



SPEC® CFP2006 Result

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ACTION S.A.

SPECfp®2006 = 21.3

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

SPECfp_base2006 = 20.4

CPU2006 license: 9008

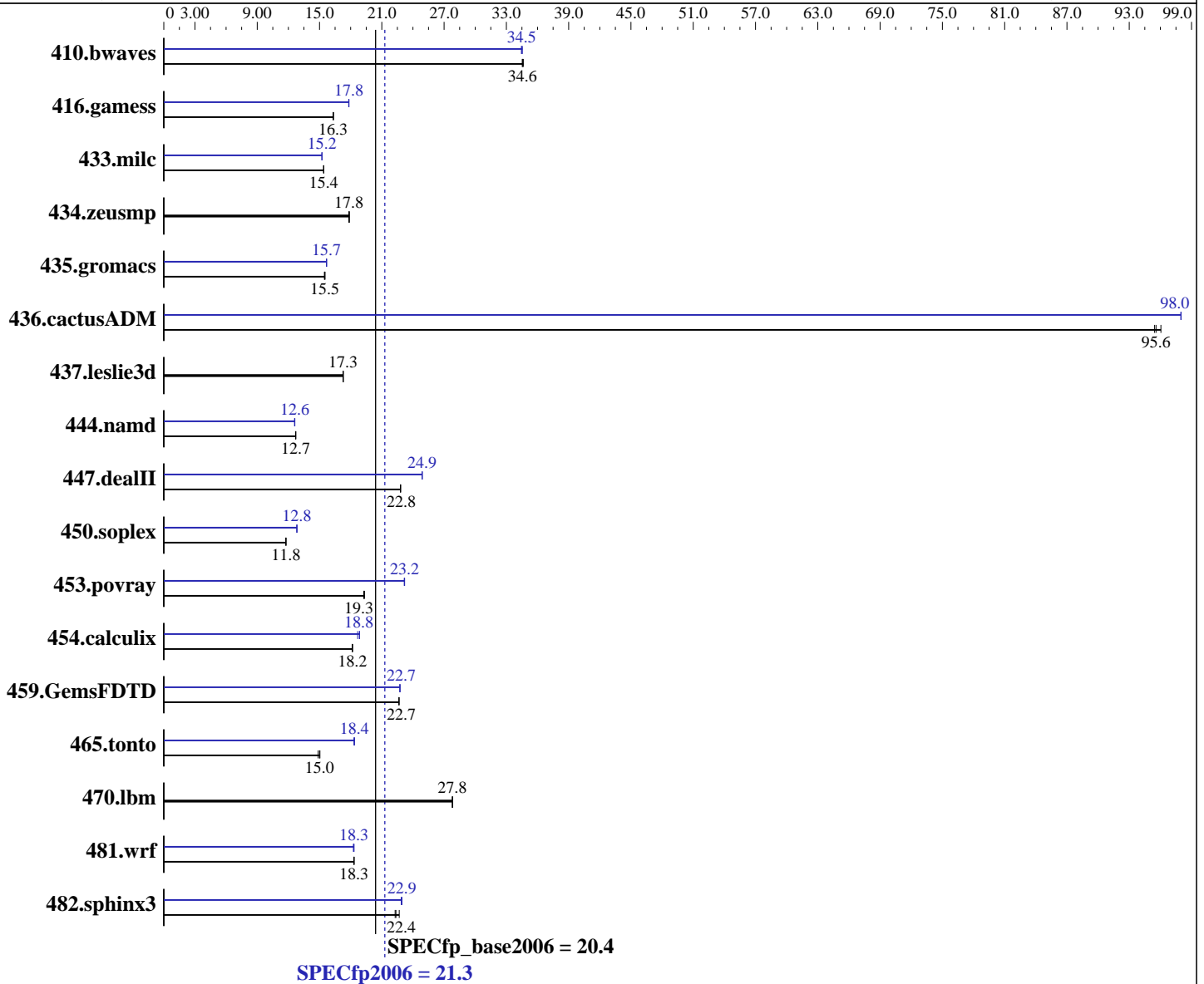
Test date: Nov-2008

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

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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

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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

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>393</u>	<u>34.6</u>	392	34.6	394	34.5	393	34.5	394	34.5	<u>394</u>	<u>34.5</u>
416.gamess	1198	16.4	<u>1200</u>	<u>16.3</u>	1201	16.3	1097	17.8	1099	17.8	<u>1099</u>	<u>17.8</u>
433.milc	<u>596</u>	<u>15.4</u>	596	15.4	596	15.4	602	15.2	<u>602</u>	<u>15.2</u>	603	15.2
434.zeusmp	<u>510</u>	<u>17.8</u>	510	17.8	509	17.9	<u>510</u>	<u>17.8</u>	510	17.8	509	17.9
435.gromacs	460	15.5	462	15.5	<u>460</u>	<u>15.5</u>	<u>456</u>	<u>15.7</u>	456	15.7	455	15.7
436.cactusADM	125	95.4	124	96.1	<u>125</u>	<u>95.6</u>	<u>122</u>	<u>98.0</u>	122	98.0	122	98.0
437.leslie3d	544	17.3	544	17.3	<u>544</u>	<u>17.3</u>	544	17.3	544	17.3	<u>544</u>	<u>17.3</u>
444.namd	<u>631</u>	<u>12.7</u>	631	12.7	632	12.7	<u>636</u>	<u>12.6</u>	635	12.6	637	12.6
447.dealII	502	22.8	<u>502</u>	<u>22.8</u>	501	22.8	460	24.9	<u>460</u>	<u>24.9</u>	459	24.9
450.soplex	709	11.8	<u>709</u>	<u>11.8</u>	709	11.8	651	12.8	650	12.8	<u>651</u>	<u>12.8</u>
453.povray	276	19.3	275	19.3	<u>276</u>	<u>19.3</u>	<u>229</u>	<u>23.2</u>	229	23.2	230	23.2
454.calculix	<u>454</u>	<u>18.2</u>	454	18.2	455	18.1	438	18.9	442	18.7	<u>438</u>	<u>18.8</u>
459.GemsFDTD	468	22.7	<u>468</u>	<u>22.7</u>	468	22.7	467	22.7	<u>466</u>	<u>22.7</u>	466	22.8
465.tonto	654	15.0	662	14.9	<u>656</u>	<u>15.0</u>	536	18.4	<u>536</u>	<u>18.4</u>	537	18.3
470.lbm	494	27.8	<u>494</u>	<u>27.8</u>	494	27.8	494	27.8	<u>494</u>	<u>27.8</u>	494	27.8
481.wrf	609	18.3	610	18.3	<u>610</u>	<u>18.3</u>	<u>610</u>	<u>18.3</u>	612	18.3	610	18.3
482.sphinx3	<u>872</u>	<u>22.4</u>	875	22.3	859	22.7	850	22.9	852	22.9	<u>850</u>	<u>22.9</u>

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

General Notes

OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M
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:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

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Peak Compiler Invocation (Continued)

```
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:

ifort

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
437.leslie3d: -DSPEC_CPU_LP64
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:

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

```
470.lbm: basepeak = yes
```

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

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Peak Optimization Flags (Continued)

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

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
-parallel

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: basepeak = yes

437.leslie3d: basepeak = yes

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

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



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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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