



# SPEC<sup>®</sup> CFP2006 Result

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## ACTION S.A. ACTINA SOLAR 410 S3

SPECfp<sup>®</sup>\_rate2006 = 71.8

SPECfp\_rate\_base2006 = 64.2

CPU2006 license: 9008

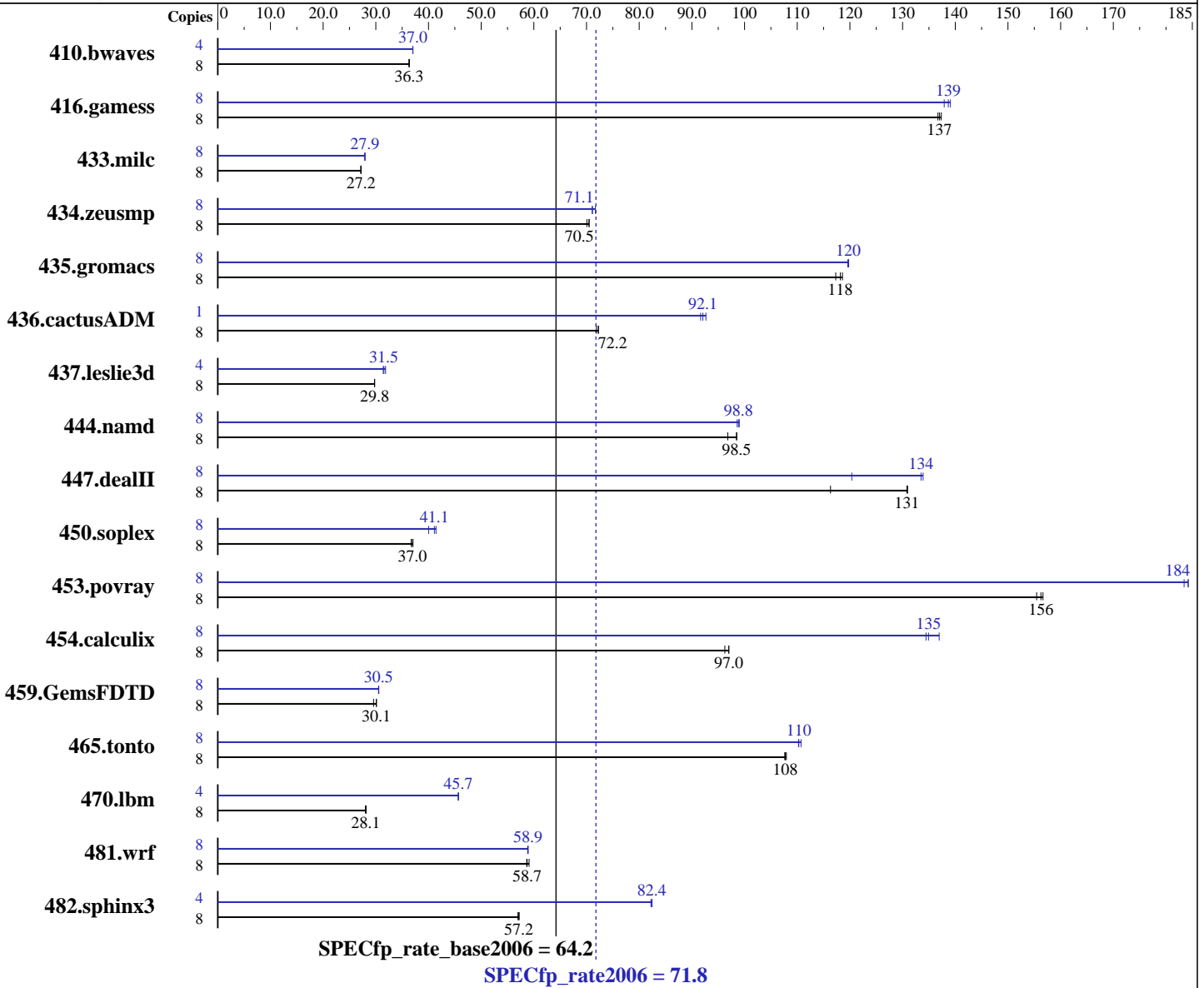
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: May-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics: 2.33 GHz, 12 MB L2, 1333 MHz bus  
 CPU MHz: 2330  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smpp  
 Compiler: Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l\_cc\_p\_10.1.008, l\_fc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, run level 3  
 Base Pointers: 64-bit

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x 2 GB PC2-5300 ECC FBDIMM)  
Disk Subsystem: 1x 160 GB SATA II, 7200 RPM  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: Binutils 2.17.50.0.15

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	2992	36.3	<u>2992</u>	<u>36.3</u>	2994	36.3	4	1468	37.0	<u>1468</u>	<u>37.0</u>	1467	37.0
416.gamess	8	<u>1143</u>	<u>137</u>	1146	137	1140	137	8	1136	138	1126	139	<u>1130</u>	<u>139</u>
433.milc	8	2700	27.2	<u>2701</u>	<u>27.2</u>	2705	27.1	8	2631	27.9	2628	27.9	<u>2629</u>	<u>27.9</u>
434.zeusmp	8	1033	70.5	<u>1033</u>	<u>70.5</u>	1039	70.1	8	1024	71.1	<u>1024</u>	<u>71.1</u>	1016	71.7
435.gromacs	8	<u>483</u>	<u>118</u>	482	119	487	117	8	478	120	477	120	<u>477</u>	<u>120</u>
436.cactusADM	8	1323	72.3	1330	71.9	<u>1323</u>	<u>72.2</u>	1	129	92.7	<u>130</u>	<u>92.1</u>	130	91.7
437.leslie3d	8	2526	29.8	<u>2526</u>	<u>29.8</u>	2526	29.8	4	1180	31.9	<u>1192</u>	<u>31.5</u>	1197	31.4
444.namd	8	663	96.8	651	98.5	<u>652</u>	<u>98.5</u>	8	651	98.6	<u>649</u>	<u>98.8</u>	648	99.0
447.dealII	8	787	116	699	131	<u>700</u>	<u>131</u>	8	760	120	<u>686</u>	<u>134</u>	684	134
450.soplex	8	1817	36.7	<u>1805</u>	<u>37.0</u>	1801	37.1	8	1667	40.0	<u>1623</u>	<u>41.1</u>	1610	41.4
453.povray	8	272	157	<u>272</u>	<u>156</u>	274	155	8	232	183	231	184	<u>231</u>	<u>184</u>
454.calculix	8	<u>680</u>	<u>97.0</u>	686	96.3	680	97.0	8	491	134	<u>489</u>	<u>135</u>	482	137
459.GemsFDTD	8	2819	30.1	2870	29.6	<u>2819</u>	<u>30.1</u>	8	<u>2780</u>	<u>30.5</u>	2776	30.6	2781	30.5
465.tonto	8	731	108	<u>731</u>	<u>108</u>	729	108	8	714	110	<u>714</u>	<u>110</u>	711	111
470.lbm	8	3921	28.0	3907	28.1	<u>3909</u>	<u>28.1</u>	4	1203	45.7	1204	45.7	<u>1203</u>	<u>45.7</u>
481.wrf	8	1524	58.6	<u>1522</u>	<u>58.7</u>	1512	59.1	8	<u>1518</u>	<u>58.9</u>	1517	58.9	1519	58.8
482.sphinx3	8	2726	57.2	<u>2727</u>	<u>57.2</u>	2736	57.0	4	<u>946</u>	<u>82.4</u>	946	82.4	948	82.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

All benchmarks compiled in 64-bit mode except 450.soplex, 437.leslie, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode. TASKSET command was used to bind processes to CPUs.

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

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## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
 416.gamess: -DSPEC\_CPU\_LP64  
 433.milc: -DSPEC\_CPU\_LP64  
 434.zeusmp: -DSPEC\_CPU\_LP64  
 435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
 436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
 437.leslie3d: -DSPEC\_CPU\_LP64  
 444.namd: -DSPEC\_CPU\_LP64  
 447.dealII: -DSPEC\_CPU\_LP64  
 450.soplex: -DSPEC\_CPU\_LP64  
 453.povray: -DSPEC\_CPU\_LP64  
 454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
 459.GemsFDTD: -DSPEC\_CPU\_LP64  
 465.tonto: -DSPEC\_CPU\_LP64  
 470.lbm: -DSPEC\_CPU\_LP64  
 481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
 482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

-fast

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

## Peak Compiler Invocation

C benchmarks (except as noted below):

/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include

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## Peak Compiler Invocation (Continued)

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/include

Benchmarks using both Fortran and C:

icc ifort

## Peak Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -DSPEC\_CPU\_LP64  
433.milc: -DSPEC\_CPU\_LP64  
434.zeusmp: -DSPEC\_CPU\_LP64  
435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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