



SPEC[®] CFP2006 Result

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ACTION S.A.

SPECfp[®]_rate2006 = 69.4

ACTINA SOLAR 200 X2 (Intel Xeon E5410, 2.33 GHz)

SPECfp_rate_base2006 = 63.6

CPU2006 license: 9008

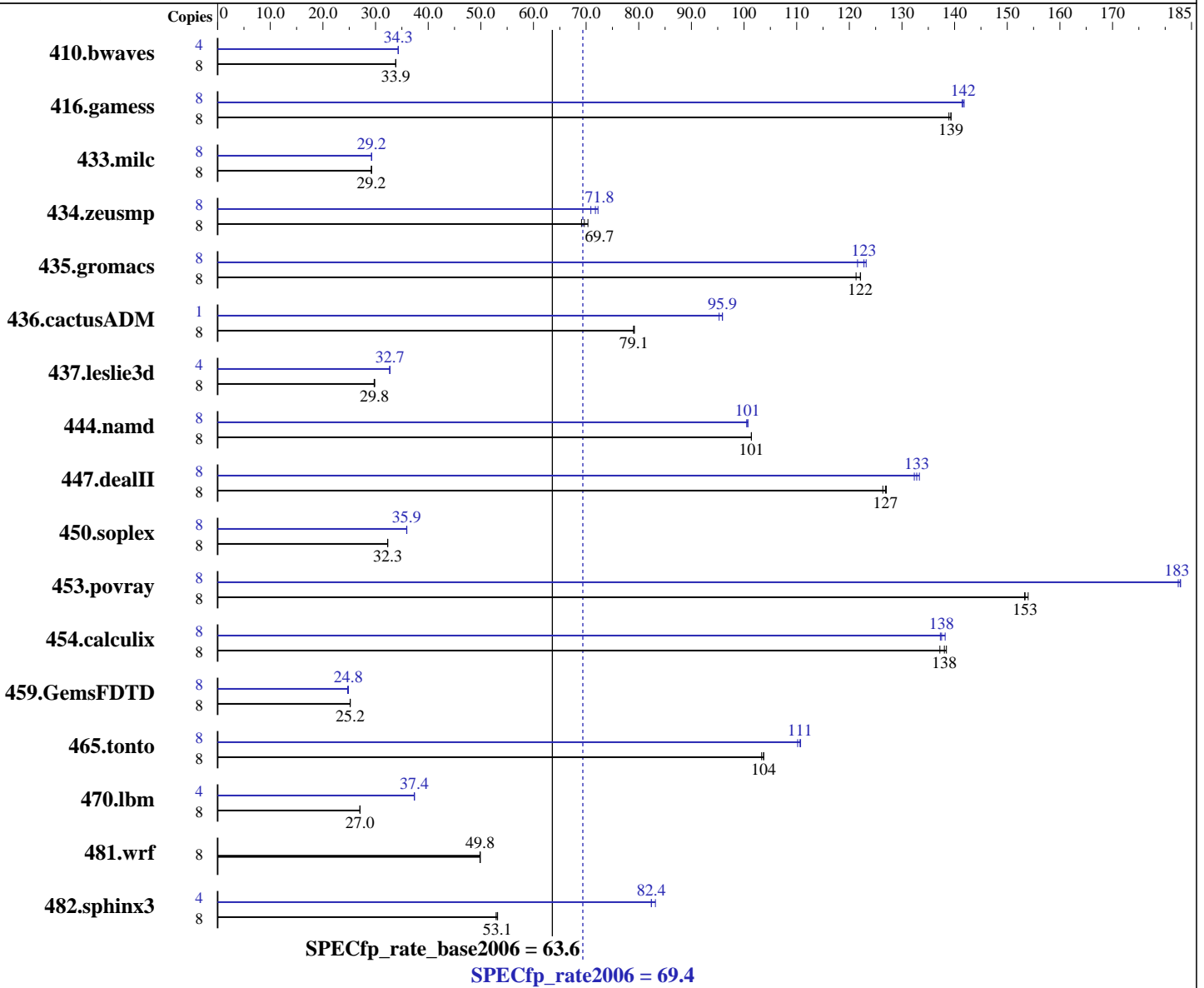
Test date: Dec-2008

Test sponsor: ACTION S.A.

Hardware Availability: Sep-2008

Tested by: ACTION S.A.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E5410
 CPU Characteristics: 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

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) with 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_fproc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x 2 GB, PC2-5300, CL 5-5-5, FB ECC)
Disk Subsystem: 500 GB SATA, 7200 RPM
Other Hardware: None

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	3216	33.8	<u>3211</u>	<u>33.9</u>	3210	33.9	4	1584	34.3	1585	34.3	<u>1584</u>	<u>34.3</u>
416.gamess	8	<u>1124</u>	<u>139</u>	1124	139	1128	139	8	1108	141	<u>1106</u>	<u>142</u>	1105	142
433.milc	8	<u>2513</u>	<u>29.2</u>	2513	29.2	2513	29.2	8	2510	29.3	2512	29.2	<u>2511</u>	<u>29.2</u>
434.zeusmp	8	<u>1045</u>	<u>69.7</u>	1035	70.3	1053	69.1	8	1007	72.3	<u>1014</u>	<u>71.8</u>	1027	70.9
435.gromacs	8	<u>468</u>	<u>122</u>	471	121	468	122	8	470	122	<u>465</u>	<u>123</u>	464	123
436.cactusADM	8	1210	79.0	<u>1209</u>	<u>79.1</u>	1207	79.2	1	125	95.9	125	95.3	<u>125</u>	<u>95.9</u>
437.leslie3d	8	2520	29.8	2529	29.7	<u>2527</u>	<u>29.8</u>	4	1151	32.7	1148	32.7	<u>1150</u>	<u>32.7</u>
444.namd	8	<u>633</u>	<u>101</u>	633	101	633	101	8	<u>637</u>	<u>101</u>	638	100	637	101
447.dealII	8	<u>721</u>	<u>127</u>	724	126	720	127	8	<u>689</u>	<u>133</u>	687	133	692	132
450.soplex	8	2066	32.3	2065	32.3	<u>2065</u>	<u>32.3</u>	8	<u>1857</u>	<u>35.9</u>	1856	35.9	1858	35.9
453.povray	8	278	153	276	154	<u>277</u>	<u>153</u>	8	<u>233</u>	<u>183</u>	233	182	233	183
454.calculix	8	477	138	481	137	<u>478</u>	<u>138</u>	8	481	137	478	138	<u>480</u>	<u>138</u>
459.GemsFDTD	8	3368	25.2	3373	25.2	<u>3371</u>	<u>25.2</u>	8	3438	24.7	3416	24.8	<u>3422</u>	<u>24.8</u>
465.tonto	8	<u>759</u>	<u>104</u>	762	103	759	104	8	711	111	714	110	<u>712</u>	<u>111</u>
470.lbm	8	4066	27.0	4064	27.0	<u>4065</u>	<u>27.0</u>	4	1470	37.4	<u>1471</u>	<u>37.4</u>	1471	37.4
481.wrf	8	1793	49.8	1790	49.9	<u>1793</u>	<u>49.8</u>	8	1793	49.8	1790	49.9	<u>1793</u>	<u>49.8</u>
482.sphinx3	8	<u>2936</u>	<u>53.1</u>	2931	53.2	2947	52.9	4	<u>946</u>	<u>82.4</u>	937	83.2	946	82.4

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.

Platform Notes

This result is measured on ACTINA SOLAR 200 X2.
Note that the ACTINA SOLAR 202 X2 and ACTINA SOLAR 200 X2 are electrically equivalent.

General Notes

taskset was used to bind processes to cores except for 436.cactusADM peak
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

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General Notes (Continued)

OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M

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

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Base Optimization Flags (Continued)

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

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.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

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:

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.dealII: -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

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Peak Optimization Flags (Continued)

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

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

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

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

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.html>

You can also download the XML flags sources by saving the following links:

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

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.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.
Report generated on Tue Jul 22 22:56:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 January 2009.