SPEC® CFP2006 Result

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SGI

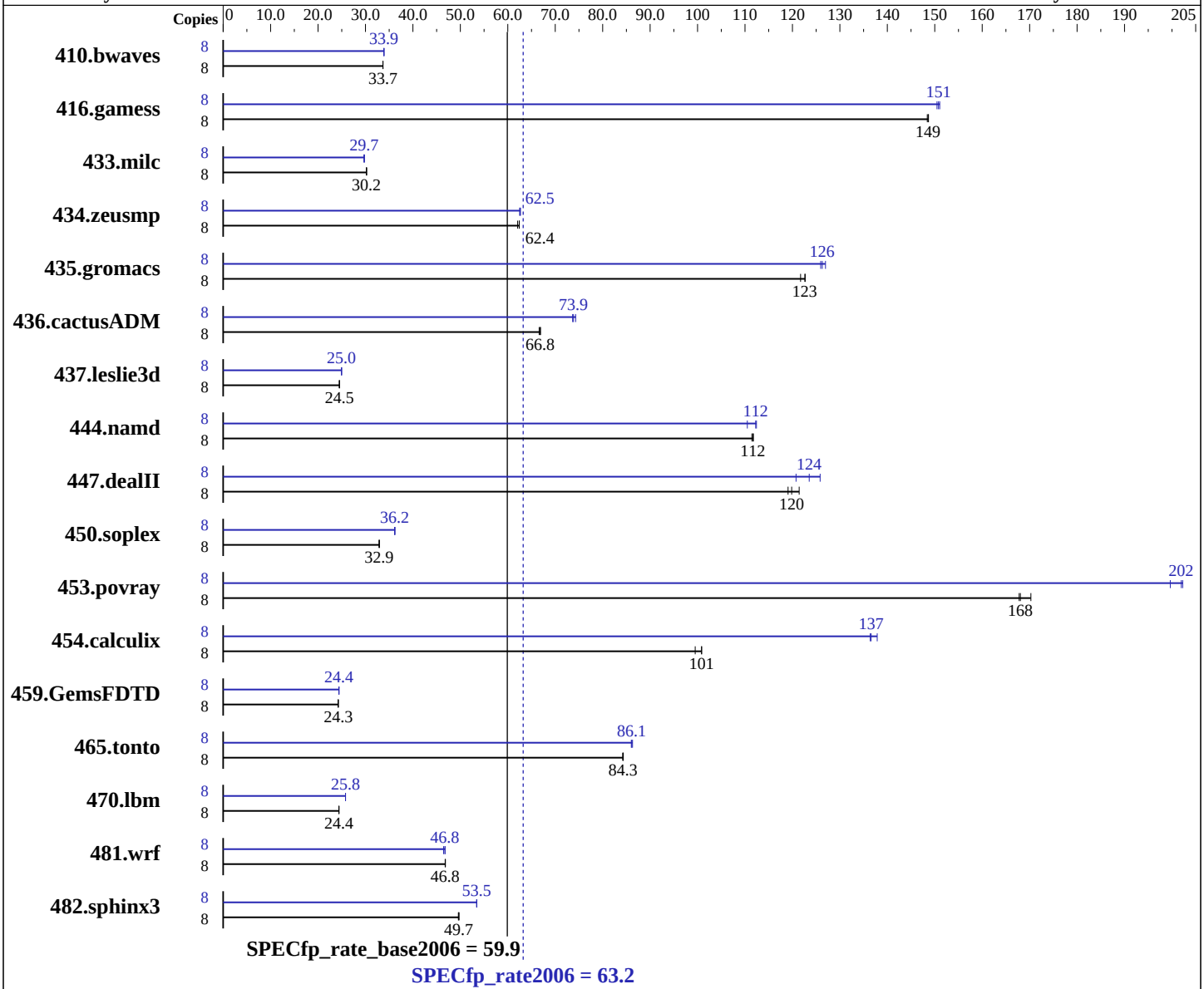
SGI Altix ICE 8200 (Intel Xeon Processor X5355, 2.66 GHz)

SPECfp®_rate2006 = 63.2

SPECfp_rate_base2006 = 59.9

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Sep-2007
Hardware Availability: Aug-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	Quad Core, 2.66 GHz
CPU MHz:	2666
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:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	SUSE Linux Enterprise Server 10 SP1 (x86_64) Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64, Version 10.1, Build 20070824
Auto Parallel:	No
File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8*2GB PC2-5300 FB-DIMMs)
Disk Subsystem: 16 TB RAID 6+1
32 x 500 GB SATA (Seagate Barracuda 7200 rpm)
Other Hardware: None

Other Software: SGI ProPack Compute Node 5 SP2 for Linux
Binutils 2.17

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3227	33.7	3229	33.7	**3228**	**33.7**	8	3208	33.9	3207	33.9	**3208**	**33.9**
416.gamess	8	1055	148	1054	149	**1054**	**149**	8	1041	150	**1039**	**151**	1037	151
433.milc	8	2428	30.3	**2431**	**30.2**	2434	30.2	8	2466	29.8	**2472**	**29.7**	2473	29.7
434.zeusmp	8	1173	62.1	**1167**	**62.4**	1166	62.4	8	1164	62.5	1161	62.7	**1164**	**62.5**
435.gromacs	8	469	122	466	123	**466**	**123**	8	**452**	**126**	450	127	453	126
436.cactusADM	8	1435	66.6	1429	66.9	**1431**	**66.8**	8	**1294**	**73.9**	1298	73.7	1287	74.3
437.leslie3d	8	3067	24.5	3071	24.5	**3068**	**24.5**	8	3013	25.0	3014	25.0	**3014**	**25.0**
444.namd	8	**575**	**112**	576	111	574	112	8	581	110	571	112	**572**	**112**
447.dealII	8	**764**	**120**	754	121	769	119	8	727	126	758	121	**741**	**124**
450.soplex	8	**2027**	**32.9**	2026	32.9	2030	32.9	8	1847	36.1	**1845**	**36.2**	1841	36.2
453.povray	8	**253**	**168**	254	168	250	170	8	213	200	**211**	**202**	210	202
454.calculix	8	663	99.5	654	101	**654**	**101**	8	**483**	**137**	484	136	479	138
459.GemsFDTD	8	3497	24.3	3505	24.2	**3497**	**24.3**	8	3479	24.4	**3477**	**24.4**	3476	24.4
465.tonto	8	933	84.4	935	84.2	**934**	**84.3**	8	**914**	**86.1**	915	86.0	912	86.3
470.lbm	8	4504	24.4	4504	24.4	**4504**	**24.4**	8	4262	25.8	**4262**	**25.8**	4262	25.8
481.wrf	8	1907	46.9	1909	46.8	**1909**	**46.8**	8	1923	46.5	**1911**	**46.8**	1910	46.8
482.sphinx3	8	**3139**	**49.7**	3145	49.6	3136	49.7	8	2916	53.5	**2917**	**53.5**	2918	53.4

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

General Notes

```
BIOS settings:
  Hardware Prefetcher:  disabled
  Adjacent Cacheline Prefetcher:  disabled
  The taskset utility was used to bind processes to cores
  Snoop Filter:  disabled
```

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):
`/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

433.milc: `icc`

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

450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

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

437.leslie3d: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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`

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Peak Optimization Flags (Continued)

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3`

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 -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-intel64-linux-flags.20090714.07.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.07.xml

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