0.47
n3seq24	17,353	3600.29	0	1	3	0	57	62	0	28.79
n4-3	35,934	523.98	0	0	0	0	4	4	0	0.01
neos-1109824	12,213	297.67	0	0	0	4	1	7	0	0.08
neos-1337307	4006	161.09	0	1	6	0	1	12	0	0.14
neos-1396125	32,789	161.87	0	1	2	0	1	4	0	0.02
neos13	57,202	3600.00	0	0	0	0	2	2	0	0.61
neos-1601936	3615	1875.80	0	0	0	0	0	0	0	0.03
neos18	6382	65.48	0	0	0	0	38	110	0	0.07
neos-476283	1027	493.20	0	0	0	0	24	24	0	3.91

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TABLE 52. M2010-bench testset: symre-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	155.85	0	0	0	0	0	0	0	0.02
acc-tight5	248	60.92	0	0	0	0	0	0	0	0.01
aflow40b	157,839	1368.63	0	0	0	0	0	0	0	0.01
air04	7	20.46	0	0	0	0	0	0	0	0.02
app1-2	6241	3600.90	0	0	0	0	0	0	0	0.48
ash608gpia-3col	1	6.58	1	0	0	0	1	3	3	0.27
bab5	32,565	3600.00	0	0	0	0	10	10	0	0.42
beasleyC3	629,017	3600.01	0	0	0	0	0	0	0	0.01
biella1	5867	313.80	0	0	0	0	668	1030	0	1.43
bienst2	112,679	151.02	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	341.20	0	0	0	0	0	0	0	0.00
bley_xl1	22	388.21	0	0	0	0	0	0	0	0.09
bnatt350	2775	408.63	0	0	0	0	0	0	0	0.01
core2536-691	215	111.24	0	0	0	0	17	19	0	1.66
cov1075	17,963	137.67	0	0	0	9	1	128	0	0.08
csched010	676,443	3600.00	0	0	0	0	0	0	0	0.00
daint	915,662	3600.00	0	0	0	0	0	0	0	0.01
dfn-gwin-UUM	51,667	92.21	0	0	0	0	0	0	0	0.00
eil33-2	705	54.36	0	0	0	0	0	0	0	0.01
eilB101	9103	151.36	0	0	0	0	0	0	0	0.00
enlight13	1	0.02	0	0	0	0	2	2	0	0.00
enlight14	1	0.03	0	0	0	0	2	2	0	0.00
ex9	1	91.54	0	0	0	7	1	14	0	0.00
glass4	4,832,588	3600.03	0	0	0	0	2	2	0	0.00
gmu-35-40	5,795,403	3600.02	0	0	0	0	0	0	0	0.00
iis-100-0-cov	81,999	1576.51	0	0	0	0	0	0	0	0.01
iis-bupa-cov	104,255	3600.00	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	775.61	0	0	0	0	0	0	0	0.02
lectsched-4-obj	1835	55.54	0	6	14	0	168	224	0	1.02
m100n500k4r1	4,717,330	3600.00	0	0	0	0	0	0	0	0.00
macrophage	771,882	3600.01	0	2	8	0	335	359	0	1.16
map18	249	250.15	0	0	0	0	78	80	0	0.41
map20	374	260.58	0	0	0	0	78	80	0	0.42
mcsched	24,455	215.34	0	0	0	0	30	30	0	0.04
mik-250-1-100-1	4,850,221	1676.29	0	0	0	0	0	0	0	0.00
mine-166-5	1850	41.84	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	190.19	0	0	0	0	0	0	0	0.01
msc98-ip	14,170	1851.00	0	0	0	0	8	8	0	0.15
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	938	358.50	0	0	0	0	2	2	0	0.05
n3div36	85,523	3600.00	0	0	0	0	0	0	0	0.47
n3seq24	20,220	3600.01	0	1	3	0	57	62	0	28.82
n4-3	35,934	524.97	0	0	0	0	4	4	0	0.01
neos-1109824	24,453	480.29	0	0	0	4	1	7	0	0.08
neos-1337307	3003	135.47	0	1	6	0	1	12	0	0.14
neos-1396125	58,455	256.38	0	1	2	0	1	4	0	0.02
neos13	57,489	3600.03	0	0	0	0	2	2	0	0.60
neos-1601936	3615	1875.53	0	0	0	0	0	0	0	0.04
neos18	6382	65.50	0	0	0	0	38	110	0	0.07
neos-476283	1027	490.67	0	0	0	0	24	24	0	3.88

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TABLE 53. M2010-bench testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
30n20b8	2	154.80	0	0	0	0.02
acc-tight5	248	60.83	0	0	0	0.00
aflow40b	157,839	1368.90	0	0	0	0.12
air04	7	20.44	0	0	0	0.03
app1-2	6343	3600.02	0	0	0	0.48
ash608gpia-3col	18	36.27	22	3	0	0.31
bab5	11,506	3600.45	14,328	219,093	0	2159.68
beasleyC3	629,044	3600.01	0	0	0	0.75
biella1	5865	358.21	8789	1	0	2.15
bienst2	112,679	150.78	0	0	0	0.05
binkar10_1	202,929	338.91	0	0	0	0.08
bley_xl1	22	389.42	0	0	0	0.08
bnatt350	2775	408.74	0	0	0	0.01
core2536-691	505	249.27	530	1	0	3.94
cov1075	256	6.68	255	886	10	0.24
csched010	678,114	3600.00	0	0	0	0.43
daint	918,203	3600.00	0	0	0	0.36
dfn-gwin-UUM	51,667	92.10	0	0	0	0.02
eil33-2	705	54.78	0	0	0	0.01
eilB101	9103	151.10	0	0	0	0.01
enlight13	1	0.01	0	0	0	0.00
enlight14	1	0.02	0	0	0	0.00
ex9	1	91.14	0	0	0	0.00
glass4	5,273,367	3600.01	6,046,882	6342	0	75.44
gmu-35-40	5,737,862	3600.02	0	0	0	1.43
iis-100-0-cov	81,999	1563.90	0	0	0	0.05
iis-bupa-cov	103,957	3600.00	0	0	0	0.08
iis-pima-cov	11,775	774.76	0	0	0	0.02
lectsched-4-obj	3064	68.89	3832	4	0	0.21
m100n500k4r1	4,688,221	3600.00	0	0	0	0.68
macrophage	764,712	3600.00	767,444	0	0	11.31
map18	259	318.89	258	0	0	0.18
map20	407	299.69	406	0	0	0.24
mcsched	13,672	137.50	13,671	918	0	5.89
mik-250-1-100-1	4,850,221	1684.80	0	0	0	0.98
mine-166-5	1850	41.88	0	0	0	0.02
mine-90-10	29,517	190.58	0	0	0	0.04
msc98-ip	4385	3599.99	6840	0	0	1.01
mspp16	—	—	—	—	—	—
mzzv11	1650	513.47	2337	0	0	0.06
n3div36	84,697	3600.06	0	0	0	0.53
n3seq24	454	3602.10	698	9535	0	2320.33
n4-3	41,145	609.18	0	0	0	0.05
neos-1109824	91	18.12	91	551	0	0.46
neos-1337307	2256	113.41	2254	1208	0	7.91
neos-1396125	26,550	113.41	30,571	34	0	0.25
neos13	41,254	1801.24	41,253	0	0	3.47
neos-1601936	3615	1873.43	0	0	0	0.02
neos18	4841	51.58	6391	357	1	2.51
neos-476283	925	371.03	924	10	0	4.48

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
neos-686190	10,484	147.74	0	0	0	0.03
neos-849702	43,163	552.27	65,644	125	0	1.61
neos-916792	316,759	3600.01	0	0	0	0.58
neos-934278	450	948.78	449	87	1	116.63
net12	4128	1474.07	7554	0	0	0.90
netdiversion	3	464.44	0	0	0	0.68
newdano	1,965,408	3600.00	0	0	0	0.45
noswot	1,034,000	290.91	0	0	0	0.30
ns1208400	1020	205.00	1883	525	0	4.90
ns1688347	1989	220.95	0	0	0	0.01
ns1758913	1	3600.36	0	0	0	1.08
ns1766074	932,344	1233.99	0	0	0	2.66
ns1830653	34,114	456.19	0	0	0	0.04
opm2-z7-s2	2866	719.52	0	0	0	0.07
pg5_34	211,190	1191.78	0	0	0	0.14
pigeon-10	859,404	632.15	861,596	4863	188	16.38
pw-myciel4	121,837	987.66	173,829	1405	1	4.07
qju	3815	27.36	3814	41	0	0.19
rail507	1032	100.65	0	0	0	0.34
ran16x16	330,038	296.11	0	0	0	0.04
reblock67	77,553	226.38	0	0	0	0.05
rmatr100-p10	950	80.65	0	0	0	0.03
rmatr100-p5	391	103.52	0	0	0	0.04
rmine6	686,969	3600.00	0	0	0	0.36
rocll-4-11	17,112	477.59	0	0	0	0.04
rococoC10-001000	153,018	758.36	0	0	0	0.09
roll3000	577,240	3600.00	0	0	0	0.31
satellites1-25	4367	1171.87	0	0	0	0.03
sp98ic	211,410	3600.00	0	0	0	0.60
sp98ir	6361	69.75	0	0	0	0.04
tanglegram1	67	615.48	66	0	0	12.49
tanglegram2	3	10.02	2	0	0	6.00
timtab1	885,790	526.20	924,316	0	0	7.15
triptim1	1	394.57	0	0	0	0.24
unitcal_7	6614	3600.00	7108	15,596	0	3010.66
vpphard	1687	3600.01	1887	0	0	12.01
zib54-UUE	411,082	3600.00	412,027	3773	0	83.03
AM (# 87)	384,772.9	1283.51	108,137.4	3050.1	2.3	90.70
GM (# 87)	6018.1	431.40		4.2	1.1	2.12
SGM (# 87)	10,573.9	476.54				4.60

TABLE 54. M2010-bench testset: S-orbitmin settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
30n20b8	2	154.01	0	0	0	0	0	0	0	0.03
acc-tight5	248	60.80	0	0	0	0	0	0	0	0.01
aflow40b	157,839	1366.37	0	0	0	0	0	0	0	0.00
air04	7	20.35	0	0	0	0	0	0	0	0.03
app1-2	6270	3600.00	0	0	0	0	0	0	0	0.49
ash608gpia-3col	14	19.64	0	0	0	0	1	2	0	0.22
bab5	32,671	3600.03	0	0	0	0	5	5	0	0.37
beasleyC3	630,962	3600.01	0	0	0	0	0	0	0	0.00
biella1	5867	312.15	0	0	0	0	334	515	0	1.17
bienst2	112,679	151.57	0	0	0	0	0	0	0	0.00
binkar10_1	202,929	339.86	0	0	0	0	0	0	0	0.00
bley_xl1	22	389.36	0	0	0	0	0	0	0	0.09
bnatt350	2775	408.98	0	0	0	0	0	0	0	0.01
core2536-691	215	111.00	0	0	0	0	9	11	0	1.60
cov1075	308,873	1251.43	0	0	0	0	1	119	0	0.07
csched010	679,092	3600.00	0	0	0	0	0	0	0	0.00
daint	912,026	3600.00	0	0	0	0	0	0	0	0.01
dfn-gwin-UUM	51,667	92.87	0	0	0	0	0	0	0	0.00
eil33-2	705	54.52	0	0	0	0	0	0	0	0.01
eilB101	9103	150.99	0	0	0	0	0	0	0	0.01
enlight13	1	0.02	0	0	0	0	1	1	0	0.01
enlight14	1	0.02	0	0	0	0	1	1	0	0.00
ex9	1	91.33	0	0	0	0	1	7	0	0.00
glass4	4,834,812	3600.03	0	0	0	0	1	1	0	0.00
gmu-35-40	5,778,443	3600.02	0	0	0	0	0	0	0	0.00
iis-100-0-cov	81,999	1566.46	0	0	0	0	0	0	0	0.00
iis-bupa-cov	102,133	3600.00	0	0	0	0	0	0	0	0.01
iis-pima-cov	11,775	777.05	0	0	0	0	0	0	0	0.02
lectsched-4-obj	4892	87.18	0	0	0	0	87	112	0	0.11
m100n500k4r1	4,714,882	3600.00	0	0	0	0	0	0	0	0.00
macrophage	754,924	3600.00	0	0	0	0	170	186	0	0.16
map18	277	267.64	0	0	0	0	39	40	0	0.30
map20	471	357.68	0	0	0	0	39	40	0	0.30
mcsched	24,455	215.67	0	0	0	0	15	15	0	0.02
mik-250-1-100-1	4,850,221	1676.74	0	0	0	0	0	0	0	0.01
mine-166-5	1850	41.84	0	0	0	0	0	0	0	0.01
mine-90-10	29,517	189.57	0	0	0	0	0	0	0	0.01
msc98-ip	7080	1861.81	0	0	0	0	4	4	0	0.13
mspp16	—	—	—	—	—	—	—	—	—	—
mzzv11	635	366.38	0	0	0	0	1	1	0	0.04
n3div36	84,697	3600.05	0	0	0	0	0	0	0	0.47
n3seq24	15,612	3600.03	0	0	0	0	29	31	0	21.85
n4-3	39,260	586.63	0	0	0	0	2	2	0	0.01
neos-1109824	21,373	302.05	0	0	0	0	1	3	0	0.05
neos-1337307	169,254	2645.46	0	0	0	0	1	6	0	0.07
neos-1396125	55,222	250.85	0	0	0	0	1	2	0	0.01
neos13	56,782	3600.01	0	0	0	0	1	1	0	0.60
neos-1601936	3615	1875.46	0	0	0	0	0	0	0	0.02
neos18	6382	65.45	0	0	0	0	19	55	0	0.04
neos-476283	1027	489.38	0	0	0	0	12	12	0	3.80

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TABLE 55. SONET testset: orbi-max-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	2307	4.58	0	1	6	0	0	6	0	0.02
n13m24_11.zpl	1903	3.38	0	1	6	0	0	6	0	0.00
n13m24_12.zpl	998	2.90	0	1	6	0	0	6	0	0.01
n13m24_13.zpl	704	2.46	0	1	6	0	0	6	0	0.01
n13m24_14.zpl	1033	2.18	0	1	6	0	0	6	0	0.01
n13m24_15.zpl	926	2.42	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	2918	3.70	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	8203	10.93	0	1	6	0	0	6	0	0.00
n13m24_18.zpl	3546	5.00	0	1	6	0	0	6	0	0.01
n13m24_19.zpl	29,312	36.63	0	1	6	0	0	6	0	0.01
n13m24_1.zpl	4993	6.09	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	3687	5.30	0	1	6	0	0	6	0	0.02
n13m24_21.zpl	2285	4.03	0	1	6	0	0	6	0	0.01
n13m24_22.zpl	1015	2.60	0	1	6	0	0	6	0	0.02
n13m24_23.zpl	7788	11.26	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	93	1.65	0	1	6	0	0	6	0	0.01
n13m24_25.zpl	5506	6.48	0	1	6	0	0	6	0	0.01
n13m24_26.zpl	392	1.37	0	1	6	0	0	6	0	0.01
n13m24_27.zpl	5565	7.00	0	0	0	0	1	6	0	0.02
n13m24_28.zpl	70,701	87.27	0	1	6	0	0	6	0	0.01
n13m24_29.zpl	6234	6.89	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	6587	8.28	0	1	6	0	0	6	0	0.00
n13m24_30.zpl	1471	3.48	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	3453	5.46	0	1	6	0	0	6	0	0.01
n13m24_32.zpl	627	1.54	0	1	6	0	0	6	0	0.01
n13m24_33.zpl	13,243	17.59	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	858	2.29	0	1	6	0	0	6	0	0.01
n13m24_35.zpl	2078	3.94	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	38,964	42.75	0	1	6	0	0	6	0	0.01
n13m24_37.zpl	5439	8.82	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	1207	2.78	0	1	6	0	0	6	0	0.00
n13m24_39.zpl	609	1.63	0	1	6	0	0	6	0	0.00
n13m24_3.zpl	3312	5.97	0	1	6	0	0	6	0	0.01
n13m24_40.zpl	3518	5.63	0	1	6	0	0	6	0	0.01
n13m24_41.zpl	36,398	37.65	0	1	6	0	0	6	0	0.01
n13m24_42.zpl	1410	2.54	0	1	6	0	0	6	0	0.01
n13m24_43.zpl	759	2.58	0	1	6	0	0	6	0	0.02
n13m24_44.zpl	362	1.46	0	1	6	0	0	6	0	0.01
n13m24_45.zpl	8311	11.60	0	1	6	0	0	6	0	0.01
n13m24_46.zpl	17,650	21.83	0	1	6	0	0	6	0	0.01
n13m24_47.zpl	3863	8.76	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	918	2.36	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	10,243	12.88	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	2364	4.23	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	4225	6.70	0	1	6	0	0	6	0	0.00
n13m24_5.zpl	1372	3.55	0	1	6	0	0	6	0	0.02
n13m24_6.zpl	2892	4.50	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	10,814	16.61	0	1	6	0	0	6	0	0.01
n13m24_8.zpl	891	2.92	0	1	6	0	0	6	0	0.01
n13m24_9.zpl	2072	4.07	0	1	6	0	0	6	0	0.00

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TABLE 56. SONENT testset: orbi-max-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	1247	3.96	0	1	6	0	0	6	0	0.01
n13m24_11.zpl	758	2.83	0	1	6	0	0	6	0	0.01
n13m24_12.zpl	614	2.36	0	1	6	0	0	6	0	0.00
n13m24_13.zpl	503	2.09	0	1	6	0	0	6	0	0.01
n13m24_14.zpl	309	1.80	0	1	6	0	0	6	0	0.00
n13m24_15.zpl	351	1.68	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	2322	4.21	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	4341	7.03	0	1	6	0	0	6	0	0.01
n13m24_18.zpl	1118	2.87	0	1	6	0	0	6	0	0.01
n13m24_19.zpl	7457	11.78	0	1	6	0	0	6	0	0.01
n13m24_1.zpl	1722	4.19	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	1241	3.04	0	1	6	0	0	6	0	0.00
n13m24_21.zpl	636	2.14	0	1	6	0	0	6	0	0.01
n13m24_22.zpl	1164	3.53	0	1	6	0	0	6	0	0.01
n13m24_23.zpl	3294	6.54	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	120	1.33	0	1	6	0	0	6	0	0.01
n13m24_25.zpl	1737	3.91	0	1	6	0	0	6	0	0.01
n13m24_26.zpl	302	1.81	0	1	6	0	0	6	0	0.01
n13m24_27.zpl	5565	6.94	0	0	0	0	1	6	0	0.02
n13m24_28.zpl	4896	10.31	0	1	6	0	0	6	0	0.01
n13m24_29.zpl	1384	3.39	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	2327	4.86	0	1	6	0	0	6	0	0.00
n13m24_30.zpl	989	3.27	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	1289	3.65	0	1	6	0	0	6	0	0.01
n13m24_32.zpl	465	2.61	0	1	6	0	0	6	0	0.01
n13m24_33.zpl	4510	8.40	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	233	1.45	0	1	6	0	0	6	0	0.01
n13m24_35.zpl	1254	3.59	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	3605	5.95	0	1	6	0	0	6	0	0.01
n13m24_37.zpl	3910	8.48	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	550	1.84	0	1	6	0	0	6	0	0.00
n13m24_39.zpl	523	2.36	0	1	6	0	0	6	0	0.01
n13m24_3.zpl	972	2.75	0	1	6	0	0	6	0	0.00
n13m24_40.zpl	1051	3.34	0	1	6	0	0	6	0	0.00
n13m24_41.zpl	11,726	14.89	0	1	6	0	0	6	0	0.01
n13m24_42.zpl	1283	2.90	0	1	6	0	0	6	0	0.01
n13m24_43.zpl	293	1.94	0	1	6	0	0	6	0	0.01
n13m24_44.zpl	381	1.51	0	1	6	0	0	6	0	0.01
n13m24_45.zpl	5452	10.22	0	1	6	0	0	6	0	0.01
n13m24_46.zpl	2471	4.65	0	1	6	0	0	6	0	0.01
n13m24_47.zpl	1819	6.01	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	400	2.10	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	7619	12.16	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	1234	3.36	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	1461	4.35	0	1	6	0	0	6	0	0.01
n13m24_5.zpl	821	2.50	0	1	6	0	0	6	0	0.01
n13m24_6.zpl	1863	4.00	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	3559	7.19	0	1	6	0	0	6	0	0.01
n13m24_8.zpl	260	1.52	0	1	6	0	0	6	0	0.01
n13m24_9.zpl	424	1.62	0	1	6	0	0	6	0	0.00

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TABLE 57. SONET testset: orbi-max-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	1688	4.16	0	1	6	0	0	6	0	0.01
n13m24_11.zpl	457	1.87	0	1	6	0	0	6	0	0.01
n13m24_12.zpl	932	2.89	0	1	6	0	0	6	0	0.01
n13m24_13.zpl	443	2.24	0	1	6	0	0	6	0	0.01
n13m24_14.zpl	624	1.84	0	1	6	0	0	6	0	0.01
n13m24_15.zpl	654	2.94	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	1729	3.62	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	2799	6.01	0	1	6	0	0	6	0	0.01
n13m24_18.zpl	1791	4.29	0	1	6	0	0	6	0	0.01
n13m24_19.zpl	7375	13.68	0	1	6	0	0	6	0	0.01
n13m24_1.zpl	2113	4.35	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	1552	3.76	0	1	6	0	0	6	0	0.01
n13m24_21.zpl	457	2.06	0	1	6	0	0	6	0	0.00
n13m24_22.zpl	496	2.31	0	1	6	0	0	6	0	0.00
n13m24_23.zpl	5597	10.23	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	61	1.40	0	1	6	0	0	6	0	0.01
n13m24_25.zpl	1726	3.67	0	1	6	0	0	6	0	0.01
n13m24_26.zpl	512	1.58	0	1	6	0	0	6	0	0.01
n13m24_27.zpl	5565	6.97	0	0	0	0	1	6	0	0.01
n13m24_28.zpl	5933	13.80	0	1	6	0	0	6	0	0.00
n13m24_29.zpl	3066	5.37	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	2985	6.14	0	1	6	0	0	6	0	0.00
n13m24_30.zpl	840	3.27	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	1801	4.94	0	1	6	0	0	6	0	0.00
n13m24_32.zpl	518	1.69	0	1	6	0	0	6	0	0.00
n13m24_33.zpl	5058	9.66	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	458	1.80	0	1	6	0	0	6	0	0.01
n13m24_35.zpl	2076	5.24	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	8571	13.93	0	1	6	0	0	6	0	0.00
n13m24_37.zpl	2995	6.64	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	707	2.59	0	1	6	0	0	6	0	0.01
n13m24_39.zpl	298	1.56	0	1	6	0	0	6	0	0.01
n13m24_3.zpl	1008	4.12	0	1	6	0	0	6	0	0.01
n13m24_40.zpl	1675	4.43	0	1	6	0	0	6	0	0.00
n13m24_41.zpl	9367	13.11	0	1	6	0	0	6	0	0.01
n13m24_42.zpl	182	1.20	0	1	6	0	0	6	0	0.01
n13m24_43.zpl	498	2.49	0	1	6	0	0	6	0	0.02
n13m24_44.zpl	559	1.86	0	1	6	0	0	6	0	0.01
n13m24_45.zpl	3114	6.58	0	1	6	0	0	6	0	0.01
n13m24_46.zpl	3423	6.61	0	1	6	0	0	6	0	0.00
n13m24_47.zpl	2230	6.94	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	637	2.23	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	7180	11.77	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	2073	4.66	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	2298	4.80	0	1	6	0	0	6	0	0.01
n13m24_5.zpl	1127	3.45	0	1	6	0	0	6	0	0.00
n13m24_6.zpl	1697	3.71	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	3326	7.67	0	1	6	0	0	6	0	0.00
n13m24_8.zpl	232	1.78	0	1	6	0	0	6	0	0.01
n13m24_9.zpl	1109	3.11	0	1	6	0	0	6	0	0.00

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TABLE 58. SONENT testset: orbi-min-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	2307	4.55	0	1	6	0	0	6	0	0.01
n13m24_11.zpl	1903	3.34	0	1	6	0	0	6	0	0.01
n13m24_12.zpl	998	2.90	0	1	6	0	0	6	0	0.01
n13m24_13.zpl	704	2.45	0	1	6	0	0	6	0	0.01
n13m24_14.zpl	1033	2.13	0	1	6	0	0	6	0	0.00
n13m24_15.zpl	926	2.40	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	2918	3.70	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	8203	10.96	0	1	6	0	0	6	0	0.01
n13m24_18.zpl	3546	4.97	0	1	6	0	0	6	0	0.01
n13m24_19.zpl	29,312	36.60	0	1	6	0	0	6	0	0.00
n13m24_1.zpl	4993	6.09	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	3687	5.25	0	1	6	0	0	6	0	0.00
n13m24_21.zpl	2285	4.02	0	1	6	0	0	6	0	0.01
n13m24_22.zpl	1015	2.61	0	1	6	0	0	6	0	0.01
n13m24_23.zpl	7788	11.22	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	93	1.66	0	1	6	0	0	6	0	0.01
n13m24_25.zpl	5506	6.48	0	1	6	0	0	6	0	0.01
n13m24_26.zpl	392	1.38	0	1	6	0	0	6	0	0.00
n13m24_27.zpl	5565	6.92	0	0	0	0	1	6	0	0.01
n13m24_28.zpl	70,701	87.24	0	1	6	0	0	6	0	0.00
n13m24_29.zpl	6234	6.92	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	6587	8.23	0	1	6	0	0	6	0	0.01
n13m24_30.zpl	1471	3.49	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	3453	5.43	0	1	6	0	0	6	0	0.01
n13m24_32.zpl	627	1.52	0	1	6	0	0	6	0	0.01
n13m24_33.zpl	13,243	17.73	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	858	2.25	0	1	6	0	0	6	0	0.01
n13m24_35.zpl	2078	3.90	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	38,964	42.67	0	1	6	0	0	6	0	0.01
n13m24_37.zpl	5439	8.86	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	1207	2.75	0	1	6	0	0	6	0	0.00
n13m24_39.zpl	609	1.61	0	1	6	0	0	6	0	0.00
n13m24_3.zpl	3312	6.02	0	1	6	0	0	6	0	0.01
n13m24_40.zpl	3518	5.69	0	1	6	0	0	6	0	0.01
n13m24_41.zpl	36,398	37.84	0	1	6	0	0	6	0	0.00
n13m24_42.zpl	1410	2.53	0	1	6	0	0	6	0	0.01
n13m24_43.zpl	759	2.56	0	1	6	0	0	6	0	0.01
n13m24_44.zpl	362	1.47	0	1	6	0	0	6	0	0.01
n13m24_45.zpl	8311	11.54	0	1	6	0	0	6	0	0.01
n13m24_46.zpl	17,650	21.72	0	1	6	0	0	6	0	0.01
n13m24_47.zpl	3863	8.76	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	918	2.37	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	10,243	12.82	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	2364	4.24	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	4225	6.77	0	1	6	0	0	6	0	0.00
n13m24_5.zpl	1372	3.54	0	1	6	0	0	6	0	0.01
n13m24_6.zpl	2892	4.54	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	10,814	16.51	0	1	6	0	0	6	0	0.00
n13m24_8.zpl	891	2.89	0	1	6	0	0	6	0	0.01
n13m24_9.zpl	2072	4.02	0	1	6	0	0	6	0	0.01

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TABLE 59. SONET testset: orbi-min-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	1247	3.94	0	1	6	0	0	6	0	0.00
n13m24_11.zpl	758	2.85	0	1	6	0	0	6	0	0.01
n13m24_12.zpl	614	2.34	0	1	6	0	0	6	0	0.01
n13m24_13.zpl	503	2.08	0	1	6	0	0	6	0	0.00
n13m24_14.zpl	309	1.81	0	1	6	0	0	6	0	0.01
n13m24_15.zpl	351	1.68	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	2322	4.19	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	4341	7.02	0	1	6	0	0	6	0	0.01
n13m24_18.zpl	1118	2.88	0	1	6	0	0	6	0	0.01
n13m24_19.zpl	7457	11.83	0	1	6	0	0	6	0	0.01
n13m24_1.zpl	1722	4.15	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	1241	3.05	0	1	6	0	0	6	0	0.01
n13m24_21.zpl	636	2.16	0	1	6	0	0	6	0	0.01
n13m24_22.zpl	1164	3.55	0	1	6	0	0	6	0	0.01
n13m24_23.zpl	3294	6.56	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	120	1.32	0	1	6	0	0	6	0	0.00
n13m24_25.zpl	1737	3.88	0	1	6	0	0	6	0	0.01
n13m24_26.zpl	302	1.81	0	1	6	0	0	6	0	0.01
n13m24_27.zpl	5565	7.00	0	0	0	0	1	6	0	0.02
n13m24_28.zpl	4896	10.31	0	1	6	0	0	6	0	0.01
n13m24_29.zpl	1384	3.40	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	2327	4.81	0	1	6	0	0	6	0	0.01
n13m24_30.zpl	989	3.28	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	1289	3.65	0	1	6	0	0	6	0	0.01
n13m24_32.zpl	465	2.60	0	1	6	0	0	6	0	0.01
n13m24_33.zpl	4510	8.39	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	233	1.44	0	1	6	0	0	6	0	0.00
n13m24_35.zpl	1254	3.58	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	3605	5.96	0	1	6	0	0	6	0	0.01
n13m24_37.zpl	3910	8.40	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	550	1.84	0	1	6	0	0	6	0	0.01
n13m24_39.zpl	523	2.36	0	1	6	0	0	6	0	0.00
n13m24_3.zpl	972	2.73	0	1	6	0	0	6	0	0.01
n13m24_40.zpl	1051	3.37	0	1	6	0	0	6	0	0.00
n13m24_41.zpl	11,726	14.96	0	1	6	0	0	6	0	0.01
n13m24_42.zpl	1283	2.90	0	1	6	0	0	6	0	0.00
n13m24_43.zpl	293	1.94	0	1	6	0	0	6	0	0.00
n13m24_44.zpl	381	1.51	0	1	6	0	0	6	0	0.01
n13m24_45.zpl	5452	10.34	0	1	6	0	0	6	0	0.00
n13m24_46.zpl	2471	4.67	0	1	6	0	0	6	0	0.01
n13m24_47.zpl	1819	6.05	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	400	2.10	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	7619	12.11	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	1234	3.38	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	1461	4.35	0	1	6	0	0	6	0	0.01
n13m24_5.zpl	821	2.49	0	1	6	0	0	6	0	0.01
n13m24_6.zpl	1863	3.96	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	3559	7.24	0	1	6	0	0	6	0	0.01
n13m24_8.zpl	260	1.53	0	1	6	0	0	6	0	0.01
n13m24_9.zpl	424	1.60	0	1	6	0	0	6	0	0.01

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TABLE 60. SONENT testset: orbi-min-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	1688	4.15	0	1	6	0	0	6	0	0.01
n13m24_11.zpl	457	1.81	0	1	6	0	0	6	0	0.01
n13m24_12.zpl	932	2.88	0	1	6	0	0	6	0	0.00
n13m24_13.zpl	443	2.24	0	1	6	0	0	6	0	0.01
n13m24_14.zpl	624	1.85	0	1	6	0	0	6	0	0.01
n13m24_15.zpl	654	2.91	0	1	6	0	0	6	0	0.01
n13m24_16.zpl	1729	3.58	0	1	6	0	0	6	0	0.01
n13m24_17.zpl	2799	5.97	0	1	6	0	0	6	0	0.01
n13m24_18.zpl	1791	4.33	0	1	6	0	0	6	0	0.00
n13m24_19.zpl	7375	13.66	0	1	6	0	0	6	0	0.02
n13m24_1.zpl	2113	4.26	0	1	6	0	0	6	0	0.01
n13m24_20.zpl	1552	3.74	0	1	6	0	0	6	0	0.01
n13m24_21.zpl	457	2.06	0	1	6	0	0	6	0	0.01
n13m24_22.zpl	496	2.31	0	1	6	0	0	6	0	0.01
n13m24_23.zpl	5597	10.29	0	1	6	0	0	6	0	0.01
n13m24_24.zpl	61	1.40	0	1	6	0	0	6	0	0.01
n13m24_25.zpl	1726	3.68	0	1	6	0	0	6	0	0.00
n13m24_26.zpl	512	1.57	0	1	6	0	0	6	0	0.00
n13m24_27.zpl	5565	6.97	0	0	0	0	1	6	0	0.01
n13m24_28.zpl	5933	13.84	0	1	6	0	0	6	0	0.01
n13m24_29.zpl	3066	5.36	0	1	6	0	0	6	0	0.01
n13m24_2.zpl	2985	6.16	0	1	6	0	0	6	0	0.01
n13m24_30.zpl	840	3.29	0	1	6	0	0	6	0	0.01
n13m24_31.zpl	1801	4.98	0	1	6	0	0	6	0	0.01
n13m24_32.zpl	518	1.70	0	1	6	0	0	6	0	0.01
n13m24_33.zpl	5058	9.69	0	1	6	0	0	6	0	0.01
n13m24_34.zpl	458	1.80	0	1	6	0	0	6	0	0.01
n13m24_35.zpl	2076	5.24	0	1	6	0	0	6	0	0.01
n13m24_36.zpl	8571	14.04	0	1	6	0	0	6	0	0.00
n13m24_37.zpl	2995	6.65	0	1	6	0	0	6	0	0.01
n13m24_38.zpl	707	2.57	0	1	6	0	0	6	0	0.01
n13m24_39.zpl	298	1.60	0	1	6	0	0	6	0	0.01
n13m24_3.zpl	1008	4.16	0	1	6	0	0	6	0	0.01
n13m24_40.zpl	1675	4.38	0	1	6	0	0	6	0	0.00
n13m24_41.zpl	9367	13.12	0	1	6	0	0	6	0	0.01
n13m24_42.zpl	182	1.22	0	1	6	0	0	6	0	0.01
n13m24_43.zpl	498	2.47	0	1	6	0	0	6	0	0.01
n13m24_44.zpl	559	1.84	0	1	6	0	0	6	0	0.00
n13m24_45.zpl	3114	6.64	0	1	6	0	0	6	0	0.01
n13m24_46.zpl	3423	6.65	0	1	6	0	0	6	0	0.01
n13m24_47.zpl	2230	6.96	0	1	6	0	0	6	0	0.01
n13m24_48.zpl	637	2.21	0	1	6	0	0	6	0	0.01
n13m24_49.zpl	7180	11.70	0	1	6	0	0	6	0	0.01
n13m24_4.zpl	2073	4.60	0	1	6	0	0	6	0	0.01
n13m24_50.zpl	2298	4.79	0	1	6	0	0	6	0	0.01
n13m24_5.zpl	1127	3.49	0	1	6	0	0	6	0	0.01
n13m24_6.zpl	1697	3.75	0	1	6	0	0	6	0	0.01
n13m24_7.zpl	3326	7.65	0	1	6	0	0	6	0	0.01
n13m24_8.zpl	232	1.77	0	1	6	0	0	6	0	0.00
n13m24_9.zpl	1109	3.08	0	1	6	0	0	6	0	0.01

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TABLE 61. SONET testset: symre-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	2170	4.40	0	1	6	0	1	12	0	0.01
n13m24_11.zpl	2337	3.60	0	1	6	0	1	12	0	0.01
n13m24_12.zpl	1687	3.72	0	1	6	0	1	12	0	0.01
n13m24_13.zpl	1155	2.67	0	1	6	0	1	12	0	0.01
n13m24_14.zpl	567	1.95	0	1	6	0	1	12	0	0.01
n13m24_15.zpl	837	2.66	0	1	6	0	1	12	0	0.01
n13m24_16.zpl	4442	5.81	0	1	6	0	1	12	0	0.01
n13m24_17.zpl	6589	8.27	0	1	6	0	1	12	0	0.01
n13m24_18.zpl	1897	3.07	0	1	6	0	1	12	0	0.02
n13m24_19.zpl	20,344	22.60	0	1	6	0	1	12	0	0.02
n13m24_1.zpl	4101	6.52	0	1	6	0	1	12	0	0.01
n13m24_20.zpl	2566	4.42	0	1	6	0	1	12	0	0.01
n13m24_21.zpl	942	2.21	0	1	6	0	1	12	0	0.01
n13m24_22.zpl	1696	3.87	0	1	6	0	1	12	0	0.01
n13m24_23.zpl	5495	8.79	0	1	6	0	1	12	0	0.01
n13m24_24.zpl	36	1.29	0	1	6	0	1	12	0	0.01
n13m24_25.zpl	4134	6.99	0	1	6	0	1	12	0	0.00
n13m24_26.zpl	780	2.17	0	1	6	0	1	12	0	0.01
n13m24_27.zpl	286	1.57	0	0	0	7	1	13	0	0.02
n13m24_28.zpl	10,462	16.66	0	1	6	0	1	12	0	0.01
n13m24_29.zpl	4105	6.13	0	1	6	0	1	12	0	0.01
n13m24_2.zpl	2771	4.35	0	1	6	0	1	12	0	0.01
n13m24_30.zpl	1121	2.08	0	1	6	0	1	12	0	0.01
n13m24_31.zpl	2771	5.26	0	1	6	0	1	12	0	0.01
n13m24_32.zpl	432	1.73	0	1	6	0	1	12	0	0.00
n13m24_33.zpl	8763	13.15	0	1	6	0	1	12	0	0.01
n13m24_34.zpl	683	1.92	0	1	6	0	1	12	0	0.01
n13m24_35.zpl	1409	3.12	0	1	6	0	1	12	0	0.01
n13m24_36.zpl	8927	9.67	0	1	6	0	1	12	0	0.01
n13m24_37.zpl	14,745	21.70	0	1	6	0	1	12	0	0.01
n13m24_38.zpl	1121	2.80	0	1	6	0	1	12	0	0.01
n13m24_39.zpl	201	1.41	0	1	6	0	1	12	0	0.01
n13m24_3.zpl	2398	4.87	0	1	6	0	1	12	0	0.01
n13m24_40.zpl	1916	3.82	0	1	6	0	1	12	0	0.01
n13m24_41.zpl	30,221	34.59	0	1	6	0	1	12	0	0.01
n13m24_42.zpl	956	2.54	0	1	6	0	1	12	0	0.01
n13m24_43.zpl	432	1.62	0	1	6	0	1	12	0	0.01
n13m24_44.zpl	971	2.29	0	1	6	0	1	12	0	0.01
n13m24_45.zpl	10,964	16.36	0	1	6	0	1	12	0	0.01
n13m24_46.zpl	9986	12.65	0	1	6	0	1	12	0	0.01
n13m24_47.zpl	4850	9.95	0	1	6	0	1	12	0	0.01
n13m24_48.zpl	232	1.67	0	1	6	0	1	12	0	0.01
n13m24_49.zpl	14,970	18.66	0	1	6	0	1	12	0	0.01
n13m24_4.zpl	3768	4.94	0	1	6	0	1	12	0	0.01
n13m24_50.zpl	4473	7.33	0	1	6	0	1	12	0	0.01
n13m24_5.zpl	3236	5.93	0	1	6	0	1	12	0	0.01
n13m24_6.zpl	3488	5.02	0	1	6	0	1	12	0	0.01
n13m24_7.zpl	14,284	19.01	0	1	6	0	1	12	0	0.01
n13m24_8.zpl	837	2.73	0	1	6	0	1	12	0	0.02
n13m24_9.zpl	946	2.52	0	1	6	0	1	12	0	0.01

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TABLE 62. SONENT testset: symre-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	1101	3.40	0	1	6	0	1	12	0	0.01
n13m24_11.zpl	729	2.90	0	1	6	0	1	12	0	0.01
n13m24_12.zpl	1112	4.10	0	1	6	0	1	12	0	0.01
n13m24_13.zpl	440	1.85	0	1	6	0	1	12	0	0.01
n13m24_14.zpl	517	1.71	0	1	6	0	1	12	0	0.01
n13m24_15.zpl	639	2.26	0	1	6	0	1	12	0	0.01
n13m24_16.zpl	2340	4.20	0	1	6	0	1	12	0	0.01
n13m24_17.zpl	3237	5.37	0	1	6	0	1	12	0	0.01
n13m24_18.zpl	1188	4.03	0	1	6	0	1	12	0	0.01
n13m24_19.zpl	8337	13.28	0	1	6	0	1	12	0	0.02
n13m24_1.zpl	1374	3.20	0	1	6	0	1	12	0	0.02
n13m24_20.zpl	875	3.11	0	1	6	0	1	12	0	0.01
n13m24_21.zpl	1077	2.50	0	1	6	0	1	12	0	0.01
n13m24_22.zpl	650	2.61	0	1	6	0	1	12	0	0.01
n13m24_23.zpl	2729	5.74	0	1	6	0	1	12	0	0.01
n13m24_24.zpl	64	1.15	0	1	6	0	1	12	0	0.01
n13m24_25.zpl	4045	10.82	0	1	6	0	1	12	0	0.01
n13m24_26.zpl	475	1.83	0	1	6	0	1	12	0	0.01
n13m24_27.zpl	95	1.93	0	0	0	7	1	13	0	0.02
n13m24_28.zpl	5692	12.54	0	1	6	0	1	12	0	0.01
n13m24_29.zpl	2170	5.53	0	1	6	0	1	12	0	0.01
n13m24_2.zpl	1167	3.10	0	1	6	0	1	12	0	0.01
n13m24_30.zpl	727	2.65	0	1	6	0	1	12	0	0.01
n13m24_31.zpl	1547	4.06	0	1	6	0	1	12	0	0.01
n13m24_32.zpl	483	1.98	0	1	6	0	1	12	0	0.01
n13m24_33.zpl	3120	6.02	0	1	6	0	1	12	0	0.01
n13m24_34.zpl	434	1.87	0	1	6	0	1	12	0	0.01
n13m24_35.zpl	927	2.88	0	1	6	0	1	12	0	0.01
n13m24_36.zpl	8221	12.73	0	1	6	0	1	12	0	0.01
n13m24_37.zpl	5785	10.68	0	1	6	0	1	12	0	0.01
n13m24_38.zpl	695	2.48	0	1	6	0	1	12	0	0.01
n13m24_39.zpl	140	1.05	0	1	6	0	1	12	0	0.01
n13m24_3.zpl	1142	3.89	0	1	6	0	1	12	0	0.01
n13m24_40.zpl	1087	3.40	0	1	6	0	1	12	0	0.01
n13m24_41.zpl	12,820	17.98	0	1	6	0	1	12	0	0.01
n13m24_42.zpl	550	1.99	0	1	6	0	1	12	0	0.01
n13m24_43.zpl	210	1.61	0	1	6	0	1	12	0	0.01
n13m24_44.zpl	524	1.94	0	1	6	0	1	12	0	0.01
n13m24_45.zpl	3203	7.54	0	1	6	0	1	12	0	0.02
n13m24_46.zpl	2796	5.21	0	1	6	0	1	12	0	0.01
n13m24_47.zpl	1147	5.26	0	1	6	0	1	12	0	0.01
n13m24_48.zpl	272	1.75	0	1	6	0	1	12	0	0.01
n13m24_49.zpl	12,702	17.24	0	1	6	0	1	12	0	0.01
n13m24_4.zpl	548	1.73	0	1	6	0	1	12	0	0.01
n13m24_50.zpl	1497	4.56	0	1	6	0	1	12	0	0.01
n13m24_5.zpl	926	2.92	0	1	6	0	1	12	0	0.01
n13m24_6.zpl	3239	6.32	0	1	6	0	1	12	0	0.01
n13m24_7.zpl	4275	9.59	0	1	6	0	1	12	0	0.01
n13m24_8.zpl	337	2.24	0	1	6	0	1	12	0	0.01
n13m24_9.zpl	1447	4.22	0	1	6	0	1	12	0	0.01

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TABLE 63. S0NET testset: symre-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	879	2.99	0	1	6	0	1	12	0	0.01
n13m24_11.zpl	1363	3.26	0	1	6	0	1	12	0	0.01
n13m24_12.zpl	901	3.13	0	1	6	0	1	12	0	0.01
n13m24_13.zpl	539	1.91	0	1	6	0	1	12	0	0.01
n13m24_14.zpl	625	2.12	0	1	6	0	1	12	0	0.01
n13m24_15.zpl	423	2.25	0	1	6	0	1	12	0	0.01
n13m24_16.zpl	1841	4.21	0	1	6	0	1	12	0	0.01
n13m24_17.zpl	2921	5.62	0	1	6	0	1	12	0	0.01
n13m24_18.zpl	977	3.01	0	1	6	0	1	12	0	0.01
n13m24_19.zpl	7932	12.84	0	1	6	0	1	12	0	0.01
n13m24_1.zpl	1032	2.92	0	1	6	0	1	12	0	0.01
n13m24_20.zpl	946	2.93	0	1	6	0	1	12	0	0.00
n13m24_21.zpl	762	2.57	0	1	6	0	1	12	0	0.00
n13m24_22.zpl	592	2.61	0	1	6	0	1	12	0	0.01
n13m24_23.zpl	4628	9.55	0	1	6	0	1	12	0	0.01
n13m24_24.zpl	126	1.47	0	1	6	0	1	12	0	0.01
n13m24_25.zpl	2334	6.63	0	1	6	0	1	12	0	0.01
n13m24_26.zpl	186	1.60	0	1	6	0	1	12	0	0.01
n13m24_27.zpl	314	1.85	0	0	0	7	1	13	0	0.02
n13m24_28.zpl	6080	13.11	0	1	6	0	1	12	0	0.01
n13m24_29.zpl	1150	3.68	0	1	6	0	1	12	0	0.01
n13m24_2.zpl	1296	2.94	0	1	6	0	1	12	0	0.01
n13m24_30.zpl	594	2.66	0	1	6	0	1	12	0	0.01
n13m24_31.zpl	1668	4.43	0	1	6	0	1	12	0	0.01
n13m24_32.zpl	627	2.26	0	1	6	0	1	12	0	0.00
n13m24_33.zpl	4446	9.62	0	1	6	0	1	12	0	0.01
n13m24_34.zpl	304	1.42	0	1	6	0	1	12	0	0.01
n13m24_35.zpl	1162	3.19	0	1	6	0	1	12	0	0.01
n13m24_36.zpl	5262	8.84	0	1	6	0	1	12	0	0.01
n13m24_37.zpl	5104	11.07	0	1	6	0	1	12	0	0.01
n13m24_38.zpl	528	2.24	0	1	6	0	1	12	0	0.01
n13m24_39.zpl	119	1.42	0	1	6	0	1	12	0	0.00
n13m24_3.zpl	1176	3.12	0	1	6	0	1	12	0	0.01
n13m24_40.zpl	1380	3.95	0	1	6	0	1	12	0	0.01
n13m24_41.zpl	10,781	15.82	0	1	6	0	1	12	0	0.01
n13m24_42.zpl	394	2.28	0	1	6	0	1	12	0	0.01
n13m24_43.zpl	174	1.25	0	1	6	0	1	12	0	0.01
n13m24_44.zpl	460	1.80	0	1	6	0	1	12	0	0.01
n13m24_45.zpl	2224	6.36	0	1	6	0	1	12	0	0.01
n13m24_46.zpl	2698	4.92	0	1	6	0	1	12	0	0.01
n13m24_47.zpl	1711	6.10	0	1	6	0	1	12	0	0.01
n13m24_48.zpl	438	1.57	0	1	6	0	1	12	0	0.01
n13m24_49.zpl	6991	11.24	0	1	6	0	1	12	0	0.01
n13m24_4.zpl	1024	3.21	0	1	6	0	1	12	0	0.01
n13m24_50.zpl	1602	4.69	0	1	6	0	1	12	0	0.02
n13m24_5.zpl	1999	4.66	0	1	6	0	1	12	0	0.01
n13m24_6.zpl	4326	8.40	0	1	6	0	1	12	0	0.01
n13m24_7.zpl	4855	10.22	0	1	6	0	1	12	0	0.01
n13m24_8.zpl	366	2.15	0	1	6	0	1	12	0	0.01
n13m24_9.zpl	643	2.45	0	1	6	0	1	12	0	0.01

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TABLE 64. SONENT testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
n13m24_10.zpl	363	2.63	363	275	0	0.49
n13m24_11.zpl	1635	4.83	1662	723	22	1.84
n13m24_12.zpl	743	3.99	749	454	4	0.72
n13m24_13.zpl	297	2.36	296	199	1	0.31
n13m24_14.zpl	338	2.07	337	226	2	0.32
n13m24_15.zpl	670	3.62	672	397	0	0.67
n13m24_16.zpl	853	2.92	852	570	21	0.89
n13m24_17.zpl	1739	5.35	1750	775	20	2.28
n13m24_18.zpl	1082	3.78	1081	612	3	1.18
n13m24_19.zpl	3977	12.02	4046	1332	20	4.62
n13m24_1.zpl	218	1.59	217	198	5	0.19
n13m24_20.zpl	438	1.86	446	369	1	0.43
n13m24_21.zpl	103	1.42	102	132	0	0.05
n13m24_22.zpl	516	2.52	518	350	0	0.46
n13m24_23.zpl	1913	6.86	1919	1114	65	2.27
n13m24_24.zpl	30	0.56	29	59	0	0.04
n13m24_25.zpl	349	1.84	350	292	3	0.37
n13m24_26.zpl	183	1.82	182	188	1	0.20
n13m24_27.zpl	129	1.66	128	146	0	0.17
n13m24_28.zpl	1806	6.15	1807	632	1	1.88
n13m24_29.zpl	775	3.06	787	554	8	0.87
n13m24_2.zpl	867	3.52	870	450	5	0.82
n13m24_30.zpl	285	3.02	289	200	0	0.26
n13m24_31.zpl	832	3.38	831	534	21	0.83
n13m24_32.zpl	264	2.57	263	245	2	0.24
n13m24_33.zpl	886	4.26	888	409	2	0.97
n13m24_34.zpl	241	2.37	240	253	3	0.23
n13m24_35.zpl	455	2.78	472	311	5	0.41
n13m24_36.zpl	2511	7.02	2515	1176	34	2.79
n13m24_37.zpl	5101	14.54	5136	1776	170	6.04
n13m24_38.zpl	201	1.38	200	211	4	0.15
n13m24_39.zpl	171	1.62	170	162	1	0.12
n13m24_3.zpl	407	2.60	407	223	4	0.40
n13m24_40.zpl	1433	5.28	1437	794	8	1.45
n13m24_41.zpl	12,579	33.37	12,661	3164	61	14.94
n13m24_42.zpl	1169	3.82	1176	770	6	1.31
n13m24_43.zpl	637	3.55	647	426	5	0.68
n13m24_44.zpl	313	2.28	312	261	3	0.38
n13m24_45.zpl	3155	10.96	3163	1350	33	3.91
n13m24_46.zpl	5518	14.52	5579	1786	23	6.40
n13m24_47.zpl	569	3.04	575	325	23	0.70
n13m24_48.zpl	958	4.33	961	525	6	1.03
n13m24_49.zpl	16,925	44.54	17,044	3948	409	20.40
n13m24_4.zpl	716	3.36	721	388	2	0.69
n13m24_50.zpl	764	3.76	765	432	10	0.74
n13m24_5.zpl	2008	5.59	2023	818	21	2.03
n13m24_6.zpl	2733	8.35	2772	1197	10	3.37
n13m24_7.zpl	2422	7.83	2433	979	19	2.75
n13m24_8.zpl	185	1.63	186	225	3	0.14
n13m24_9.zpl	371	2.04	370	252	0	0.24

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
AM (# 50)	1656.7	5.60	1668.0	663.7	21.4	1.89
GM (# 50)	734.7	3.76		453.8	5.5	1.49
SGM (# 50)	804.2	4.64				1.56

TABLE 65. SONET testset: S-orbitmin settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n13m24_10.zpl	28,247	36.06	0	0	0	0	1	6	0	0.01
n13m24_11.zpl	40,209	49.38	0	0	0	0	1	6	0	0.00
n13m24_12.zpl	22,039	31.00	0	0	0	0	1	6	0	0.01
n13m24_13.zpl	4013	6.94	0	0	0	0	1	6	0	0.01
n13m24_14.zpl	6329	8.25	0	0	0	0	1	6	0	0.01
n13m24_15.zpl	21,006	29.46	0	0	0	0	1	6	0	0.00
n13m24_16.zpl	26,879	27.89	0	0	0	0	1	6	0	0.00
n13m24_17.zpl	72,253	77.56	0	0	0	0	1	6	0	0.01
n13m24_18.zpl	48,327	55.39	0	0	0	0	1	6	0	0.00
n13m24_19.zpl	421,050	433.74	0	0	0	0	1	6	0	0.01
n13m24_1.zpl	5616	8.17	0	0	0	0	1	6	0	0.00
n13m24_20.zpl	13,646	18.10	0	0	0	0	1	6	0	0.00
n13m24_21.zpl	9493	13.33	0	0	0	0	1	6	0	0.00
n13m24_22.zpl	4604	6.97	0	0	0	0	1	6	0	0.01
n13m24_23.zpl	56,707	66.16	0	0	0	0	1	6	0	0.01
n13m24_24.zpl	377	1.77	0	0	0	0	1	6	0	0.00
n13m24_25.zpl	30,129	31.97	0	0	0	0	1	6	0	0.01
n13m24_26.zpl	5820	9.22	0	0	0	0	1	6	0	0.01
n13m24_27.zpl	5565	6.97	0	0	0	0	1	6	0	0.00
n13m24_28.zpl	85,881	98.15	0	0	0	0	1	6	0	0.01
n13m24_29.zpl	20,553	21.58	0	0	0	0	1	6	0	0.00
n13m24_2.zpl	22,751	30.36	0	0	0	0	1	6	0	0.01
n13m24_30.zpl	8196	12.19	0	0	0	0	1	6	0	0.00
n13m24_31.zpl	50,097	48.31	0	0	0	0	1	6	0	0.01
n13m24_32.zpl	6533	9.17	0	0	0	0	1	6	0	0.00
n13m24_33.zpl	71,209	91.17	0	0	0	0	1	6	0	0.01
n13m24_34.zpl	7497	12.30	0	0	0	0	1	6	0	0.00
n13m24_35.zpl	71,910	89.91	0	0	0	0	1	6	0	0.00
n13m24_36.zpl	94,932	96.31	0	0	0	0	1	6	0	0.00
n13m24_37.zpl	228,980	263.88	0	0	0	0	1	6	0	0.00
n13m24_38.zpl	4152	5.92	0	0	0	0	1	6	0	0.00
n13m24_39.zpl	9287	12.08	0	0	0	0	1	6	0	0.00
n13m24_3.zpl	17,495	24.92	0	0	0	0	1	6	0	0.00
n13m24_40.zpl	24,783	33.38	0	0	0	0	1	6	0	0.01
n13m24_41.zpl	1,271,778	1236.38	0	0	0	0	1	6	0	0.00
n13m24_42.zpl	55,447	45.15	0	0	0	0	1	6	0	0.01
n13m24_43.zpl	16,949	26.10	0	0	0	0	1	6	0	0.00
n13m24_44.zpl	7359	9.25	0	0	0	0	1	6	0	0.01
n13m24_45.zpl	243,731	307.79	0	0	0	0	1	6	0	0.00
n13m24_46.zpl	265,675	304.65	0	0	0	0	1	6	0	0.01
n13m24_47.zpl	18,546	25.04	0	0	0	0	1	6	0	0.01
n13m24_48.zpl	12,646	16.97	0	0	0	0	1	6	0	0.01
n13m24_49.zpl	812,554	855.40	0	0	0	0	1	6	0	0.01
n13m24_4.zpl	16,171	23.90	0	0	0	0	1	6	0	0.01
n13m24_50.zpl	15,516	19.74	0	0	0	0	1	6	0	0.01
n13m24_5.zpl	56,655	65.60	0	0	0	0	1	6	0	0.01
n13m24_6.zpl	142,504	165.84	0	0	0	0	1	6	0	0.00
n13m24_7.zpl	65,516	87.15	0	0	0	0	1	6	0	0.00
n13m24_8.zpl	1263	3.39	0	0	0	0	1	6	0	0.00
n13m24_9.zpl	4386	7.56	0	0	0	0	1	6	0	0.01

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TABLE 66. WB testset: orbi-max-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	10,680,663	3600.12	1	0	0	0	0	1	1	0.56
n100m4-11	13,001,125	3600.04	1	0	0	0	0	1	1	0.56
n100m4-12	12,685,779	3600.09	1	0	0	0	0	1	1	0.53
n100m4-13	12,033,779	3600.09	1	0	0	0	0	1	1	0.67
n100m4-14	13,485,835	3600.07	1	0	0	0	0	1	1	0.57
n100m4-15	10,568,980	3600.12	1	0	0	0	0	1	1	0.57
n100m4-16	13,139,370	3600.05	1	0	0	0	0	1	1	0.76
n100m4-17	13,744,158	3600.08	1	0	0	0	0	1	1	0.55
n100m4-18	12,518,990	3600.09	1	0	0	0	0	1	1	0.72
n100m4-19	13,350,320	3600.12	1	0	0	0	0	1	1	0.53
n100m4-1	11,764,133	3600.09	1	0	0	0	0	1	1	0.57
n100m4-20	13,587,170	3600.12	1	0	0	0	0	1	1	0.44
n100m4-2	10,936,687	3600.05	1	0	0	0	0	1	1	0.55
n100m4-3	11,992,620	3600.10	1	0	0	0	0	1	1	0.55
n100m4-4	12,497,548	3600.12	1	0	0	0	0	1	1	0.66
n100m4-5	624	1.44	1	0	0	0	0	1	1	0.35
n100m4-6	12,328,661	3600.10	1	0	0	0	0	1	1	0.56
n100m4-7	13,264,432	3600.06	1	0	0	0	0	1	1	0.59
n100m4-8	1672	1.92	1	0	0	0	0	1	1	0.69
n100m4-9	11,606,031	3600.12	1	0	0	0	0	1	1	0.56
n40m4-10	17,503,376	3600.14	1	0	0	0	0	1	1	0.02
n40m4-11	17,928,035	3600.15	1	0	0	0	0	1	1	0.03
n40m4-12	18,388,183	3600.14	1	0	0	0	0	1	1	0.04
n40m4-13	18,192,674	3600.10	1	0	0	0	0	1	1	0.04
n40m4-14	14,931,308	3600.17	1	0	0	0	0	1	1	0.04
n40m4-15	19,274,312	3600.10	1	0	0	0	0	1	1	0.04
n40m4-16	19,116,786	3600.07	1	0	0	0	0	1	1	0.04
n40m4-17	13,545,377	3600.18	1	0	0	0	0	1	1	0.03
n40m4-18	13,483,411	3600.15	1	0	0	0	0	1	1	0.02
n40m4-19	14,811,946	3600.15	1	0	0	0	0	1	1	0.03
n40m4-1	19,013,443	3600.08	1	0	0	0	0	1	1	0.03
n40m4-20	18,793,659	3600.09	1	0	0	0	0	1	1	0.04
n40m4-2	15,296,744	3600.14	1	0	0	0	0	1	1	0.04
n40m4-3	19,574,365	3600.07	1	0	0	0	0	1	1	0.03
n40m4-4	13,743,256	3600.15	1	0	0	0	0	1	1	0.04
n40m4-5	19,637,637	3600.10	1	0	0	0	0	1	1	0.03
n40m4-6	16,652,712	3600.13	1	0	0	0	0	1	1	0.03
n40m4-7	17,341,787	3600.08	1	0	0	0	0	1	1	0.03
n40m4-8	16,978,434	3600.06	1	0	0	0	0	1	1	0.03
n40m4-9	14,362,588	3600.15	1	0	0	0	0	1	1	0.03
n50m5-10	14,843,331	3600.16	1	0	0	0	0	1	1	0.07
n50m5-11	20,305,560	3600.04	1	0	0	0	0	1	1	0.08
n50m5-12	14,329,596	3600.06	1	0	0	0	0	1	1	0.06
n50m5-13	15,547,067	3600.09	1	0	0	0	0	1	1	0.10
n50m5-14	16,652,481	3600.09	1	0	0	0	0	1	1	0.07
n50m5-15	15,906,008	3600.10	1	0	0	0	0	1	1	0.08
n50m5-16	14,075,285	3600.10	1	0	0	0	0	1	1	0.05
n50m5-17	15,807,319	3600.11	1	0	0	0	0	1	1	0.08
n50m5-18	12,959,115	3600.14	1	0	0	0	0	1	1	0.10
n50m5-19	16,235,918	3600.07	1	0	0	0	0	1	1	0.10

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	14,565,049	3600.14	1	0	0	0	0	1	1	0.10
n50m5-20	15,969,173	3600.10	1	0	0	0	0	1	1	0.07
n50m5-2	15,551,038	3600.10	1	0	0	0	0	1	1	0.04
n50m5-3	11,823,813	3600.08	1	0	0	0	0	1	1	0.08
n50m5-4	16,262,317	3600.05	1	0	0	0	0	1	1	0.09
n50m5-5	15,617,295	3600.15	1	0	0	0	0	1	1	0.08
n50m5-6	16,116,419	3600.08	1	0	0	0	0	1	1	0.08
n50m5-7	15,638,517	3600.10	1	0	0	0	0	1	1	0.06
n50m5-8	15,110,413	3600.10	1	0	0	0	0	1	1	0.07
n50m5-9	14,669,627	3600.07	1	0	0	0	0	1	1	0.05
n60m5-10	15,117,941	3600.09	1	0	0	0	0	1	1	0.07
n60m5-11	15,946,700	3600.05	1	0	0	0	0	1	1	0.16
n60m5-12	14,131,831	3600.08	1	0	0	0	0	1	1	0.22
n60m5-13	14,092,875	3600.08	1	0	0	0	0	1	1	0.14
n60m5-14	13,195,010	3600.08	1	0	0	0	0	1	1	0.10
n60m5-15	13,291,917	3600.10	1	0	0	0	0	1	1	0.17
n60m5-16	13,986,750	3600.14	1	0	0	0	0	1	1	0.16
n60m5-17	12,259,294	3600.07	1	0	0	0	0	1	1	0.21
n60m5-18	11,980,071	3600.08	1	0	0	0	0	1	1	0.08
n60m5-19	15,126,445	3600.05	1	0	0	0	0	1	1	0.19
n60m5-1	14,010,188	3600.10	1	0	0	0	0	1	1	0.14
n60m5-20	13,976,855	3600.11	1	0	0	0	0	1	1	0.10
n60m5-2	15,182,254	3600.10	1	0	0	0	0	1	1	0.14
n60m5-3	15,070,729	3600.06	1	0	0	0	0	1	1	0.13
n60m5-4	13,557,182	3600.09	1	0	0	0	0	1	1	0.13
n60m5-5	12,329,854	3600.10	1	0	0	0	0	1	1	0.15
n60m5-6	16,039,273	3600.09	1	0	0	0	0	1	1	0.09
n60m5-7	14,839,316	3600.08	1	0	0	0	0	1	1	0.10
n60m5-8	14,314,790	3600.08	1	0	0	0	0	1	1	0.13
n60m5-9	12,942,206	3600.09	1	0	0	0	0	1	1	0.17
n80m5-10	11,338,910	3600.10	1	0	0	0	0	1	1	0.35
n80m5-11	14,314,100	3600.08	1	0	0	0	0	1	1	0.45
n80m5-12	10,657,911	3600.11	1	0	0	0	0	1	1	0.49
n80m5-13	12,754,142	3600.05	1	0	0	0	0	1	1	0.38
n80m5-14	12,307,768	3600.11	1	0	0	0	0	1	1	0.37
n80m5-15	12,387,505	3600.09	1	0	0	0	0	1	1	0.25
n80m5-16	14,587,279	3600.07	1	0	0	0	0	1	1	0.35
n80m5-17	12,748,904	3600.04	1	0	0	0	0	1	1	0.41
n80m5-18	13,441,412	3600.04	1	0	0	0	0	1	1	0.43
n80m5-19	12,256,664	3600.08	1	0	0	0	0	1	1	0.36
n80m5-1	14,016,862	3600.07	1	0	0	0	0	1	1	0.33
n80m5-20	12,026,711	3600.09	1	0	0	0	0	1	1	0.36
n80m5-2	10,912,776	3600.11	1	0	0	0	0	1	1	0.36
n80m5-3	12,976,513	3600.10	1	0	0	0	0	1	1	0.20
n80m5-4	11,144,288	3600.10	1	0	0	0	0	1	1	0.41
n80m5-5	12,695,435	3600.12	1	0	0	0	0	1	1	0.19
n80m5-6	16,151,716	3600.04	1	0	0	0	0	1	1	0.36
n80m5-7	11,920,277	3600.06	1	0	0	0	0	1	1	0.35
n80m5-8	14,881,163	3600.05	1	0	0	0	0	1	1	0.43
n80m5-9	13,878,290	3600.06	1	0	0	0	0	1	1	0.46
n60m6-10	13,854,067	3600.06	1	0	0	0	0	1	1	0.14
n60m6-11	14,119,832	3600.06	1	0	0	0	0	1	1	0.20
n60m6-12	12,770,727	3600.12	1	0	0	0	0	1	1	0.17
n60m6-13	13,420,345	3600.06	1	0	0	0	0	1	1	0.20

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TABLE 67. WB testset: orbi-max-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	10,557,747	3600.11	1	0	0	0	0	1	1	0.56
n100m4-11	12,963,764	3600.10	1	0	0	0	0	1	1	0.57
n100m4-12	12,947,748	3600.09	1	0	0	0	0	1	1	0.54
n100m4-13	13,045,273	3600.09	1	0	0	0	0	1	1	0.65
n100m4-14	13,270,736	3600.10	1	0	0	0	0	1	1	0.57
n100m4-15	12,111,538	3600.11	1	0	0	0	0	1	1	0.57
n100m4-16	13,121,291	3600.08	1	0	0	0	0	1	1	0.76
n100m4-17	12,808,172	3600.11	1	0	0	0	0	1	1	0.55
n100m4-18	10,521,698	3600.08	1	0	0	0	0	1	1	0.74
n100m4-19	13,287,773	3600.16	1	0	0	0	0	1	1	0.54
n100m4-1	12,800,011	3600.09	1	0	0	0	0	1	1	0.57
n100m4-20	13,975,736	3600.13	1	0	0	0	0	1	1	0.45
n100m4-2	11,907,853	3600.15	1	0	0	0	0	1	1	0.55
n100m4-3	11,911,721	3600.11	1	0	0	0	0	1	1	0.56
n100m4-4	12,319,700	3600.10	1	0	0	0	0	1	1	0.67
n100m4-5	342	1.03	1	0	0	0	0	1	1	0.35
n100m4-6	12,886,620	3600.12	1	0	0	0	0	1	1	0.55
n100m4-7	11,818,981	3600.11	1	0	0	0	0	1	1	0.59
n100m4-8	60,126	18.56	1	0	0	0	0	1	1	0.67
n100m4-9	12,171,730	3600.09	1	0	0	0	0	1	1	0.57
n40m4-10	16,018,400	3600.17	1	0	0	0	0	1	1	0.01
n40m4-11	19,172,260	3600.11	1	0	0	0	0	1	1	0.04
n40m4-12	18,529,967	3600.10	1	0	0	0	0	1	1	0.04
n40m4-13	20,179,563	3600.08	1	0	0	0	0	1	1	0.04
n40m4-14	15,900,871	3600.16	1	0	0	0	0	1	1	0.03
n40m4-15	20,107,076	3600.06	1	0	0	0	0	1	1	0.04
n40m4-16	18,663,145	3600.06	1	0	0	0	0	1	1	0.04
n40m4-17	15,084,736	3600.19	1	0	0	0	0	1	1	0.03
n40m4-18	13,442,006	3600.12	1	0	0	0	0	1	1	0.02
n40m4-19	15,628,953	3600.14	1	0	0	0	0	1	1	0.03
n40m4-1	18,303,544	3600.13	1	0	0	0	0	1	1	0.04
n40m4-20	20,106,473	3600.08	1	0	0	0	0	1	1	0.03
n40m4-2	15,295,821	3600.15	1	0	0	0	0	1	1	0.04
n40m4-3	19,430,678	3600.08	1	0	0	0	0	1	1	0.03
n40m4-4	15,892,683	3600.12	1	0	0	0	0	1	1	0.03
n40m4-5	19,074,747	3600.12	1	0	0	0	0	1	1	0.04
n40m4-6	17,505,508	3600.10	1	0	0	0	0	1	1	0.03
n40m4-7	16,904,194	3600.14	1	0	0	0	0	1	1	0.04
n40m4-8	16,307,185	3600.16	1	0	0	0	0	1	1	0.03
n40m4-9	15,824,345	3600.14	1	0	0	0	0	1	1	0.03
n50m5-10	14,813,197	3600.12	1	0	0	0	0	1	1	0.07
n50m5-11	15,517,548	3600.08	1	0	0	0	0	1	1	0.08
n50m5-12	15,225,291	3600.00	1	0	0	0	0	1	1	0.05
n50m5-13	13,895,565	3600.14	1	0	0	0	0	1	1	0.10
n50m5-14	16,528,144	3600.08	1	0	0	0	0	1	1	0.07
n50m5-15	15,790,659	3600.10	1	0	0	0	0	1	1	0.07
n50m5-16	14,834,267	3600.10	1	0	0	0	0	1	1	0.06
n50m5-17	12,587,454	3600.12	1	0	0	0	0	1	1	0.08
n50m5-18	12,781,411	3600.13	1	0	0	0	0	1	1	0.10
n50m5-19	11,848,747	3600.13	1	0	0	0	0	1	1	0.10

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	13,289,658	3600.15	1	0	0	0	0	1	1	0.10
n50m5-20	16,531,433	3600.10	1	0	0	0	0	1	1	0.07
n50m5-2	14,432,559	3600.12	1	0	0	0	0	1	1	0.04
n50m5-3	13,750,108	3600.14	1	0	0	0	0	1	1	0.07
n50m5-4	13,826,359	3600.12	1	0	0	0	0	1	1	0.09
n50m5-5	14,485,858	3600.13	1	0	0	0	0	1	1	0.08
n50m5-6	15,036,103	3600.11	1	0	0	0	0	1	1	0.08
n50m5-7	14,456,456	3600.16	1	0	0	0	0	1	1	0.07
n50m5-8	13,933,435	3600.14	1	0	0	0	0	1	1	0.07
n50m5-9	13,964,700	3600.12	1	0	0	0	0	1	1	0.05
n60m5-10	15,530,638	3600.08	1	0	0	0	0	1	1	0.07
n60m5-11	16,535,108	3600.07	1	0	0	0	0	1	1	0.15
n60m5-12	13,841,590	3600.08	1	0	0	0	0	1	1	0.23
n60m5-13	13,791,115	3600.08	1	0	0	0	0	1	1	0.14
n60m5-14	13,561,011	3600.08	1	0	0	0	0	1	1	0.10
n60m5-15	15,070,021	3600.08	1	0	0	0	0	1	1	0.17
n60m5-16	13,775,472	3600.13	1	0	0	0	0	1	1	0.16
n60m5-17	13,265,047	3600.12	1	0	0	0	0	1	1	0.21
n60m5-18	14,255,253	3600.07	1	0	0	0	0	1	1	0.09
n60m5-19	14,428,909	3600.04	1	0	0	0	0	1	1	0.19
n60m5-1	14,131,295	3600.10	1	0	0	0	0	1	1	0.15
n60m5-20	14,844,221	3600.09	1	0	0	0	0	1	1	0.10
n60m5-2	14,511,719	3600.12	1	0	0	0	0	1	1	0.14
n60m5-3	13,813,707	3600.07	1	0	0	0	0	1	1	0.14
n60m5-4	14,262,207	3600.07	1	0	0	0	0	1	1	0.14
n60m5-5	13,789,780	3600.10	1	0	0	0	0	1	1	0.15
n60m5-6	17,241,864	3600.07	1	0	0	0	0	1	1	0.09
n60m5-7	15,979,474	3600.05	1	0	0	0	0	1	1	0.09
n60m5-8	15,864,167	3600.08	1	0	0	0	0	1	1	0.13
n60m5-9	13,396,934	3600.07	1	0	0	0	0	1	1	0.17
n80m5-10	11,734,450	3600.12	1	0	0	0	0	1	1	0.36
n80m5-11	14,356,695	3600.05	1	0	0	0	0	1	1	0.44
n80m5-12	14,339,584	3600.05	1	0	0	0	0	1	1	0.49
n80m5-13	13,029,188	3600.06	1	0	0	0	0	1	1	0.39
n80m5-14	11,099,222	3600.10	1	0	0	0	0	1	1	0.37
n80m5-15	13,036,201	3600.08	1	0	0	0	0	1	1	0.25
n80m5-16	15,369,203	3600.05	1	0	0	0	0	1	1	0.35
n80m5-17	13,463,430	3600.06	1	0	0	0	0	1	1	0.41
n80m5-18	13,521,347	3600.07	1	0	0	0	0	1	1	0.42
n80m5-19	11,529,706	3600.06	1	0	0	0	0	1	1	0.36
n80m5-1	14,626,219	3600.06	1	0	0	0	0	1	1	0.33
n80m5-20	12,404,547	3600.10	1	0	0	0	0	1	1	0.36
n80m5-2	12,024,886	3600.11	1	0	0	0	0	1	1	0.36
n80m5-3	12,672,926	3600.08	1	0	0	0	0	1	1	0.19
n80m5-4	11,048,224	3600.11	1	0	0	0	0	1	1	0.42
n80m5-5	13,559,014	3600.06	1	0	0	0	0	1	1	0.19
n80m5-6	13,984,656	3600.06	1	0	0	0	0	1	1	0.35
n80m5-7	12,891,253	3600.08	1	0	0	0	0	1	1	0.35
n80m5-8	13,999,138	3600.04	1	0	0	0	0	1	1	0.43
n80m5-9	15,480,252	3600.05	1	0	0	0	0	1	1	0.48
n60m6-10	13,952,975	3600.05	1	0	0	0	0	1	1	0.14
n60m6-11	14,469,447	3600.08	1	0	0	0	0	1	1	0.21
n60m6-12	14,600,798	3600.06	1	0	0	0	0	1	1	0.17
n60m6-13	14,106,082	3600.08	1	0	0	0	0	1	1	0.20

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TABLE 68. WB testset: orbi-max-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	10,692,236	3600.12	1	0	0	0	0	1	1	0.56
n100m4-11	13,015,591	3600.04	1	0	0	0	0	1	1	0.57
n100m4-12	12,624,949	3600.09	1	0	0	0	0	1	1	0.54
n100m4-13	12,001,987	3600.09	1	0	0	0	0	1	1	0.67
n100m4-14	13,376,836	3600.07	1	0	0	0	0	1	1	0.56
n100m4-15	10,557,283	3600.11	1	0	0	0	0	1	1	0.57
n100m4-16	13,150,562	3600.05	1	0	0	0	0	1	1	0.77
n100m4-17	13,665,733	3600.08	1	0	0	0	0	1	1	0.54
n100m4-18	12,501,846	3600.09	1	0	0	0	0	1	1	0.73
n100m4-19	13,301,750	3600.12	1	0	0	0	0	1	1	0.57
n100m4-1	11,744,922	3600.08	1	0	0	0	0	1	1	0.57
n100m4-20	13,556,542	3600.12	1	0	0	0	0	1	1	0.43
n100m4-2	10,846,390	3600.05	1	0	0	0	0	1	1	0.56
n100m4-3	11,966,131	3600.10	1	0	0	0	0	1	1	0.55
n100m4-4	12,424,075	3600.12	1	0	0	0	0	1	1	0.66
n100m4-5	624	1.48	1	0	0	0	0	1	1	0.35
n100m4-6	12,317,573	3600.10	1	0	0	0	0	1	1	0.55
n100m4-7	13,245,181	3600.06	1	0	0	0	0	1	1	0.58
n100m4-8	1672	1.91	1	0	0	0	0	1	1	0.68
n100m4-9	11,594,748	3600.12	1	0	0	0	0	1	1	0.58
n40m4-10	17,513,613	3600.14	1	0	0	0	0	1	1	0.01
n40m4-11	17,905,448	3600.15	1	0	0	0	0	1	1	0.04
n40m4-12	18,307,245	3600.14	1	0	0	0	0	1	1	0.03
n40m4-13	18,197,999	3600.10	1	0	0	0	0	1	1	0.04
n40m4-14	14,909,614	3600.17	1	0	0	0	0	1	1	0.04
n40m4-15	19,058,301	3600.10	1	0	0	0	0	1	1	0.03
n40m4-16	19,039,001	3600.07	1	0	0	0	0	1	1	0.03
n40m4-17	13,541,785	3600.18	1	0	0	0	0	1	1	0.03
n40m4-18	13,433,589	3600.14	1	0	0	0	0	1	1	0.02
n40m4-19	14,776,856	3600.14	1	0	0	0	0	1	1	0.03
n40m4-1	18,997,247	3600.08	1	0	0	0	0	1	1	0.04
n40m4-20	18,789,830	3600.09	1	0	0	0	0	1	1	0.03
n40m4-2	15,207,623	3600.14	1	0	0	0	0	1	1	0.03
n40m4-3	19,536,554	3600.07	1	0	0	0	0	1	1	0.04
n40m4-4	13,730,622	3600.15	1	0	0	0	0	1	1	0.03
n40m4-5	19,569,478	3600.10	1	0	0	0	0	1	1	0.03
n40m4-6	16,692,719	3600.13	1	0	0	0	0	1	1	0.03
n40m4-7	17,318,520	3600.08	1	0	0	0	0	1	1	0.03
n40m4-8	17,045,191	3600.06	1	0	0	0	0	1	1	0.03
n40m4-9	14,298,298	3600.15	1	0	0	0	0	1	1	0.03
n50m5-10	14,893,807	3600.16	1	0	0	0	0	1	1	0.07
n50m5-11	20,226,345	3600.04	1	0	0	0	0	1	1	0.08
n50m5-12	14,374,604	3600.06	1	0	0	0	0	1	1	0.06
n50m5-13	15,535,644	3600.09	1	0	0	0	0	1	1	0.09
n50m5-14	16,700,411	3600.09	1	0	0	0	0	1	1	0.07
n50m5-15	15,930,258	3600.10	1	0	0	0	0	1	1	0.07
n50m5-16	14,011,845	3600.10	1	0	0	0	0	1	1	0.06
n50m5-17	15,782,804	3600.11	1	0	0	0	0	1	1	0.08
n50m5-18	12,909,947	3600.14	1	0	0	0	0	1	1	0.10
n50m5-19	16,250,336	3600.06	1	0	0	0	0	1	1	0.10

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	14,490,041	3600.14	1	0	0	0	0	1	1	0.09
n50m5-20	15,942,600	3600.10	1	0	0	0	0	1	1	0.07
n50m5-2	15,568,661	3600.10	1	0	0	0	0	1	1	0.04
n50m5-3	11,802,190	3600.08	1	0	0	0	0	1	1	0.08
n50m5-4	16,261,019	3600.05	1	0	0	0	0	1	1	0.09
n50m5-5	15,584,893	3600.15	1	0	0	0	0	1	1	0.08
n50m5-6	16,002,719	3600.08	1	0	0	0	0	1	1	0.08
n50m5-7	15,612,562	3600.10	1	0	0	0	0	1	1	0.07
n50m5-8	15,067,186	3600.10	1	0	0	0	0	1	1	0.07
n50m5-9	14,659,643	3600.07	1	0	0	0	0	1	1	0.05
n60m5-10	15,066,344	3600.09	1	0	0	0	0	1	1	0.06
n60m5-11	15,912,683	3600.05	1	0	0	0	0	1	1	0.15
n60m5-12	14,081,124	3600.07	1	0	0	0	0	1	1	0.23
n60m5-13	14,017,776	3600.08	1	0	0	0	0	1	1	0.13
n60m5-14	13,156,168	3600.08	1	0	0	0	0	1	1	0.11
n60m5-15	13,270,536	3600.10	1	0	0	0	0	1	1	0.16
n60m5-16	13,925,927	3600.14	1	0	0	0	0	1	1	0.16
n60m5-17	12,220,191	3600.07	1	0	0	0	0	1	1	0.21
n60m5-18	11,956,684	3600.08	1	0	0	0	0	1	1	0.09
n60m5-19	15,111,384	3600.05	1	0	0	0	0	1	1	0.18
n60m5-1	14,022,518	3600.10	1	0	0	0	0	1	1	0.14
n60m5-20	13,955,722	3600.11	1	0	0	0	0	1	1	0.10
n60m5-2	15,105,787	3600.10	1	0	0	0	0	1	1	0.13
n60m5-3	14,676,788	3600.06	1	0	0	0	0	1	1	0.13
n60m5-4	13,547,262	3600.09	1	0	0	0	0	1	1	0.14
n60m5-5	12,312,127	3600.10	1	0	0	0	0	1	1	0.15
n60m5-6	16,026,166	3600.09	1	0	0	0	0	1	1	0.09
n60m5-7	14,880,251	3600.09	1	0	0	0	0	1	1	0.09
n60m5-8	14,297,614	3600.08	1	0	0	0	0	1	1	0.13
n60m5-9	12,953,086	3600.09	1	0	0	0	0	1	1	0.18
n80m5-10	11,336,882	3600.10	1	0	0	0	0	1	1	0.36
n80m5-11	14,296,338	3600.08	1	0	0	0	0	1	1	0.45
n80m5-12	10,590,612	3600.10	1	0	0	0	0	1	1	0.50
n80m5-13	12,777,496	3600.05	1	0	0	0	0	1	1	0.38
n80m5-14	12,271,411	3600.11	1	0	0	0	0	1	1	0.37
n80m5-15	12,380,662	3600.09	1	0	0	0	0	1	1	0.25
n80m5-16	14,570,002	3600.07	1	0	0	0	0	1	1	0.37
n80m5-17	12,739,774	3600.04	1	0	0	0	0	1	1	0.41
n80m5-18	13,393,490	3600.05	1	0	0	0	0	1	1	0.42
n80m5-19	12,196,566	3600.08	1	0	0	0	0	1	1	0.36
n80m5-1	13,978,198	3600.07	1	0	0	0	0	1	1	0.33
n80m5-20	12,012,917	3600.09	1	0	0	0	0	1	1	0.35
n80m5-2	10,870,644	3600.10	1	0	0	0	0	1	1	0.37
n80m5-3	12,956,230	3600.10	1	0	0	0	0	1	1	0.19
n80m5-4	11,111,343	3600.10	1	0	0	0	0	1	1	0.41
n80m5-5	12,677,839	3600.12	1	0	0	0	0	1	1	0.20
n80m5-6	16,106,947	3600.04	1	0	0	0	0	1	1	0.34
n80m5-7	11,917,702	3600.06	1	0	0	0	0	1	1	0.35
n80m5-8	14,822,561	3600.05	1	0	0	0	0	1	1	0.42
n80m5-9	13,851,314	3600.06	1	0	0	0	0	1	1	0.47
n60m6-10	13,889,101	3600.06	1	0	0	0	0	1	1	0.13
n60m6-11	14,046,866	3600.06	1	0	0	0	0	1	1	0.21
n60m6-12	12,714,748	3600.12	1	0	0	0	0	1	1	0.18
n60m6-13	13,426,045	3600.06	1	0	0	0	0	1	1	0.21

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TABLE 69. WB testset: orbi-min-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	11,361,700	3600.11	0	0	0	0	1	123	0	0.60
n100m4-11	12,720,148	3600.08	0	0	0	0	1	119	0	0.62
n100m4-12	11,826,440	3600.08	0	0	0	0	1	111	0	0.58
n100m4-13	13,125,903	3600.08	0	0	0	0	1	63	0	0.70
n100m4-14	13,821,824	3600.14	0	0	0	0	1	103	0	0.61
n100m4-15	13,498,884	3600.13	0	0	0	0	1	99	0	0.62
n100m4-16	14,898,763	3600.06	0	0	0	0	1	67	0	0.80
n100m4-17	12,607,934	3600.10	0	0	0	0	1	115	0	0.61
n100m4-18	12,416,114	3600.15	0	0	0	0	1	135	0	0.78
n100m4-19	12,682,122	3600.12	0	0	0	0	1	111	0	0.59
n100m4-1	12,335,971	3600.10	0	0	0	0	1	119	0	0.63
n100m4-20	11,641,593	3600.12	0	0	0	0	1	99	0	0.49
n100m4-2	13,167,705	3600.10	0	0	0	0	1	123	0	0.61
n100m4-3	12,575,347	3600.06	0	0	0	0	1	111	0	0.60
n100m4-4	14,908,522	3600.05	0	0	0	0	1	119	0	0.71
n100m4-5	15,318	5.84	0	0	0	0	1	87	0	0.40
n100m4-6	12,625,024	3600.14	0	0	0	0	1	103	0	0.60
n100m4-7	11,493,591	3600.10	0	0	0	0	1	107	0	0.63
n100m4-8	2607	2.72	0	0	0	0	1	127	0	0.74
n100m4-9	12,540,572	3600.10	0	0	0	0	1	119	0	0.64
n40m4-10	15,463,779	3600.18	0	0	0	0	1	23	0	0.02
n40m4-11	14,442,656	3600.18	0	0	0	0	1	39	0	0.06
n40m4-12	17,607,223	3600.10	0	0	0	0	1	47	0	0.06
n40m4-13	20,332,055	3600.06	0	0	0	0	1	55	0	0.06
n40m4-14	17,091,309	3600.13	0	0	0	0	1	23	0	0.03
n40m4-15	19,650,715	3600.06	0	0	0	0	1	51	0	0.06
n40m4-16	17,808,727	3600.12	0	0	0	0	1	43	0	0.05
n40m4-17	16,886,644	3600.10	0	0	0	0	1	43	0	0.05
n40m4-18	14,232,482	3600.11	0	0	0	0	1	39	0	0.04
n40m4-19	15,407,061	3600.17	0	0	0	0	1	51	0	0.06
n40m4-1	17,166,405	3600.13	0	0	0	0	1	47	0	0.06
n40m4-20	20,213,692	3600.06	0	0	0	0	1	51	0	0.05
n40m4-2	16,917,279	3600.10	0	0	0	0	1	31	0	0.05
n40m4-3	19,279,079	3600.12	0	0	0	0	1	51	0	0.05
n40m4-4	15,436,133	3600.12	0	0	0	0	1	47	0	0.06
n40m4-5	18,728,926	3600.14	0	0	0	0	1	39	0	0.05
n40m4-6	17,540,002	3600.15	0	0	0	0	1	51	0	0.06
n40m4-7	16,690,161	3600.13	0	0	0	0	1	47	0	0.05
n40m4-8	17,415,825	3600.15	0	0	0	0	1	67	0	0.07
n40m4-9	16,502,770	3600.16	0	0	0	0	1	43	0	0.05
n50m5-10	14,291,806	3600.13	0	0	0	0	1	69	0	0.10
n50m5-11	15,063,274	3600.09	0	0	0	0	1	69	0	0.12
n50m5-12	11,687,037	3600.05	0	0	0	0	1	49	0	0.08
n50m5-13	13,316,483	3600.11	0	0	0	0	1	69	0	0.13
n50m5-14	15,577,353	3600.11	0	0	0	0	1	69	0	0.10
n50m5-15	15,223,948	3600.12	0	0	0	0	1	59	0	0.10
n50m5-16	13,792,061	3600.11	0	0	0	0	1	59	0	0.09
n50m5-17	14,933,550	3600.12	0	0	0	0	1	54	0	0.10
n50m5-18	13,394,232	3600.09	0	0	0	0	1	54	0	0.12
n50m5-19	13,843,912	3600.12	0	0	0	0	1	94	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	15,455,019	3600.14	0	0	0	0	1	84	0	0.13
n50m5-20	14,792,984	3600.13	0	0	0	0	1	59	0	0.10
n50m5-2	15,304,203	3600.09	0	0	0	0	1	69	0	0.07
n50m5-3	12,579,825	3600.15	0	0	0	0	1	54	0	0.09
n50m5-4	13,369,177	3600.14	0	0	0	0	1	64	0	0.12
n50m5-5	15,200,329	3600.11	0	0	0	0	1	69	0	0.11
n50m5-6	14,589,822	3600.14	0	0	0	0	1	69	0	0.11
n50m5-7	14,329,110	3600.14	0	0	0	0	1	84	0	0.10
n50m5-8	13,758,912	3600.09	0	0	0	0	1	74	0	0.11
n50m5-9	15,433,154	3600.10	0	0	0	0	1	64	0	0.09
n60m5-10	16,381,882	3600.00	0	0	0	0	1	69	0	0.10
n60m5-11	15,128,274	3600.07	0	0	0	0	1	64	0	0.18
n60m5-12	12,248,909	3600.08	0	0	0	0	1	129	0	0.29
n60m5-13	14,836,057	3600.09	0	0	0	0	1	89	0	0.18
n60m5-14	10,724,870	3600.14	0	0	0	0	1	89	0	0.14
n60m5-15	12,735,996	3600.15	0	0	0	0	1	69	0	0.19
n60m5-16	12,264,414	3600.16	0	0	0	0	1	94	0	0.20
n60m5-17	13,535,468	3600.09	0	0	0	0	1	119	0	0.27
n60m5-18	14,326,250	3600.09	0	0	0	0	1	74	0	0.12
n60m5-19	13,460,205	3600.10	0	0	0	0	1	119	0	0.24
n60m5-1	14,466,770	3600.08	0	0	0	0	1	89	0	0.17
n60m5-20	13,851,344	3600.11	0	0	0	0	1	84	0	0.15
n60m5-2	15,255,314	3600.08	0	0	0	0	1	89	0	0.18
n60m5-3	13,453,543	3600.08	0	0	0	0	1	79	0	0.17
n60m5-4	14,558,564	3600.10	0	0	0	0	1	89	0	0.18
n60m5-5	14,116,249	3600.10	0	0	0	0	1	99	0	0.20
n60m5-6	14,915,970	3600.08	0	0	0	0	1	64	0	0.11
n60m5-7	15,440,371	3600.07	0	0	0	0	1	89	0	0.14
n60m5-8	13,961,037	3600.10	0	0	0	0	1	79	0	0.16
n60m5-9	14,742,872	3600.09	0	0	0	0	1	69	0	0.21
n80m5-10	12,495,306	3600.08	0	0	0	0	1	134	0	0.43
n80m5-11	13,958,392	3600.06	0	0	0	0	1	139	0	0.51
n80m5-12	12,772,839	3600.11	0	0	0	0	1	104	0	0.53
n80m5-13	12,460,829	3600.10	0	0	0	0	1	134	0	0.44
n80m5-14	11,224,955	3600.10	0	0	0	0	1	134	0	0.44
n80m5-15	11,656,927	3600.10	0	0	0	0	1	124	0	0.31
n80m5-16	13,324,729	3600.06	0	0	0	0	1	94	0	0.38
n80m5-17	12,209,344	3600.11	0	0	0	0	1	129	0	0.48
n80m5-18	14,679,860	3600.04	0	0	0	0	1	89	0	0.46
n80m5-19	11,572,396	3600.07	0	0	0	0	1	84	0	0.40
n80m5-1	13,803,718	3600.06	0	0	0	0	1	109	0	0.37
n80m5-20	11,433,989	3600.08	0	0	0	0	1	69	0	0.38
n80m5-2	11,764,827	3600.07	0	0	0	0	1	119	0	0.41
n80m5-3	13,266,707	3600.06	0	0	0	0	1	99	0	0.24
n80m5-4	12,263,034	3600.08	0	0	0	0	1	134	0	0.48
n80m5-5	11,386,834	3600.09	0	0	0	0	1	69	0	0.23
n80m5-6	14,621,810	3600.06	0	0	0	0	1	89	0	0.39
n80m5-7	12,560,891	3600.08	0	0	0	0	1	104	0	0.39
n80m5-8	12,870,347	3600.03	0	0	0	0	1	119	0	0.48
n80m5-9	12,744,693	3600.05	0	0	0	0	1	79	0	0.51
n60m6-10	13,691,579	3600.06	0	0	0	0	1	83	0	0.17
n60m6-11	12,997,163	3600.08	0	0	0	0	1	71	0	0.24
n60m6-12	15,400,657	3600.07	0	0	0	0	1	77	0	0.21
n60m6-13	13,087,324	3600.08	0	0	0	0	1	95	0	0.25

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TABLE 70. WB testset: orbi-min-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	11,412,512	3600.11	0	0	0	0	1	123	0	0.60
n100m4-11	12,722,161	3600.08	0	0	0	0	1	119	0	0.63
n100m4-12	11,827,979	3600.08	0	0	0	0	1	111	0	0.57
n100m4-13	13,163,563	3600.08	0	0	0	0	1	63	0	0.70
n100m4-14	13,731,002	3600.14	0	0	0	0	1	103	0	0.61
n100m4-15	13,511,537	3600.13	0	0	0	0	1	99	0	0.62
n100m4-16	14,870,137	3600.06	0	0	0	0	1	67	0	0.80
n100m4-17	12,584,284	3600.11	0	0	0	0	1	115	0	0.60
n100m4-18	12,453,456	3600.15	0	0	0	0	1	135	0	0.78
n100m4-19	12,716,207	3600.12	0	0	0	0	1	111	0	0.60
n100m4-1	12,300,014	3600.10	0	0	0	0	1	119	0	0.62
n100m4-20	11,682,802	3600.12	0	0	0	0	1	99	0	0.49
n100m4-2	13,182,488	3600.10	0	0	0	0	1	123	0	0.61
n100m4-3	12,503,673	3600.06	0	0	0	0	1	111	0	0.60
n100m4-4	14,915,844	3600.05	0	0	0	0	1	119	0	0.72
n100m4-5	15,318	5.82	0	0	0	0	1	87	0	0.38
n100m4-6	12,626,970	3600.14	0	0	0	0	1	103	0	0.60
n100m4-7	11,478,891	3600.10	0	0	0	0	1	107	0	0.65
n100m4-8	2607	2.71	0	0	0	0	1	127	0	0.74
n100m4-9	12,530,650	3600.10	0	0	0	0	1	119	0	0.64
n40m4-10	15,432,783	3600.18	0	0	0	0	1	23	0	0.02
n40m4-11	14,471,354	3600.18	0	0	0	0	1	39	0	0.06
n40m4-12	17,626,655	3600.10	0	0	0	0	1	47	0	0.05
n40m4-13	20,334,242	3600.06	0	0	0	0	1	55	0	0.06
n40m4-14	17,108,653	3600.13	0	0	0	0	1	23	0	0.05
n40m4-15	19,631,872	3600.06	0	0	0	0	1	51	0	0.05
n40m4-16	17,837,440	3600.12	0	0	0	0	1	43	0	0.05
n40m4-17	16,919,342	3600.10	0	0	0	0	1	43	0	0.06
n40m4-18	14,233,188	3600.11	0	0	0	0	1	39	0	0.03
n40m4-19	15,433,094	3600.17	0	0	0	0	1	51	0	0.06
n40m4-1	17,092,347	3600.13	0	0	0	0	1	47	0	0.06
n40m4-20	20,202,378	3600.06	0	0	0	0	1	51	0	0.04
n40m4-2	16,931,643	3600.10	0	0	0	0	1	31	0	0.05
n40m4-3	19,160,449	3600.12	0	0	0	0	1	51	0	0.05
n40m4-4	15,392,428	3600.13	0	0	0	0	1	47	0	0.05
n40m4-5	18,718,001	3600.14	0	0	0	0	1	39	0	0.04
n40m4-6	17,546,310	3600.15	0	0	0	0	1	51	0	0.05
n40m4-7	16,664,668	3600.13	0	0	0	0	1	47	0	0.05
n40m4-8	17,403,363	3600.15	0	0	0	0	1	67	0	0.06
n40m4-9	16,444,848	3600.16	0	0	0	0	1	43	0	0.06
n50m5-10	14,375,892	3600.13	0	0	0	0	1	69	0	0.10
n50m5-11	15,049,389	3600.09	0	0	0	0	1	69	0	0.11
n50m5-12	11,676,688	3600.05	0	0	0	0	1	49	0	0.08
n50m5-13	13,346,638	3600.11	0	0	0	0	1	69	0	0.13
n50m5-14	15,588,621	3600.11	0	0	0	0	1	69	0	0.11
n50m5-15	15,249,828	3600.12	0	0	0	0	1	59	0	0.10
n50m5-16	13,777,790	3600.11	0	0	0	0	1	59	0	0.09
n50m5-17	14,976,885	3600.12	0	0	0	0	1	54	0	0.11
n50m5-18	13,322,804	3600.09	0	0	0	0	1	54	0	0.13
n50m5-19	13,828,065	3600.12	0	0	0	0	1	94	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	15,455,185	3600.14	0	0	0	0	1	84	0	0.13
n50m5-20	14,740,911	3600.14	0	0	0	0	1	59	0	0.11
n50m5-2	15,307,966	3600.09	0	0	0	0	1	69	0	0.08
n50m5-3	12,559,889	3600.15	0	0	0	0	1	54	0	0.10
n50m5-4	13,375,309	3600.14	0	0	0	0	1	64	0	0.12
n50m5-5	15,145,383	3600.11	0	0	0	0	1	69	0	0.11
n50m5-6	14,600,473	3600.14	0	0	0	0	1	69	0	0.12
n50m5-7	14,415,812	3600.14	0	0	0	0	1	84	0	0.11
n50m5-8	13,697,692	3600.09	0	0	0	0	1	74	0	0.11
n50m5-9	15,439,532	3600.10	0	0	0	0	1	64	0	0.08
n60m5-10	16,388,260	3600.00	0	0	0	0	1	69	0	0.10
n60m5-11	15,030,632	3600.06	0	0	0	0	1	64	0	0.18
n60m5-12	12,257,650	3600.08	0	0	0	0	1	129	0	0.29
n60m5-13	14,827,665	3600.09	0	0	0	0	1	89	0	0.18
n60m5-14	10,741,026	3600.14	0	0	0	0	1	89	0	0.15
n60m5-15	12,688,012	3600.15	0	0	0	0	1	69	0	0.20
n60m5-16	12,253,215	3600.16	0	0	0	0	1	94	0	0.21
n60m5-17	13,553,496	3600.09	0	0	0	0	1	119	0	0.26
n60m5-18	14,291,240	3600.09	0	0	0	0	1	74	0	0.12
n60m5-19	13,461,350	3600.10	0	0	0	0	1	119	0	0.24
n60m5-1	14,396,171	3600.08	0	0	0	0	1	89	0	0.18
n60m5-20	13,843,501	3600.11	0	0	0	0	1	84	0	0.14
n60m5-2	15,302,171	3600.08	0	0	0	0	1	89	0	0.18
n60m5-3	13,497,016	3600.08	0	0	0	0	1	79	0	0.17
n60m5-4	14,493,586	3600.10	0	0	0	0	1	89	0	0.18
n60m5-5	14,140,564	3600.10	0	0	0	0	1	99	0	0.20
n60m5-6	14,933,743	3600.08	0	0	0	0	1	64	0	0.12
n60m5-7	15,418,138	3600.07	0	0	0	0	1	89	0	0.14
n60m5-8	13,947,611	3600.10	0	0	0	0	1	79	0	0.17
n60m5-9	14,807,132	3600.09	0	0	0	0	1	69	0	0.21
n80m5-10	12,533,209	3600.08	0	0	0	0	1	134	0	0.42
n80m5-11	13,945,388	3600.06	0	0	0	0	1	139	0	0.52
n80m5-12	12,769,219	3600.10	0	0	0	0	1	104	0	0.55
n80m5-13	12,435,284	3600.10	0	0	0	0	1	134	0	0.45
n80m5-14	11,209,333	3600.10	0	0	0	0	1	134	0	0.43
n80m5-15	11,644,166	3600.11	0	0	0	0	1	124	0	0.30
n80m5-16	13,378,826	3600.06	0	0	0	0	1	94	0	0.40
n80m5-17	12,183,827	3600.11	0	0	0	0	1	129	0	0.47
n80m5-18	14,675,783	3600.04	0	0	0	0	1	89	0	0.46
n80m5-19	11,536,529	3600.06	0	0	0	0	1	84	0	0.40
n80m5-1	13,774,163	3600.06	0	0	0	0	1	109	0	0.38
n80m5-20	11,418,401	3600.08	0	0	0	0	1	69	0	0.39
n80m5-2	11,808,374	3600.07	0	0	0	0	1	119	0	0.42
n80m5-3	13,252,651	3600.06	0	0	0	0	1	99	0	0.23
n80m5-4	12,257,365	3600.08	0	0	0	0	1	134	0	0.46
n80m5-5	11,428,030	3600.08	0	0	0	0	1	69	0	0.22
n80m5-6	14,635,310	3600.06	0	0	0	0	1	89	0	0.39
n80m5-7	12,519,131	3600.08	0	0	0	0	1	104	0	0.39
n80m5-8	12,879,231	3600.03	0	0	0	0	1	119	0	0.48
n80m5-9	12,755,731	3600.05	0	0	0	0	1	79	0	0.51
n60m6-10	13,747,296	3600.06	0	0	0	0	1	83	0	0.18
n60m6-11	12,937,510	3600.08	0	0	0	0	1	71	0	0.23
n60m6-12	15,365,745	3600.07	0	0	0	0	1	77	0	0.21
n60m6-13	13,039,407	3600.08	0	0	0	0	1	95	0	0.25

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TABLE 71. WB testset: orbi-min-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	11,426,242	3600.11	0	0	0	0	1	123	0	0.61
n100m4-11	12,708,447	3600.08	0	0	0	0	1	119	0	0.62
n100m4-12	11,816,849	3600.08	0	0	0	0	1	111	0	0.59
n100m4-13	13,198,447	3600.08	0	0	0	0	1	63	0	0.69
n100m4-14	13,799,996	3600.14	0	0	0	0	1	103	0	0.61
n100m4-15	13,506,014	3600.13	0	0	0	0	1	99	0	0.62
n100m4-16	14,823,435	3600.06	0	0	0	0	1	67	0	0.80
n100m4-17	12,622,931	3600.10	0	0	0	0	1	115	0	0.60
n100m4-18	12,453,945	3600.14	0	0	0	0	1	135	0	0.78
n100m4-19	12,666,007	3600.12	0	0	0	0	1	111	0	0.60
n100m4-1	12,278,528	3600.10	0	0	0	0	1	119	0	0.62
n100m4-20	11,669,395	3600.12	0	0	0	0	1	99	0	0.49
n100m4-2	13,172,012	3600.10	0	0	0	0	1	123	0	0.61
n100m4-3	12,562,882	3600.06	0	0	0	0	1	111	0	0.60
n100m4-4	14,966,120	3600.05	0	0	0	0	1	119	0	0.71
n100m4-5	15,318	5.71	0	0	0	0	1	87	0	0.39
n100m4-6	12,591,745	3600.14	0	0	0	0	1	103	0	0.61
n100m4-7	11,481,336	3600.10	0	0	0	0	1	107	0	0.64
n100m4-8	2607	2.70	0	0	0	0	1	127	0	0.74
n100m4-9	12,538,057	3600.10	0	0	0	0	1	119	0	0.62
n40m4-10	15,466,454	3600.18	0	0	0	0	1	23	0	0.02
n40m4-11	14,469,137	3600.18	0	0	0	0	1	39	0	0.05
n40m4-12	17,571,634	3600.10	0	0	0	0	1	47	0	0.06
n40m4-13	20,390,769	3600.06	0	0	0	0	1	55	0	0.06
n40m4-14	17,118,222	3600.13	0	0	0	0	1	23	0	0.04
n40m4-15	19,707,975	3600.06	0	0	0	0	1	51	0	0.05
n40m4-16	17,808,846	3600.12	0	0	0	0	1	43	0	0.06
n40m4-17	16,903,861	3600.10	0	0	0	0	1	43	0	0.06
n40m4-18	14,222,997	3600.11	0	0	0	0	1	39	0	0.04
n40m4-19	15,455,954	3600.17	0	0	0	0	1	51	0	0.06
n40m4-1	17,150,706	3600.13	0	0	0	0	1	47	0	0.06
n40m4-20	20,139,922	3600.06	0	0	0	0	1	51	0	0.05
n40m4-2	16,833,190	3600.10	0	0	0	0	1	31	0	0.05
n40m4-3	19,313,889	3600.12	0	0	0	0	1	51	0	0.06
n40m4-4	15,403,589	3600.13	0	0	0	0	1	47	0	0.06
n40m4-5	18,782,303	3600.13	0	0	0	0	1	39	0	0.05
n40m4-6	17,539,121	3600.15	0	0	0	0	1	51	0	0.06
n40m4-7	16,657,881	3600.13	0	0	0	0	1	47	0	0.06
n40m4-8	17,388,409	3600.15	0	0	0	0	1	67	0	0.07
n40m4-9	16,492,581	3600.16	0	0	0	0	1	43	0	0.05
n50m5-10	14,374,685	3600.14	0	0	0	0	1	69	0	0.10
n50m5-11	15,034,041	3600.09	0	0	0	0	1	69	0	0.12
n50m5-12	11,680,559	3600.05	0	0	0	0	1	49	0	0.07
n50m5-13	13,346,713	3600.11	0	0	0	0	1	69	0	0.13
n50m5-14	15,567,341	3600.11	0	0	0	0	1	69	0	0.10
n50m5-15	15,244,794	3600.12	0	0	0	0	1	59	0	0.10
n50m5-16	13,802,433	3600.11	0	0	0	0	1	59	0	0.08
n50m5-17	14,946,665	3600.12	0	0	0	0	1	54	0	0.10
n50m5-18	13,375,946	3600.09	0	0	0	0	1	54	0	0.13
n50m5-19	13,819,078	3600.12	0	0	0	0	1	94	0	0.15

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	15,432,923	3600.14	0	0	0	0	1	84	0	0.13
n50m5-20	14,727,452	3600.13	0	0	0	0	1	59	0	0.11
n50m5-2	15,302,570	3600.09	0	0	0	0	1	69	0	0.08
n50m5-3	12,565,102	3600.15	0	0	0	0	1	54	0	0.10
n50m5-4	13,341,273	3600.14	0	0	0	0	1	64	0	0.11
n50m5-5	15,161,291	3600.11	0	0	0	0	1	69	0	0.11
n50m5-6	14,613,404	3600.14	0	0	0	0	1	69	0	0.12
n50m5-7	14,366,740	3600.14	0	0	0	0	1	84	0	0.10
n50m5-8	13,739,463	3600.09	0	0	0	0	1	74	0	0.11
n50m5-9	15,412,828	3600.10	0	0	0	0	1	64	0	0.08
n60m5-10	16,380,158	3600.00	0	0	0	0	1	69	0	0.10
n60m5-11	15,088,862	3600.06	0	0	0	0	1	64	0	0.19
n60m5-12	12,280,461	3600.09	0	0	0	0	1	129	0	0.29
n60m5-13	14,815,809	3600.08	0	0	0	0	1	89	0	0.18
n60m5-14	10,732,291	3600.14	0	0	0	0	1	89	0	0.15
n60m5-15	12,774,653	3600.15	0	0	0	0	1	69	0	0.20
n60m5-16	12,228,591	3600.16	0	0	0	0	1	94	0	0.20
n60m5-17	13,526,149	3600.09	0	0	0	0	1	119	0	0.27
n60m5-18	14,318,222	3600.09	0	0	0	0	1	74	0	0.12
n60m5-19	13,464,055	3600.10	0	0	0	0	1	119	0	0.24
n60m5-1	14,417,468	3600.08	0	0	0	0	1	89	0	0.18
n60m5-20	13,929,102	3600.11	0	0	0	0	1	84	0	0.14
n60m5-2	15,301,766	3600.08	0	0	0	0	1	89	0	0.18
n60m5-3	13,457,801	3600.08	0	0	0	0	1	79	0	0.16
n60m5-4	14,489,943	3600.10	0	0	0	0	1	89	0	0.17
n60m5-5	14,112,275	3600.10	0	0	0	0	1	99	0	0.19
n60m5-6	14,907,319	3600.08	0	0	0	0	1	64	0	0.11
n60m5-7	15,431,476	3600.07	0	0	0	0	1	89	0	0.14
n60m5-8	13,930,069	3600.10	0	0	0	0	1	79	0	0.16
n60m5-9	14,728,429	3600.09	0	0	0	0	1	69	0	0.22
n80m5-10	12,536,801	3600.08	0	0	0	0	1	134	0	0.42
n80m5-11	13,984,818	3600.06	0	0	0	0	1	139	0	0.52
n80m5-12	12,762,118	3600.10	0	0	0	0	1	104	0	0.54
n80m5-13	12,417,761	3600.10	0	0	0	0	1	134	0	0.45
n80m5-14	11,225,741	3600.10	0	0	0	0	1	134	0	0.45
n80m5-15	11,636,950	3600.11	0	0	0	0	1	124	0	0.31
n80m5-16	13,365,336	3600.06	0	0	0	0	1	94	0	0.40
n80m5-17	12,157,170	3600.11	0	0	0	0	1	129	0	0.47
n80m5-18	14,711,987	3600.04	0	0	0	0	1	89	0	0.47
n80m5-19	11,566,801	3600.06	0	0	0	0	1	84	0	0.40
n80m5-1	13,797,950	3600.06	0	0	0	0	1	109	0	0.38
n80m5-20	11,447,077	3600.08	0	0	0	0	1	69	0	0.37
n80m5-2	11,814,456	3600.07	0	0	0	0	1	119	0	0.42
n80m5-3	13,249,060	3600.06	0	0	0	0	1	99	0	0.24
n80m5-4	12,257,730	3600.08	0	0	0	0	1	134	0	0.48
n80m5-5	11,404,049	3600.08	0	0	0	0	1	69	0	0.23
n80m5-6	14,650,890	3600.06	0	0	0	0	1	89	0	0.39
n80m5-7	12,575,243	3600.08	0	0	0	0	1	104	0	0.39
n80m5-8	12,882,071	3600.03	0	0	0	0	1	119	0	0.47
n80m5-9	12,718,569	3600.05	0	0	0	0	1	79	0	0.50
n60m6-10	13,728,555	3600.06	0	0	0	0	1	83	0	0.17
n60m6-11	12,968,270	3600.08	0	0	0	0	1	71	0	0.23
n60m6-12	15,388,281	3600.07	0	0	0	0	1	77	0	0.22
n60m6-13	13,076,905	3600.08	0	0	0	0	1	95	0	0.25

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TABLE 72. WB testset: symre-p settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	8,858,993	3600.12	0	0	0	99	1	222	0	0.61
n100m4-11	10,014,839	3600.09	0	0	0	99	1	218	0	0.62
n100m4-12	11,873,820	3600.05	0	0	0	98	1	209	0	0.59
n100m4-13	13,271,747	3600.02	0	0	0	99	1	162	0	0.70
n100m4-14	12,350,559	3600.11	0	0	0	99	1	202	0	0.61
n100m4-15	12,176,152	3600.11	0	0	0	99	1	198	0	0.62
n100m4-16	12,180,730	3600.11	0	0	0	99	1	166	0	0.79
n100m4-17	11,118,660	3600.10	0	0	0	98	1	213	0	0.61
n100m4-18	12,263,433	3600.13	0	0	0	99	1	234	0	0.78
n100m4-19	11,672,411	3600.09	0	0	0	98	1	209	0	0.60
n100m4-1	12,030,532	3600.05	0	0	0	99	1	218	0	0.63
n100m4-20	10,215,301	3600.11	0	0	0	99	1	198	0	0.49
n100m4-2	12,608,228	3600.04	0	0	0	98	1	221	0	0.61
n100m4-3	11,858,641	3600.09	0	0	0	99	1	210	0	0.61
n100m4-4	11,983,203	3600.14	0	0	0	98	1	217	0	0.71
n100m4-5	13,286,464	3600.06	0	0	0	98	1	185	0	0.40
n100m4-6	10,108,671	3600.15	0	0	0	99	1	202	0	0.61
n100m4-7	14,009,092	3600.05	0	0	0	99	1	206	0	0.65
n100m4-8	415	1.68	0	0	0	99	1	226	0	0.74
n100m4-9	11,754,145	3600.06	0	0	0	99	1	218	0	0.63
n40m4-10	6,472,439	3600.04	0	0	0	38	1	61	0	0.03
n40m4-11	15,241,202	3600.05	0	0	0	38	1	77	0	0.06
n40m4-12	15,238,181	3600.11	0	0	0	38	1	85	0	0.06
n40m4-13	17,297,755	3600.10	0	0	0	39	1	94	0	0.06
n40m4-14	14,668,394	3600.09	0	0	0	38	1	61	0	0.04
n40m4-15	10,252,626	3600.05	0	0	0	39	1	90	0	0.05
n40m4-16	16,632,770	3600.05	0	0	0	39	1	82	0	0.05
n40m4-17	9,348,142	3600.06	0	0	0	39	1	82	0	0.06
n40m4-18	14,987,251	3600.03	0	0	0	39	1	78	0	0.04
n40m4-19	12,609,039	3600.12	0	0	0	39	1	90	0	0.06
n40m4-1	9,935,944	3600.06	0	0	0	39	1	86	0	0.06
n40m4-20	8,494,028	3600.06	0	0	0	39	1	90	0	0.05
n40m4-2	11,058,061	3600.05	0	0	0	39	1	70	0	0.05
n40m4-3	17,695,851	3600.05	0	0	0	39	1	90	0	0.06
n40m4-4	14,338,183	3600.07	0	0	0	38	1	85	0	0.06
n40m4-5	7,347,324	3600.02	0	0	0	39	1	78	0	0.05
n40m4-6	14,834,496	3600.08	0	0	0	39	1	90	0	0.05
n40m4-7	8,214,904	3600.04	0	0	0	38	1	85	0	0.05
n40m4-8	14,982,572	3600.09	0	0	0	39	1	106	0	0.07
n40m4-9	7,876,900	3600.07	0	0	0	38	1	81	0	0.05
n50m5-10	15,218,967	3600.07	0	0	0	50	1	119	0	0.10
n50m5-11	15,844,374	3600.11	0	0	0	50	1	119	0	0.11
n50m5-12	16,668,903	3600.09	0	0	0	50	1	99	0	0.08
n50m5-13	13,572,115	3600.13	0	0	0	50	1	119	0	0.13
n50m5-14	14,105,844	3600.10	0	0	0	50	1	119	0	0.10
n50m5-15	13,157,386	3600.16	0	0	0	50	1	109	0	0.10
n50m5-16	14,565,285	3600.07	0	0	0	49	1	108	0	0.08
n50m5-17	14,120,575	3600.08	0	0	0	50	1	104	0	0.11
n50m5-18	11,944,408	3600.10	0	0	0	50	1	104	0	0.12
n50m5-19	13,363,610	3600.12	0	0	0	50	1	144	0	0.15

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	14,944,295	3600.12	0	0	0	50	1	134	0	0.13
n50m5-20	14,042,693	3600.13	0	0	0	49	1	108	0	0.10
n50m5-2	15,760,578	3600.06	0	0	0	50	1	119	0	0.07
n50m5-3	12,621,050	3600.08	0	0	0	50	1	104	0	0.10
n50m5-4	13,964,470	3600.11	0	0	0	50	1	114	0	0.12
n50m5-5	15,417,380	3600.10	0	0	0	49	1	118	0	0.11
n50m5-6	14,515,407	3600.10	0	0	0	50	1	119	0	0.11
n50m5-7	14,081,847	3600.10	0	0	0	50	1	134	0	0.11
n50m5-8	13,127,560	3600.10	0	0	0	49	1	123	0	0.10
n50m5-9	14,016,315	3600.12	0	0	0	50	1	114	0	0.08
n60m5-10	15,717,664	3600.10	0	0	0	59	1	128	0	0.10
n60m5-11	14,620,437	3600.09	0	0	0	59	1	123	0	0.19
n60m5-12	14,046,578	3600.02	0	0	0	59	1	188	0	0.29
n60m5-13	14,953,403	3600.05	0	0	0	59	1	148	0	0.17
n60m5-14	10,173,364	3600.10	0	0	0	60	1	149	0	0.14
n60m5-15	12,808,576	3600.09	0	0	0	59	1	128	0	0.20
n60m5-16	12,851,103	3600.16	0	0	0	60	1	154	0	0.20
n60m5-17	12,095,268	3600.08	0	0	0	60	1	179	0	0.27
n60m5-18	11,380,593	3600.10	0	0	0	60	1	134	0	0.12
n60m5-19	13,223,151	3600.08	0	0	0	59	1	178	0	0.24
n60m5-1	14,972,740	3600.09	0	0	0	60	1	149	0	0.18
n60m5-20	12,692,399	3600.10	0	0	0	59	1	143	0	0.14
n60m5-2	12,112,704	3600.12	0	0	0	60	1	149	0	0.18
n60m5-3	12,873,211	3600.09	0	0	0	60	1	139	0	0.17
n60m5-4	13,220,464	3600.06	0	0	0	60	1	149	0	0.17
n60m5-5	11,621,148	3600.10	0	0	0	59	1	158	0	0.19
n60m5-6	14,354,409	3600.02	0	0	0	60	1	124	0	0.12
n60m5-7	14,072,013	3600.11	0	0	0	59	1	148	0	0.13
n60m5-8	11,928,072	3600.08	0	0	0	60	1	139	0	0.16
n60m5-9	12,591,681	3600.07	0	0	0	60	1	129	0	0.21
n80m5-10	12,486,646	3600.05	0	0	0	80	1	214	0	0.43
n80m5-11	14,019,289	3600.06	0	0	0	80	1	219	0	0.52
n80m5-12	11,917,087	3600.07	0	0	0	80	1	184	0	0.55
n80m5-13	12,492,539	3600.06	0	0	0	79	1	213	0	0.45
n80m5-14	10,083,658	3600.07	0	0	0	80	1	214	0	0.42
n80m5-15	10,072,343	3600.04	0	0	0	80	1	204	0	0.32
n80m5-16	13,293,307	3600.10	0	0	0	80	1	174	0	0.39
n80m5-17	11,635,791	3600.10	0	0	0	79	1	208	0	0.47
n80m5-18	12,803,899	3600.09	0	0	0	80	1	169	0	0.47
n80m5-19	10,858,850	3600.10	0	0	0	79	1	163	0	0.39
n80m5-1	12,451,075	3600.09	0	0	0	79	1	188	0	0.38
n80m5-20	11,445,957	3600.07	0	0	0	79	1	148	0	0.38
n80m5-2	12,081,932	3600.09	0	0	0	80	1	199	0	0.41
n80m5-3	14,249,752	3600.04	0	0	0	79	1	178	0	0.24
n80m5-4	3,909,092	3600.00	0	0	0	80	1	214	0	0.47
n80m5-5	12,845,153	3600.08	0	0	0	79	1	148	0	0.23
n80m5-6	12,949,591	3600.06	0	0	0	80	1	169	0	0.39
n80m5-7	10,276,734	3600.07	0	0	0	80	1	184	0	0.41
n80m5-8	13,381,258	3600.06	0	0	0	80	1	199	0	0.48
n80m5-9	13,504,305	3600.05	0	0	0	80	1	159	0	0.51
n60m6-10	14,489,597	3600.03	0	0	0	61	1	144	0	0.18
n60m6-11	12,085,744	3600.05	0	0	0	61	1	132	0	0.24
n60m6-12	12,961,699	3600.07	0	0	0	61	1	138	0	0.21
n60m6-13	11,627,308	3600.06	0	0	0	60	1	155	0	0.25

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TABLE 73. WB testset: symre-s settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	143,616	146.31	0	0	0	99	1	222	0	0.60
n100m4-11	352,256	323.53	0	0	0	99	1	218	0	0.61
n100m4-12	110,639	110.92	0	0	0	98	1	209	0	0.58
n100m4-13	126,302	145.86	0	0	0	99	1	162	0	0.71
n100m4-14	140,947	144.64	0	0	0	99	1	202	0	0.61
n100m4-15	246,938	202.37	0	0	0	99	1	198	0	0.62
n100m4-16	70,746	69.59	0	0	0	99	1	166	0	0.79
n100m4-17	126,856	118.13	0	0	0	98	1	213	0	0.60
n100m4-18	228,119	237.95	0	0	0	99	1	234	0	0.79
n100m4-19	66,108	69.76	0	0	0	98	1	209	0	0.59
n100m4-1	102,447	107.46	0	0	0	99	1	218	0	0.62
n100m4-20	197,945	205.73	0	0	0	99	1	198	0	0.49
n100m4-2	187,028	179.00	0	0	0	98	1	221	0	0.62
n100m4-3	120,308	137.26	0	0	0	99	1	210	0	0.60
n100m4-4	196,187	186.71	0	0	0	98	1	217	0	0.71
n100m4-5	665	3.62	0	0	0	98	1	185	0	0.39
n100m4-6	279,015	262.51	0	0	0	99	1	202	0	0.60
n100m4-7	141,949	150.31	0	0	0	99	1	206	0	0.64
n100m4-8	20,508	36.42	0	0	0	99	1	226	0	0.75
n100m4-9	136,698	138.74	0	0	0	99	1	218	0	0.62
n40m4-10	10,377	7.65	0	0	0	38	1	61	0	0.02
n40m4-11	1605	1.79	0	0	0	38	1	77	0	0.06
n40m4-12	5060	4.15	0	0	0	38	1	85	0	0.06
n40m4-13	4747	3.87	0	0	0	39	1	94	0	0.06
n40m4-14	11,189	7.72	0	0	0	38	1	61	0	0.03
n40m4-15	6801	5.00	0	0	0	39	1	90	0	0.06
n40m4-16	9583	6.56	0	0	0	39	1	82	0	0.06
n40m4-17	10,891	7.44	0	0	0	39	1	82	0	0.05
n40m4-18	7472	4.81	0	0	0	39	1	78	0	0.04
n40m4-19	12,164	7.65	0	0	0	39	1	90	0	0.06
n40m4-1	8572	6.32	0	0	0	39	1	86	0	0.06
n40m4-20	8509	5.56	0	0	0	39	1	90	0	0.05
n40m4-2	8131	5.40	0	0	0	39	1	70	0	0.05
n40m4-3	12,711	8.05	0	0	0	39	1	90	0	0.05
n40m4-4	5995	4.46	0	0	0	38	1	85	0	0.05
n40m4-5	6031	4.87	0	0	0	39	1	78	0	0.05
n40m4-6	10,542	8.01	0	0	0	39	1	90	0	0.05
n40m4-7	5063	4.10	0	0	0	38	1	85	0	0.06
n40m4-8	6442	4.75	0	0	0	39	1	106	0	0.07
n40m4-9	6213	4.88	0	0	0	38	1	81	0	0.05
n50m5-10	47,731	42.43	0	0	0	50	1	119	0	0.10
n50m5-11	31,203	28.10	0	0	0	50	1	119	0	0.11
n50m5-12	13,162	14.03	0	0	0	50	1	99	0	0.08
n50m5-13	21,423	22.99	0	0	0	50	1	119	0	0.13
n50m5-14	27,542	27.90	0	0	0	50	1	119	0	0.10
n50m5-15	42,382	44.54	0	0	0	50	1	109	0	0.09
n50m5-16	41,911	37.90	0	0	0	49	1	108	0	0.08
n50m5-17	35,715	34.04	0	0	0	50	1	104	0	0.10
n50m5-18	35,427	34.25	0	0	0	50	1	104	0	0.12
n50m5-19	30,373	28.35	0	0	0	50	1	144	0	0.14

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	43,270	41.51	0	0	0	50	1	134	0	0.13
n50m5-20	19,962	18.21	0	0	0	49	1	108	0	0.11
n50m5-2	35,929	35.03	0	0	0	50	1	119	0	0.07
n50m5-3	28,585	29.59	0	0	0	50	1	104	0	0.10
n50m5-4	26,819	26.33	0	0	0	50	1	114	0	0.12
n50m5-5	39,858	35.71	0	0	0	49	1	118	0	0.11
n50m5-6	16,333	17.45	0	0	0	50	1	119	0	0.11
n50m5-7	62,207	61.62	0	0	0	50	1	134	0	0.10
n50m5-8	38,426	34.48	0	0	0	49	1	123	0	0.10
n50m5-9	30,509	30.26	0	0	0	50	1	114	0	0.08
n60m5-10	39,263	39.83	0	0	0	59	1	128	0	0.10
n60m5-11	59,653	63.91	0	0	0	59	1	123	0	0.19
n60m5-12	36,042	44.40	0	0	0	59	1	188	0	0.29
n60m5-13	22,253	25.22	0	0	0	59	1	148	0	0.18
n60m5-14	81,578	86.76	0	0	0	60	1	149	0	0.14
n60m5-15	61,085	57.58	0	0	0	59	1	128	0	0.20
n60m5-16	95,348	82.52	0	0	0	60	1	154	0	0.20
n60m5-17	88,372	82.08	0	0	0	60	1	179	0	0.26
n60m5-18	71,291	67.35	0	0	0	60	1	134	0	0.12
n60m5-19	40,478	38.89	0	0	0	59	1	178	0	0.24
n60m5-1	81,951	77.16	0	0	0	60	1	149	0	0.17
n60m5-20	82,425	75.40	0	0	0	59	1	143	0	0.14
n60m5-2	59,788	60.73	0	0	0	60	1	149	0	0.19
n60m5-3	40,627	44.18	0	0	0	60	1	139	0	0.17
n60m5-4	79,896	78.58	0	0	0	60	1	149	0	0.18
n60m5-5	78,133	78.57	0	0	0	59	1	158	0	0.19
n60m5-6	29,183	37.27	0	0	0	60	1	124	0	0.12
n60m5-7	66,839	65.13	0	0	0	59	1	148	0	0.13
n60m5-8	37,571	42.01	0	0	0	60	1	139	0	0.16
n60m5-9	30,898	35.53	0	0	0	60	1	129	0	0.21
n80m5-10	122,233	141.36	0	0	0	80	1	214	0	0.42
n80m5-11	348,602	370.14	0	0	0	80	1	219	0	0.52
n80m5-12	89,085	117.89	0	0	0	80	1	184	0	0.54
n80m5-13	143,320	167.42	0	0	0	79	1	213	0	0.44
n80m5-14	248,777	283.96	0	0	0	80	1	214	0	0.45
n80m5-15	119,350	146.41	0	0	0	80	1	204	0	0.30
n80m5-16	185,531	222.37	0	0	0	80	1	174	0	0.39
n80m5-17	124,128	136.82	0	0	0	79	1	208	0	0.48
n80m5-18	98,286	127.93	0	0	0	80	1	169	0	0.46
n80m5-19	178,510	190.08	0	0	0	79	1	163	0	0.39
n80m5-1	190,710	198.59	0	0	0	79	1	188	0	0.39
n80m5-20	254,650	270.23	0	0	0	79	1	148	0	0.37
n80m5-2	192,820	232.89	0	0	0	80	1	199	0	0.41
n80m5-3	142,737	161.36	0	0	0	79	1	178	0	0.24
n80m5-4	182,421	200.37	0	0	0	80	1	214	0	0.47
n80m5-5	138,850	164.96	0	0	0	79	1	148	0	0.23
n80m5-6	133,905	150.76	0	0	0	80	1	169	0	0.38
n80m5-7	138,154	145.70	0	0	0	80	1	184	0	0.38
n80m5-8	165,225	207.30	0	0	0	80	1	199	0	0.49
n80m5-9	132,889	165.01	0	0	0	80	1	159	0	0.51
n60m6-10	72,862	103.63	0	0	0	61	1	144	0	0.17
n60m6-11	54,487	74.58	0	0	0	61	1	132	0	0.24
n60m6-12	118,230	157.01	0	0	0	61	1	138	0	0.20
n60m6-13	164,112	225.73	0	0	0	60	1	155	0	0.25

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TABLE 74. WB testset: symre-sp settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	114,231	100.54	0	0	0	99	1	222	0	0.61
n100m4-11	191,740	153.89	0	0	0	99	1	218	0	0.62
n100m4-12	52,868	47.14	0	0	0	98	1	209	0	0.57
n100m4-13	126,710	115.88	0	0	0	99	1	162	0	0.70
n100m4-14	116,143	102.08	0	0	0	99	1	202	0	0.61
n100m4-15	126,351	101.87	0	0	0	99	1	198	0	0.62
n100m4-16	48,309	45.72	0	0	0	99	1	166	0	0.79
n100m4-17	54,891	50.30	0	0	0	98	1	213	0	0.60
n100m4-18	107,240	98.66	0	0	0	99	1	234	0	0.79
n100m4-19	66,813	59.93	0	0	0	98	1	209	0	0.58
n100m4-1	58,425	55.67	0	0	0	99	1	218	0	0.62
n100m4-20	111,581	96.26	0	0	0	99	1	198	0	0.49
n100m4-2	71,192	60.12	0	0	0	98	1	221	0	0.60
n100m4-3	91,359	85.41	0	0	0	99	1	210	0	0.59
n100m4-4	90,042	85.80	0	0	0	98	1	217	0	0.73
n100m4-5	2	1.12	0	0	0	98	1	185	0	0.40
n100m4-6	164,164	137.22	0	0	0	99	1	202	0	0.62
n100m4-7	123,343	107.54	0	0	0	99	1	206	0	0.64
n100m4-8	348	3.26	0	0	0	99	1	226	0	0.75
n100m4-9	82,111	76.21	0	0	0	99	1	218	0	0.62
n40m4-10	5910	3.30	0	0	0	38	1	61	0	0.02
n40m4-11	692	1.12	0	0	0	38	1	77	0	0.06
n40m4-12	3985	2.77	0	0	0	38	1	85	0	0.06
n40m4-13	1277	1.36	0	0	0	39	1	94	0	0.06
n40m4-14	5259	3.21	0	0	0	38	1	61	0	0.04
n40m4-15	3373	2.66	0	0	0	39	1	90	0	0.06
n40m4-16	3280	2.57	0	0	0	39	1	82	0	0.06
n40m4-17	6391	3.77	0	0	0	39	1	82	0	0.06
n40m4-18	3119	2.25	0	0	0	39	1	78	0	0.03
n40m4-19	3856	2.66	0	0	0	39	1	90	0	0.06
n40m4-1	2777	2.03	0	0	0	39	1	86	0	0.06
n40m4-20	3434	2.34	0	0	0	39	1	90	0	0.06
n40m4-2	5278	3.24	0	0	0	39	1	70	0	0.04
n40m4-3	3275	2.06	0	0	0	39	1	90	0	0.06
n40m4-4	2334	2.18	0	0	0	38	1	85	0	0.06
n40m4-5	4656	3.07	0	0	0	39	1	78	0	0.05
n40m4-6	4785	3.26	0	0	0	39	1	90	0	0.05
n40m4-7	2238	1.91	0	0	0	38	1	85	0	0.04
n40m4-8	4781	3.15	0	0	0	39	1	106	0	0.07
n40m4-9	6532	4.09	0	0	0	38	1	81	0	0.05
n50m5-10	33,504	24.09	0	0	0	50	1	119	0	0.10
n50m5-11	23,645	19.10	0	0	0	50	1	119	0	0.12
n50m5-12	11,552	10.05	0	0	0	50	1	99	0	0.07
n50m5-13	13,202	12.12	0	0	0	50	1	119	0	0.12
n50m5-14	30,779	23.34	0	0	0	50	1	119	0	0.10
n50m5-15	33,652	27.09	0	0	0	50	1	109	0	0.10
n50m5-16	52,688	34.40	0	0	0	49	1	108	0	0.08
n50m5-17	22,035	18.39	0	0	0	50	1	104	0	0.11
n50m5-18	18,739	15.08	0	0	0	50	1	104	0	0.12
n50m5-19	29,049	24.34	0	0	0	50	1	144	0	0.15

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	35,987	29.39	0	0	0	50	1	134	0	0.14
n50m5-20	23,828	18.95	0	0	0	49	1	108	0	0.10
n50m5-2	19,501	17.28	0	0	0	50	1	119	0	0.07
n50m5-3	20,063	16.92	0	0	0	50	1	104	0	0.10
n50m5-4	18,878	17.22	0	0	0	50	1	114	0	0.11
n50m5-5	25,490	19.43	0	0	0	49	1	118	0	0.11
n50m5-6	16,980	15.31	0	0	0	50	1	119	0	0.11
n50m5-7	32,150	24.69	0	0	0	50	1	134	0	0.11
n50m5-8	18,685	15.66	0	0	0	49	1	123	0	0.10
n50m5-9	23,945	20.40	0	0	0	50	1	114	0	0.08
n60m5-10	40,551	32.39	0	0	0	59	1	128	0	0.10
n60m5-11	27,356	24.05	0	0	0	59	1	123	0	0.17
n60m5-12	28,846	27.05	0	0	0	59	1	188	0	0.29
n60m5-13	27,530	26.20	0	0	0	59	1	148	0	0.18
n60m5-14	52,784	48.80	0	0	0	60	1	149	0	0.15
n60m5-15	39,642	31.99	0	0	0	59	1	128	0	0.20
n60m5-16	49,782	41.81	0	0	0	60	1	154	0	0.20
n60m5-17	41,961	37.15	0	0	0	60	1	179	0	0.26
n60m5-18	47,581	37.44	0	0	0	60	1	134	0	0.12
n60m5-19	33,318	28.78	0	0	0	59	1	178	0	0.23
n60m5-1	53,373	45.47	0	0	0	60	1	149	0	0.18
n60m5-20	47,712	38.80	0	0	0	59	1	143	0	0.14
n60m5-2	24,338	22.12	0	0	0	60	1	149	0	0.18
n60m5-3	54,881	51.67	0	0	0	60	1	139	0	0.17
n60m5-4	39,834	37.04	0	0	0	60	1	149	0	0.18
n60m5-5	43,037	35.51	0	0	0	59	1	158	0	0.20
n60m5-6	8752	10.13	0	0	0	60	1	124	0	0.13
n60m5-7	27,768	24.76	0	0	0	59	1	148	0	0.14
n60m5-8	31,110	29.79	0	0	0	60	1	139	0	0.16
n60m5-9	62,341	49.19	0	0	0	60	1	129	0	0.22
n80m5-10	149,971	149.85	0	0	0	80	1	214	0	0.42
n80m5-11	109,645	111.41	0	0	0	80	1	219	0	0.51
n80m5-12	115,137	116.50	0	0	0	80	1	184	0	0.54
n80m5-13	117,860	116.38	0	0	0	79	1	213	0	0.44
n80m5-14	89,247	88.88	0	0	0	80	1	214	0	0.44
n80m5-15	108,835	113.73	0	0	0	80	1	204	0	0.32
n80m5-16	102,932	116.35	0	0	0	80	1	174	0	0.40
n80m5-17	104,327	101.63	0	0	0	79	1	208	0	0.48
n80m5-18	37,223	44.70	0	0	0	80	1	169	0	0.46
n80m5-19	124,731	113.21	0	0	0	79	1	163	0	0.40
n80m5-1	78,166	87.65	0	0	0	79	1	188	0	0.38
n80m5-20	177,468	158.06	0	0	0	79	1	148	0	0.39
n80m5-2	189,679	207.34	0	0	0	80	1	199	0	0.42
n80m5-3	99,247	106.02	0	0	0	79	1	178	0	0.23
n80m5-4	231,120	230.37	0	0	0	80	1	214	0	0.47
n80m5-5	67,162	66.63	0	0	0	79	1	148	0	0.22
n80m5-6	76,132	78.59	0	0	0	80	1	169	0	0.37
n80m5-7	141,418	131.65	0	0	0	80	1	184	0	0.39
n80m5-8	104,517	117.93	0	0	0	80	1	199	0	0.47
n80m5-9	67,311	71.49	0	0	0	80	1	159	0	0.50
n60m6-10	56,226	62.57	0	0	0	61	1	144	0	0.18
n60m6-11	93,793	101.58	0	0	0	61	1	132	0	0.24
n60m6-12	99,479	114.90	0	0	0	61	1	138	0	0.21
n60m6-13	85,460	96.31	0	0	0	60	1	155	0	0.25

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TABLE 75. WB testset: ISP-NST settings

Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
n100m4-10	10,652,349	3600.09	11,497,110	123	0	157.23
n100m4-11	10,708,554	3600.08	11,817,482	103	0	159.31
n100m4-12	12,594,014	3600.09	12,740,730	111	0	168.46
n100m4-13	14,060,652	3600.03	14,388,056	67	0	210.13
n100m4-14	12,361,393	3600.06	12,842,557	115	0	168.44
n100m4-15	12,184,866	3600.14	12,329,231	75	0	175.15
n100m4-16	11,836,718	3600.08	11,886,135	75	0	157.87
n100m4-17	11,530,616	3600.10	11,619,523	0	0	167.85
n100m4-18	10,169,619	3600.10	10,481,258	71	0	150.58
n100m4-19	12,509,067	3600.13	13,095,774	107	0	168.93
n100m4-1	11,256,898	3600.10	11,445,844	91	0	151.86
n100m4-20	12,075,698	3600.09	12,984,717	111	0	167.54
n100m4-2	11,668,305	3600.12	12,170,716	123	0	154.54
n100m4-3	12,813,697	3600.06	12,928,046	107	0	175.65
n100m4-4	11,123,037	3600.08	11,305,949	91	0	149.34
n100m4-5	113	0.41	112	111	0	0.06
n100m4-6	11,903,913	3600.09	12,382,752	103	0	162.68
n100m4-7	13,378,895	3600.02	14,439,278	107	0	183.14
n100m4-8	463	0.93	466	115	0	0.09
n100m4-9	10,996,244	3600.12	11,134,905	111	0	156.82
n40m4-10	—	—	—	—	—	—
n40m4-11	—	—	—	—	—	—
n40m4-12	909	393.56	916	3329	23	393.01
n40m4-13	2513	888.98	2523	9174	93	887.53
n40m4-14	1067	1294.43	1074	3836	13	1293.71
n40m4-15	1398	498.21	1429	5825	33	497.36
n40m4-16	—	—	—	—	—	—
n40m4-17	—	—	—	—	—	—
n40m4-18	888	66.53	928	4205	24	66.01
n40m4-19	—	—	—	—	—	—
n40m4-1	3532	736.41	3641	11,654	175	734.66
n40m4-20	1218	146.83	1250	4546	20	146.19
n40m4-2	1767	107.44	1793	5857	51	106.57
n40m4-3	—	—	—	—	—	—
n40m4-4	—	—	—	—	—	—
n40m4-5	—	—	—	—	—	—
n40m4-6	1246	1045.67	1277	4338	35	1044.80
n40m4-7	3037	721.34	3074	11,069	86	720.06
n40m4-8	—	—	—	—	—	—
n40m4-9	—	—	—	—	—	—
n50m5-10	—	—	—	—	—	—
n50m5-11	—	—	—	—	—	—
n50m5-12	—	—	—	—	—	—
n50m5-13	—	—	—	—	—	—
n50m5-14	—	—	—	—	—	—
n50m5-15	—	—	—	—	—	—
n50m5-16	—	—	—	—	—	—
n50m5-17	—	—	—	—	—	—
n50m5-18	2119	1683.54	2232	9262	90	1682.03
n50m5-19	—	—	—	—	—	—

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
n50m5-1	—	—	—	—	—	—
n50m5-20	—	—	—	—	—	—
n50m5-2	—	—	—	—	—	—
n50m5-3	—	—	—	—	—	—
n50m5-4	—	—	—	—	—	—
n50m5-5	—	—	—	—	—	—
n50m5-6	—	—	—	—	—	—
n50m5-7	—	—	—	—	—	—
n50m5-8	—	—	—	—	—	—
n50m5-9	—	—	—	—	—	—
n60m5-10	—	—	—	—	—	—
n60m5-11	—	—	—	—	—	—
n60m5-12	—	—	—	—	—	—
n60m5-13	—	—	—	—	—	—
n60m5-14	—	—	—	—	—	—
n60m5-15	—	—	—	—	—	—
n60m5-16	—	—	—	—	—	—
n60m5-17	—	—	—	—	—	—
n60m5-18	—	—	—	—	—	—
n60m5-19	—	—	—	—	—	—
n60m5-1	—	—	—	—	—	—
n60m5-20	—	—	—	—	—	—
n60m5-2	—	—	—	—	—	—
n60m5-3	—	—	—	—	—	—
n60m5-4	—	—	—	—	—	—
n60m5-5	—	—	—	—	—	—
n60m5-6	—	—	—	—	—	—
n60m5-7	—	—	—	—	—	—
n60m5-8	—	—	—	—	—	—
n60m5-9	—	—	—	—	—	—
n80m5-10	12,710,924	3600.05	15,696,295	134	0	136.56
n80m5-11	12,465,973	3600.08	12,979,430	84	0	129.12
n80m5-12	11,319,795	3600.06	12,112,805	109	0	135.84
n80m5-13	12,970,958	3600.06	13,960,321	94	0	133.45
n80m5-14	11,356,132	3600.07	12,486,876	134	0	117.79
n80m5-15	11,460,505	3600.09	14,179,583	124	0	132.76
n80m5-16	13,224,671	3600.08	13,899,020	94	0	131.02
n80m5-17	11,855,136	3600.10	13,498,294	119	0	129.52
n80m5-18	13,340,849	3600.06	14,557,697	69	0	131.68
n80m5-19	11,238,207	3600.09	13,260,985	119	0	119.99
n80m5-1	13,276,994	3600.09	13,609,880	84	0	126.05
n80m5-20	12,247,516	3600.07	14,126,820	69	0	132.73
n80m5-2	10,981,650	3600.08	12,883,623	104	0	123.69
n80m5-3	12,337,004	3600.06	13,104,056	109	0	122.45
n80m5-4	11,250,977	3600.09	13,673,122	89	0	126.58
n80m5-5	12,691,682	3600.08	13,025,832	134	0	129.55
n80m5-6	12,559,088	3600.08	12,915,281	89	0	124.42
n80m5-7	13,045,639	3600.05	13,395,341	104	0	130.26
n80m5-8	13,555,785	3600.06	14,284,179	124	0	136.54
n80m5-9	12,377,508	3600.08	12,947,299	149	0	138.97
n60m6-10	—	—	—	—	—	—
n60m6-11	—	—	—	—	—	—
n60m6-12	—	—	—	—	—	—
n60m6-13	—	—	—	—	—	—

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Name	#Nodes	Time	#Calls	#Red	#Cutoffs	ISP-time
n60m6-14	—	—	—	—	—	—
n60m6-15	—	—	—	—	—	—
n60m6-16	—	—	—	—	—	—
n60m6-17	—	—	—	—	—	—
n60m6-18	—	—	—	—	—	—
n60m6-19	1855	3631.27	1877	12,133	55	3629.20
n60m6-1	—	—	—	—	—	—
n60m6-20	—	—	—	—	—	—
n60m6-2	—	—	—	—	—	—
n60m6-3	—	—	—	—	—	—
n60m6-4	—	—	—	—	—	—
n60m6-5	—	—	—	—	—	—
n60m6-6	—	—	—	—	—	—
n60m6-7	—	—	—	—	—	—
n60m6-8	—	—	—	—	—	—
n60m6-9	—	—	—	—	—	—
AM (# 120)	3,834,280.4	3273.49	4,100,911.6	744.0	5.8	139.80
GM (# 120)	400.9	2603.84		10.8	1.5	9.09
SGM (# 120)	5423.0	2714.43				25.72

TABLE 76. WB testset: S-orbitmin settings

Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n100m4-10	11,409,931	3600.11	0	0	0	0	1	123	0	0.07
n100m4-11	12,744,016	3600.08	0	0	0	0	1	119	0	0.07
n100m4-12	11,822,098	3600.08	0	0	0	0	1	111	0	0.07
n100m4-13	13,184,064	3600.08	0	0	0	0	1	63	0	0.04
n100m4-14	13,749,706	3600.13	0	0	0	0	1	103	0	0.05
n100m4-15	13,489,799	3600.13	0	0	0	0	1	99	0	0.05
n100m4-16	14,897,402	3600.06	0	0	0	0	1	67	0	0.05
n100m4-17	12,597,313	3600.10	0	0	0	0	1	115	0	0.06
n100m4-18	12,425,870	3600.15	0	0	0	0	1	135	0	0.09
n100m4-19	12,698,734	3600.12	0	0	0	0	1	111	0	0.07
n100m4-1	12,309,854	3600.10	0	0	0	0	1	119	0	0.07
n100m4-20	11,651,632	3600.12	0	0	0	0	1	99	0	0.05
n100m4-2	13,189,427	3600.10	0	0	0	0	1	123	0	0.06
n100m4-3	12,562,582	3600.06	0	0	0	0	1	111	0	0.07
n100m4-4	14,905,191	3600.05	0	0	0	0	1	119	0	0.07
n100m4-5	15,318	5.45	0	0	0	0	1	87	0	0.05
n100m4-6	12,575,642	3600.14	0	0	0	0	1	103	0	0.06
n100m4-7	11,500,545	3600.10	0	0	0	0	1	107	0	0.07
n100m4-8	2607	2.08	0	0	0	0	1	127	0	0.07
n100m4-9	12,526,594	3600.10	0	0	0	0	1	119	0	0.06
n40m4-10	15,456,639	3600.18	0	0	0	0	1	23	0	0.01
n40m4-11	14,428,200	3600.18	0	0	0	0	1	39	0	0.03
n40m4-12	17,622,857	3600.10	0	0	0	0	1	47	0	0.02
n40m4-13	20,296,142	3600.06	0	0	0	0	1	55	0	0.03
n40m4-14	17,039,601	3600.13	0	0	0	0	1	23	0	0.01
n40m4-15	19,683,195	3600.06	0	0	0	0	1	51	0	0.03
n40m4-16	17,809,946	3600.12	0	0	0	0	1	43	0	0.02
n40m4-17	16,860,371	3600.10	0	0	0	0	1	43	0	0.03
n40m4-18	14,224,793	3600.11	0	0	0	0	1	39	0	0.02
n40m4-19	15,456,996	3600.17	0	0	0	0	1	51	0	0.02
n40m4-1	17,166,896	3600.13	0	0	0	0	1	47	0	0.03
n40m4-20	20,187,838	3600.06	0	0	0	0	1	51	0	0.03
n40m4-2	16,915,578	3600.10	0	0	0	0	1	31	0	0.02
n40m4-3	19,267,770	3600.12	0	0	0	0	1	51	0	0.03
n40m4-4	15,376,811	3600.13	0	0	0	0	1	47	0	0.03
n40m4-5	18,677,288	3600.13	0	0	0	0	1	39	0	0.02
n40m4-6	17,499,451	3600.15	0	0	0	0	1	51	0	0.03
n40m4-7	16,704,239	3600.13	0	0	0	0	1	47	0	0.03
n40m4-8	17,389,049	3600.15	0	0	0	0	1	67	0	0.03
n40m4-9	16,486,140	3600.16	0	0	0	0	1	43	0	0.03
n50m5-10	14,349,155	3600.13	0	0	0	0	1	69	0	0.04
n50m5-11	15,048,747	3600.09	0	0	0	0	1	69	0	0.04
n50m5-12	11,673,067	3600.05	0	0	0	0	1	49	0	0.03
n50m5-13	13,366,171	3600.11	0	0	0	0	1	69	0	0.04
n50m5-14	15,573,015	3600.11	0	0	0	0	1	69	0	0.04
n50m5-15	15,168,983	3600.12	0	0	0	0	1	59	0	0.04
n50m5-16	13,749,325	3600.11	0	0	0	0	1	59	0	0.03
n50m5-17	14,924,437	3600.12	0	0	0	0	1	54	0	0.03
n50m5-18	13,353,042	3600.09	0	0	0	0	1	54	0	0.03
n50m5-19	13,814,059	3600.12	0	0	0	0	1	94	0	0.05

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Name	#Nodes	Time	#pporb	#forb	#orbi	#symre	#cyc	#tot	#fixed	symtime
n50m5-1	15,453,427	3600.14	0	0	0	0	1	84	0	0.04
n50m5-20	14,726,810	3600.13	0	0	0	0	1	59	0	0.03
n50m5-2	15,309,661	3600.09	0	0	0	0	1	69	0	0.03
n50m5-3	12,556,420	3600.14	0	0	0	0	1	54	0	0.03
n50m5-4	13,403,367	3600.14	0	0	0	0	1	64	0	0.03
n50m5-5	15,110,959	3600.11	0	0	0	0	1	69	0	0.03
n50m5-6	14,614,127	3600.14	0	0	0	0	1	69	0	0.03
n50m5-7	14,367,631	3600.14	0	0	0	0	1	84	0	0.04
n50m5-8	13,660,945	3600.09	0	0	0	0	1	74	0	0.04
n50m5-9	15,399,663	3600.10	0	0	0	0	1	64	0	0.03
n60m5-10	16,446,324	3600.00	0	0	0	0	1	69	0	0.04
n60m5-11	15,076,424	3600.06	0	0	0	0	1	64	0	0.03
n60m5-12	12,220,366	3600.08	0	0	0	0	1	129	0	0.06
n60m5-13	14,870,248	3600.09	0	0	0	0	1	89	0	0.05
n60m5-14	10,734,949	3600.14	0	0	0	0	1	89	0	0.05
n60m5-15	12,663,069	3600.15	0	0	0	0	1	69	0	0.03
n60m5-16	12,264,385	3600.16	0	0	0	0	1	94	0	0.05
n60m5-17	13,545,116	3600.09	0	0	0	0	1	119	0	0.06
n60m5-18	14,247,191	3600.09	0	0	0	0	1	74	0	0.04
n60m5-19	13,485,318	3600.10	0	0	0	0	1	119	0	0.06
n60m5-1	14,420,134	3600.08	0	0	0	0	1	89	0	0.04
n60m5-20	13,839,578	3600.11	0	0	0	0	1	84	0	0.04
n60m5-2	15,337,600	3600.08	0	0	0	0	1	89	0	0.05
n60m5-3	13,425,979	3600.08	0	0	0	0	1	79	0	0.04
n60m5-4	14,509,718	3600.10	0	0	0	0	1	89	0	0.05
n60m5-5	14,068,490	3600.10	0	0	0	0	1	99	0	0.06
n60m5-6	14,896,496	3600.08	0	0	0	0	1	64	0	0.03
n60m5-7	15,431,904	3600.07	0	0	0	0	1	89	0	0.05
n60m5-8	13,981,647	3600.10	0	0	0	0	1	79	0	0.04
n60m5-9	14,707,487	3600.09	0	0	0	0	1	69	0	0.04
n80m5-10	12,454,581	3600.08	0	0	0	0	1	134	0	0.06
n80m5-11	13,958,606	3600.06	0	0	0	0	1	139	0	0.08
n80m5-12	12,784,847	3600.10	0	0	0	0	1	104	0	0.06
n80m5-13	12,441,394	3600.10	0	0	0	0	1	134	0	0.07
n80m5-14	11,183,483	3600.10	0	0	0	0	1	134	0	0.08
n80m5-15	11,647,137	3600.10	0	0	0	0	1	124	0	0.07
n80m5-16	13,100,571	3600.06	0	0	0	0	1	94	0	0.05
n80m5-17	11,404,422	3600.10	0	0	0	0	1	129	0	0.07
n80m5-18	14,666,880	3600.04	0	0	0	0	1	89	0	0.05
n80m5-19	11,561,528	3600.06	0	0	0	0	1	84	0	0.05
n80m5-1	13,385,976	3600.06	0	0	0	0	1	109	0	0.06
n80m5-20	11,382,341	3600.08	0	0	0	0	1	69	0	0.04
n80m5-2	11,768,554	3600.07	0	0	0	0	1	119	0	0.06
n80m5-3	13,263,052	3600.06	0	0	0	0	1	99	0	0.05
n80m5-4	12,222,744	3600.08	0	0	0	0	1	134	0	0.08
n80m5-5	11,327,851	3600.09	0	0	0	0	1	69	0	0.04
n80m5-6	14,622,979	3600.06	0	0	0	0	1	89	0	0.05
n80m5-7	10,909,926	3600.06	0	0	0	0	1	104	0	0.05
n80m5-8	12,532,536	3600.02	0	0	0	0	1	119	0	0.07
n80m5-9	12,656,434	3600.05	0	0	0	0	1	79	0	0.05
n60m6-10	13,722,272	3600.06	0	0	0	0	1	83	0	0.04
n60m6-11	12,947,216	3600.08	0	0	0	0	1	71	0	0.04
n60m6-12	15,383,524	3600.07	0	0	0	0	1	77	0	0.04
n60m6-13	12,965,256	3600.08	0	0	0	0	1	95	0	0.05

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TABLE 77. Comparison of different symmetry handling variants for MIPLIB 2010 benchmark instances with 11 permuted runs. Column max. time diff.” presents the time deviation of the fastest and the slowest run as percentage of the average time; column std. dev.” time gives the standard deviation of the permuted runs as percentage of the average time. Column median time” gives the median time of the permuted runs as percentage of the average time.

Setting	#nodes	time	#solved inst.	max. time diff.	std. dev. time	median time
default	16,725.3	653.1	55	0.791	0.258	0.936
orbi-max-s	14,882.5	590.3	57	0.758	0.243	0.956
symre-p	15,055.9	587.9	57	0.781	0.251	0.945
ISP-NST	12,475.5	567.8	57	0.880	0.287	0.936
S-orbitmin	15,656.1	616.3	57	0.742	0.240	0.959

TABLE 78. Comparison of the geometric mean of closed gap in the root node for different symmetry handling variants.

Setting	gap closed					
	Margot1	M2003-sym	M2010-sym	M2010-bench	SONET	WB
default	3.88	18.78	10.64	19.30	7.19	1.58
orbi-max-p	2.68	21.69	11.05	20.47	25.74	1.55
orbi-max-s	2.68	22.52	11.04	20.44	22.72	1.56
orbi-max-sp	2.68	22.57	11.04	20.46	25.79	1.55
orbi-min-p	2.68	21.69	11.06	20.50	25.74	1.90
orbi-min-s	2.68	22.52	11.04	20.47	22.72	1.90
orbi-min-sp	2.68	22.57	11.05	20.50	25.79	1.90
symre-p	5.82	21.03	11.02	20.43	18.69	27.44
symre-s	6.06	21.71	10.83	20.16	17.22	33.97
symre-sp	5.91	21.41	10.90	20.10	19.23	33.83
ISP-NST	3.88	18.78	10.46	19.30	7.19	1.39
S-orbitmin	3.38	20.97	10.85	20.17	12.16	1.90

TABLE 79. Comparison of correlation coefficients of  $\frac{\text{gap closed default}}{\text{gap closed symmetry reduced}}$  and  $\frac{\text{\#nodes symmetry reduced}}{\text{\#nodes default}}$ .

Setting	correlation coefficient					
	Margot1	M2003-sym	M2010-sym	M2010-bench	SONET	WB
orbi-max-p	0.300	0.381	-0.002	0.010	0.635	-
orbi-max-s	0.301	0.468	-0.006	-0.023	0.621	-
orbi-max-sp	0.300	0.451	-0.002	0.007	0.790	-
orbi-min-p	0.300	0.381	0.001	0.010	0.635	-
orbi-min-s	0.301	0.468	-0.003	-0.005	0.621	-
orbi-min-sp	0.300	0.451	0.001	0.006	0.790	-
symre-p	0.880	0.382	-0.000	0.010	0.048	-
symre-s	0.674	0.479	-0.005	0.039	-0.033	-
symre-sp	0.697	0.486	-0.009	0.005	-0.162	-
ISP-NST	-	-0.038	-	-	-	-
S-orbitmin	0.640	0.253	-0.021	-0.121	0.308	-

TABLE 80. Comparison of correlation coefficients of  $\frac{\text{gap closed default}}{\text{gap closed symmetry reduced}}$  and  $\frac{\text{\#time symmetry reduced}}{\text{\#time default}}$  for all instances that can be solved to optimality in the default as well as the symmetry handling setting.

Setting	Margot1	M2003-sym	correlation coefficient		SONET	WB
			M2010-sym	M2010-bench		
orbi-max-p	0.123	0.404	-0.016	0.093	0.105	-
orbi-max-s	0.129	0.616	-0.016	0.090	0.117	-
orbi-max-sp	0.123	0.551	-0.014	0.114	0.162	-
orbi-min-p	0.124	0.406	-0.014	0.083	0.101	-
orbi-min-s	0.132	0.619	-0.016	0.090	0.121	-
orbi-min-sp	0.125	0.554	-0.014	0.112	0.162	-
symre-p	0.040	0.318	0.020	0.101	-0.195	-
symre-s	0.290	0.504	-0.018	0.027	-0.198	-
symre-sp	0.301	0.525	-0.016	0.021	-0.234	-
ISP-NST	-	-0.060	-	-	-	-
S-orbitmin	0.332	0.156	-0.020	-0.042	0.043	-