SPEC® CFP2006 Result

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ACTION S.A.

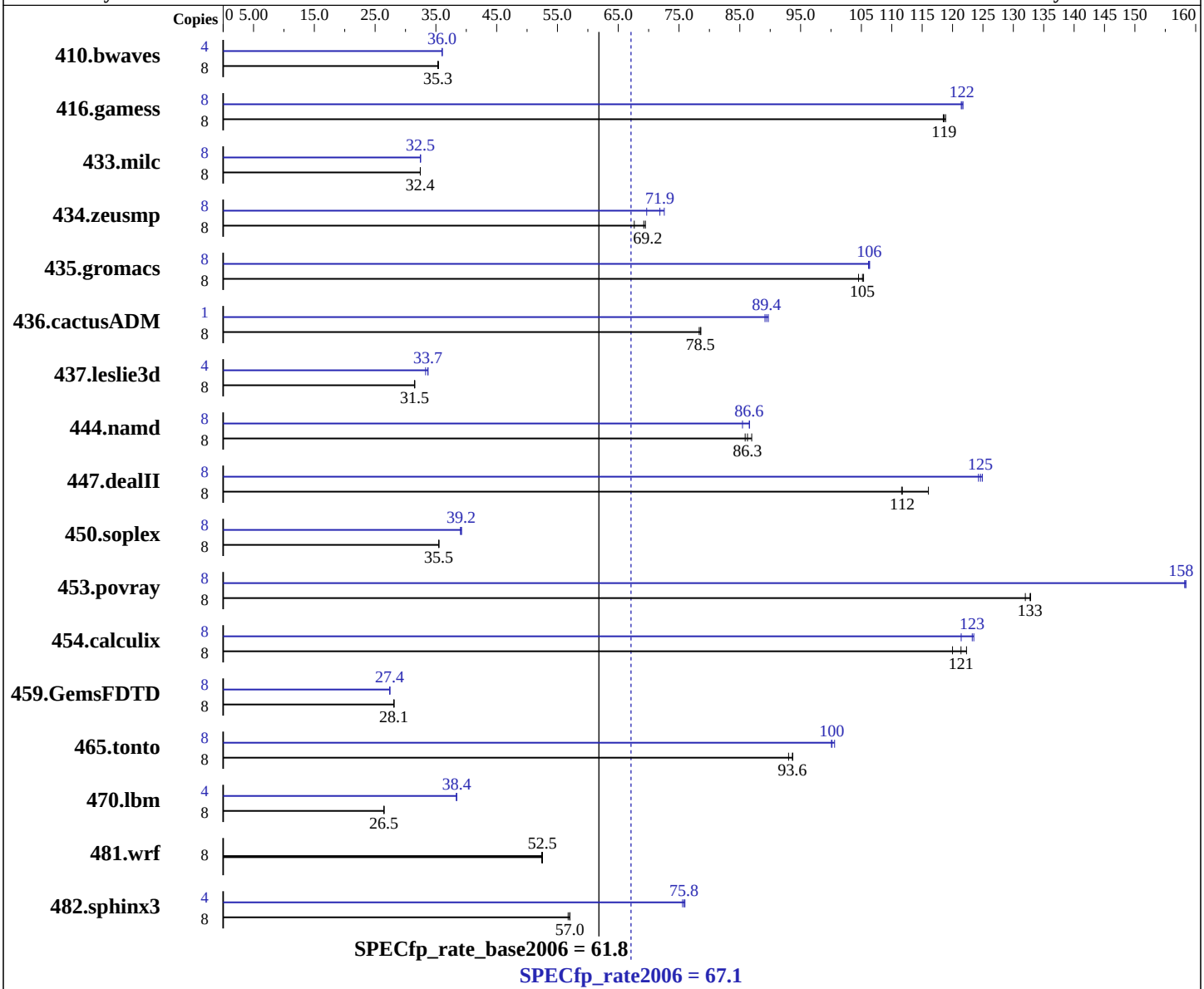
ACTINA SOLAR 200 S2 (Intel Xeon E5405, 2.0 GHz)

SPECfp®_rate2006 = 67.1

SPECfp_rate_base2006 = 61.8

CPU2006 license: 9008
Test sponsor: ACTION S.A.
Tested by: ACTION S.A.

Test date: Aug-2009
Hardware Availability: Sep-2008
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon E5405
CPU Characteristics:	1333 MHz System Bus
CPU MHz:	2000
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 20080930 Package ID: l_cproc_p_11.0.066, l_fproc_p_11.0.066
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 (4 x 4 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: Microquill SmartHeap V8.1
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	3068	35.4	3079	35.3	**3076**	**35.3**	4	1508	36.0	1509	36.0	**1509**	**36.0**
416.gamess	8	1318	119	1322	118	**1320**	**119**	8	1290	121	1287	122	**1289**	**122**
433.milc	8	2264	32.4	2264	32.4	**2264**	**32.4**	8	2263	32.5	2262	32.5	**2263**	**32.5**
434.zeusmp	8	1076	67.6	1048	69.5	**1052**	**69.2**	8	1003	72.6	**1013**	**71.9**	1045	69.7
435.gromacs	8	542	105	546	105	**543**	**105**	8	**537**	**106**	537	106	538	106
436.cactusADM	8	1216	78.6	1221	78.3	**1218**	**78.5**	1	133	89.7	134	89.1	**134**	**89.4**
437.leslie3d	8	2389	31.5	2385	31.5	**2387**	**31.5**	4	1129	33.3	1116	33.7	**1116**	**33.7**
444.namd	8	**744**	**86.3**	738	87.0	747	85.9	8	741	86.6	751	85.4	**741**	**86.6**
447.dealII	8	**819**	**112**	820	112	789	116	8	733	125	736	124	**734**	**125**
450.soplex	8	1880	35.5	**1880**	**35.5**	1881	35.5	8	1709	39.0	1702	39.2	**1703**	**39.2**
453.povray	8	**321**	**133**	320	133	322	132	8	269	158	**269**	**158**	269	158
454.calculix	8	550	120	**544**	**121**	540	122	8	544	121	**536**	**123**	534	124
459.GemsFDTD	8	3022	28.1	**3021**	**28.1**	3019	28.1	8	**3096**	**27.4**	3096	27.4	3096	27.4
465.tonto	8	840	93.7	846	93.0	**841**	**93.6**	8	787	100	783	101	**786**	**100**
470.lbm	8	4152	26.5	4155	26.5	**4155**	**26.5**	4	1432	38.4	1431	38.4	**1431**	**38.4**
481.wrf	8	1705	52.4	**1701**	**52.5**	1701	52.5	8	1705	52.4	**1701**	**52.5**	1701	52.5
482.sphinx3	8	**2734**	**57.0**	2747	56.8	2734	57.0	4	1026	76.0	1032	75.6	**1028**	**75.8**

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

```
'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
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

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: `icc -m32`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `icpc -m32`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `ifort -m32`

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`
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`

Continued on next page

Peak Optimization Flags (Continued)

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

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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revH.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-revH.xml

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For other inquiries, please contact webmaster@spec.org.

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