



# SPEC® CFP2006 Result

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## ACTION S.A. ACTINA SOLAR 410 S3

SPECfp®\_rate2006 = 84.4

SPECfp\_rate\_base2006 = 75.0

CPU2006 license: 9008

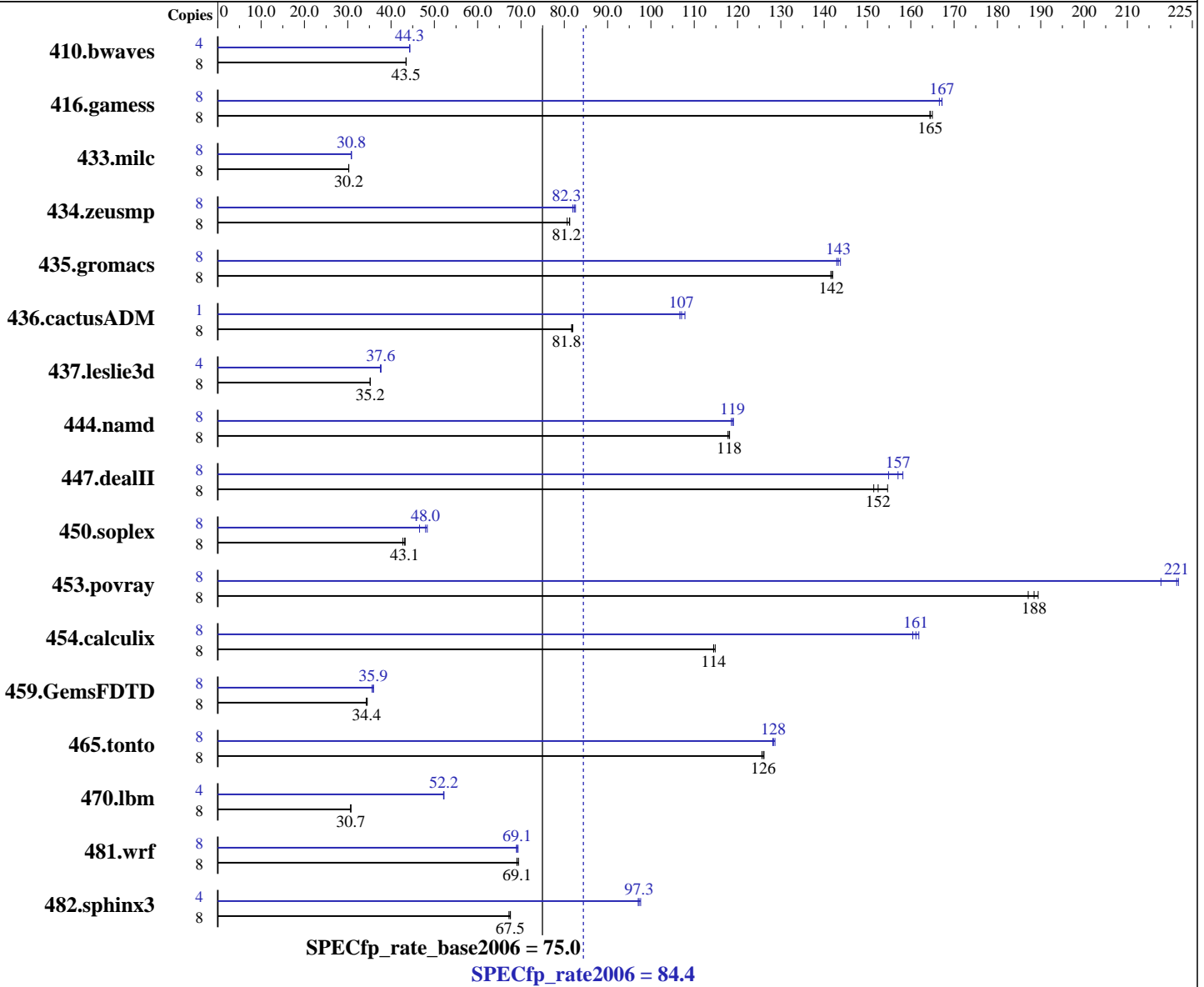
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: May-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5462  
 CPU Characteristics: 2.8 GHz, 12 MB L2, 1600 MHz bus  
 CPU MHz: 2800  
 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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### Hardware (Continued)

L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x 2 GB PC2-6400 ECC FBDIMM)  
Disk Subsystem: 1x 160 GB SATA II, 7200 RPM  
Other Hardware: None

### Software (Continued)

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	2499	43.5	2502	43.5	<b>2501</b>	<b>43.5</b>	4	<b>1227</b>	<b>44.3</b>	1226	44.3	1227	44.3		
416.gamess	8	<b>952</b>	<b>165</b>	949	165	953	164	8	<b>937</b>	<b>167</b>	937	167	940	167		
433.milc	8	2430	30.2	2428	30.3	<b>2429</b>	<b>30.2</b>	8	<b>2381</b>	<b>30.8</b>	2383	30.8	2380	30.9		
434.zeusmp	8	<b>897</b>	<b>81.2</b>	896	81.3	902	80.7	8	888	82.0	<b>884</b>	<b>82.3</b>	881	82.6		
435.gromacs	8	402	142	404	142	<b>403</b>	<b>142</b>	8	<b>399</b>	<b>143</b>	400	143	397	144		
436.cactusADM	8	<b>1169</b>	<b>81.8</b>	1170	81.7	1166	82.0	1	111	108	112	107	<b>112</b>	<b>107</b>		
437.leslie3d	8	<b>2136</b>	<b>35.2</b>	2135	35.2	2139	35.2	4	<b>999</b>	<b>37.6</b>	1001	37.6	998	37.7		
444.namd	8	545	118	<b>543</b>	<b>118</b>	543	118	8	541	119	539	119	<b>540</b>	<b>119</b>		
447.dealII	8	592	155	<b>600</b>	<b>152</b>	604	151	8	591	155	<b>583</b>	<b>157</b>	579	158		
450.soplex	8	1561	42.7	<b>1546</b>	<b>43.1</b>	1542	43.3	8	1432	46.6	<b>1391</b>	<b>48.0</b>	1379	48.4		
453.povray	8	<b>226</b>	<b>188</b>	225	189	227	187	8	<b>192</b>	<b>221</b>	192	222	195	218		
454.calculix	8	577	114	<b>576</b>	<b>114</b>	575	115	8	408	162	411	160	<b>409</b>	<b>161</b>		
459.GemsFDTD	8	2474	34.3	<b>2469</b>	<b>34.4</b>	2460	34.5	8	<b>2364</b>	<b>35.9</b>	2360	36.0	2382	35.6		
465.tonto	8	<b>625</b>	<b>126</b>	624	126	627	126	8	<b>614</b>	<b>128</b>	612	129	614	128		
470.lbm	8	3582	30.7	<b>3580</b>	<b>30.7</b>	3579	30.7	4	1055	52.1	<b>1053</b>	<b>52.2</b>	1053	52.2		
481.wrf	8	1287	69.4	<b>1293</b>	<b>69.1</b>	1294	69.1	8	1289	69.3	<b>1293</b>	<b>69.1</b>	1296	69.0		
482.sphinx3	8	2320	67.2	<b>2310</b>	<b>67.5</b>	2307	67.6	4	803	97.1	<b>802</b>	<b>97.3</b>	798	97.6		

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.dealIII: -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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