SPEC® CFP2006 Result
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ACTION S.A.
ACTINA SOLAR 410 S3

$SPECfp®\_rate2006 =$ 84.4
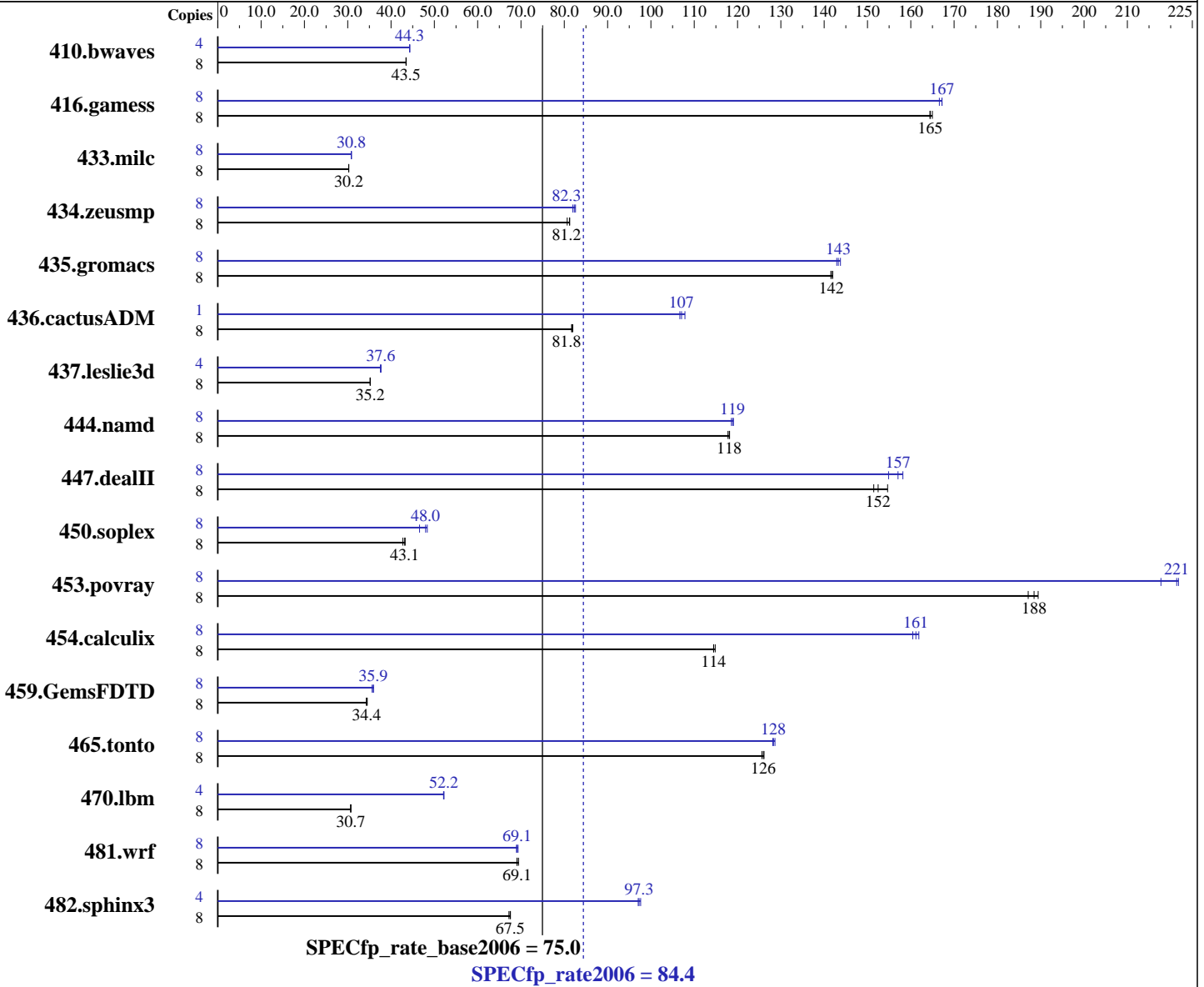
SPECfp_rate_base2006 = 75.0

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

Benchmark	Copies	Result (blue)	Result (base)
410.bwaves	4 / 8	44.3	43.5
416.gamess	8 / 8	167	165
433.milc	8 / 8	30.8	30.2
434.zeusmp	8 / 8	82.3	81.2
435.gromacs	8 / 8	143	142
436.cactusADM	1 / 8	107	81.8
437.leslie3d	4 / 8	37.6	35.2
444.namd	8 / 8	119	118
447.dealII	8 / 8	157	152
450.soplex	8 / 8	48.0	43.1
453.povray	8 / 8	221	188
454.calculix	8 / 8	161	114
459.GemsFDTD	8 / 8	35.9	34.4
465.tonto	8 / 8	128	126
470.lbm	4 / 8	52.2	30.7
481.wrf	8 / 8	69.1	69.1
482.sphinx3	4 / 8	97.3	67.5

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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

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
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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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

Peak Pointers:	32/64-bit
Other Software:	Binutils 2.17.50.0.15

Results Table

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