



SPEC® CFP2006 Result

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ACTION S.A.

SPECfp®_rate2006 = 71.9

ACTINA SOLAR 220 S3 (Intel Xeon E5410, 2.33 GHz)

SPECfp_rate_base2006 = 66.1

CPU2006 license: 9008

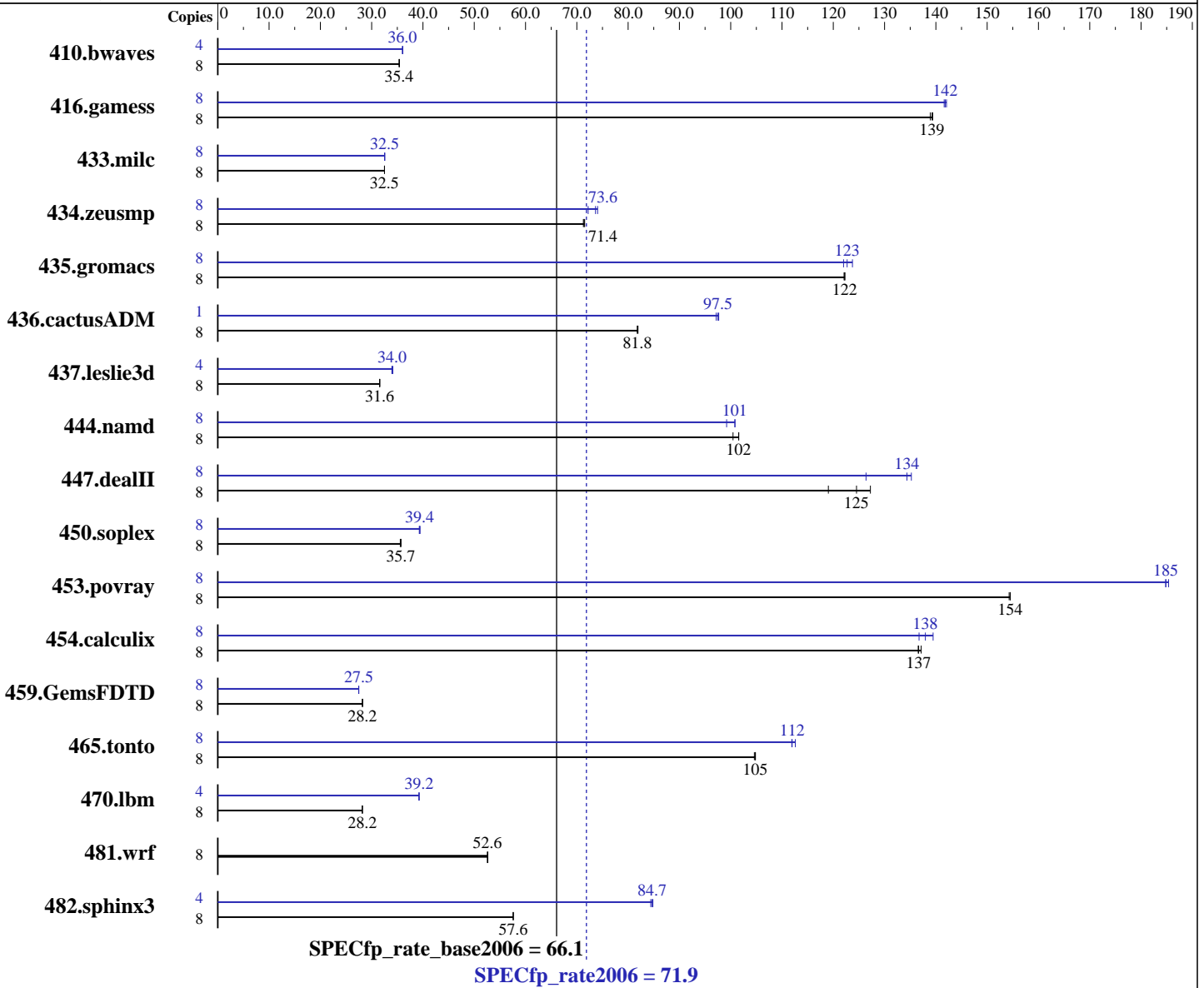
Test date: Nov-2008

Test sponsor: ACTION S.A.

Hardware Availability: Jan-2008

Tested by: ACTION S.A.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E5410
 CPU Characteristics: 2.33 GHz, 1333 MHz System Bus
 CPU MHz: 2333
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 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

Continued on next page

Software

Operating System: SuSe Linux Enterprise Server (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042, l_cprof_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



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Hardware (Continued)

L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x 2 GB FB-DIMM, PC-5300, ECC, 5-5-5)
 Disk Subsystem: RAID 5, 3x 500 GB SATA, 7200 RPM
 Other Hardware: None

Software (Continued)

Peak Pointers: 32/64-bit
 Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	8	3070	35.4	<u>3073</u>	<u>35.4</u>	3075	35.4	4	1510	36.0	<u>1509</u>	<u>36.0</u>	1507	36.1		
416.gamess	8	<u>1125</u>	<u>139</u>	1124	139	1128	139	8	1106	142	<u>1104</u>	<u>142</u>	1103	142		
433.milc	8	<u>2259</u>	<u>32.5</u>	2260	32.5	2259	32.5	8	2257	32.5	2257	32.5	<u>2257</u>	<u>32.5</u>		
434.zeusmp	8	1018	71.5	<u>1019</u>	<u>71.4</u>	1021	71.3	8	983	74.1	1008	72.2	<u>989</u>	<u>73.6</u>		
435.gromacs	8	468	122	467	122	<u>467</u>	<u>122</u>	8	462	124	468	122	<u>466</u>	<u>123</u>		
436.cactusADM	8	1169	81.8	1167	81.9	<u>1168</u>	<u>81.8</u>	1	122	97.7	123	97.2	<u>123</u>	<u>97.5</u>		
437.leslie3d	8	2380	31.6	2384	31.5	<u>2382</u>	<u>31.6</u>	4	1108	33.9	<u>1106</u>	<u>34.0</u>	1102	34.1		
444.namd	8	<u>632</u>	<u>102</u>	632	102	639	100	8	636	101	<u>636</u>	<u>101</u>	647	99.2		
447.dealII	8	769	119	<u>735</u>	<u>125</u>	719	127	8	677	135	724	126	<u>681</u>	<u>134</u>		
450.soplex	8	1869	35.7	<u>1869</u>	<u>35.7</u>	1875	35.6	8	1692	39.4	<u>1695</u>	<u>39.4</u>	1698	39.3		
453.povray	8	276	154	<u>275</u>	<u>154</u>	275	155	8	230	185	<u>230</u>	<u>185</u>	230	185		
454.calculix	8	481	137	<u>483</u>	<u>137</u>	483	137	8	473	139	<u>478</u>	<u>138</u>	483	137		
459.GemsFDTD	8	3008	28.2	<u>3009</u>	<u>28.2</u>	3010	28.2	8	3087	27.5	3090	27.5	<u>3088</u>	<u>27.5</u>		
465.tonto	8	753	105	<u>751</u>	<u>105</u>	751	105	8	703	112	699	113	<u>703</u>	<u>112</u>		
470.lbm	8	3901	28.2	<u>3901</u>	<u>28.2</u>	3900	28.2	4	1401	39.2	1400	39.2	<u>1400</u>	<u>39.2</u>		
481.wrf	8	<u>1699</u>	<u>52.6</u>	1697	52.7	1700	52.6	8	<u>1699</u>	<u>52.6</u>	1697	52.7	1700	52.6		
482.sphinx3	8	<u>2707</u>	<u>57.6</u>	2707	57.6	2707	57.6	4	924	84.4	919	84.8	<u>921</u>	<u>84.7</u>		

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

Submit Notes

The config file option 'submit' was used.

General Notes

OMP_NUM_THREADS set to number of processors
 KMP_AFFINITY set to "physical,0"
 KMP_STACKSIZE set to 64M
 TASKSET command was used to bind processes to CPUs.



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Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

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:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch



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Peak Compiler Invocation

C benchmarks (except as noted below):

icc

```
482.sphinx3: /opt/intel/Compiler/11.0/042/bin/ia32/icc
             -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
             -I/opt/intel/Compiler/11.0/042/ipp/ia32/include
```

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/Compiler/11.0/042/bin/ia32/icpc
            -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
            -I/opt/intel/Compiler/11.0/042/ipp/ia32/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/Compiler/11.0/042/bin/ia32/ifort
              -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
              -I/opt/intel/Compiler/11.0/042/ipp/ia32/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.deallI: -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
```

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -fno-alias

470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
-auto-ilp32

482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -fno-alias -auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -ansi-alias
-scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -opt-prefetch -parallel
-auto-ilp32

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Peak Optimization Flags (Continued)

454.calculix: -xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.02.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.02.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
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