



SPEC® CFP2006 Result

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SGI

SGI Altix XE 250 (Intel Xeon X5272 3.4GHz)

SPECfp®2006 = 25.3

SPECfp_base2006 = 21.9

CPU2006 license: 4

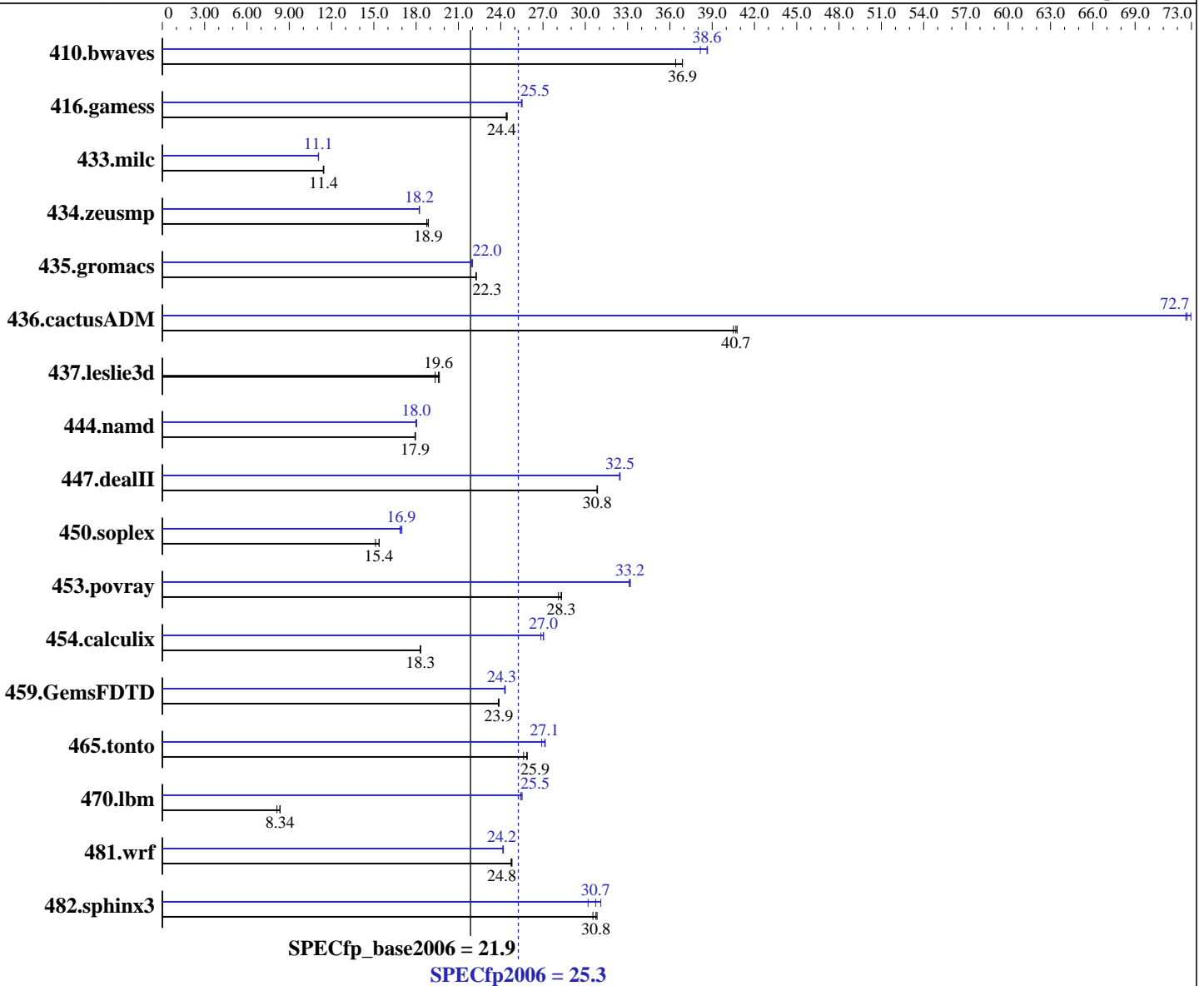
Test sponsor: SGI

Tested by: SGI

Test date: May-2008

Hardware Availability: Feb-2008

Software Availability: Apr-2008



Hardware

CPU Name: Intel Xeon X5272
 CPU Characteristics: Dual Core, 3.4 GHz
 CPU MHz: 3391
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip

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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 for Linux
 Version 10.1, Build 20070913
 Auto Parallel: Yes
 File System: xfs
 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: 8 GB (4*2GB PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem: 1 x 300 GB SAS (Seagate Cheetah 15000rpm)
Other Hardware: None

Other Software: SGI ProPack 5 for Linux Service Pack 5
Binutils 2.17

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	373	36.4	368	36.9	368	36.9	356	38.2	352	38.6	351	38.7
416.gamess	803	24.4	800	24.5	802	24.4	769	25.5	767	25.5	768	25.5
433.milc	804	11.4	803	11.4	802	11.4	830	11.1	829	11.1	828	11.1
434.zeusmp	485	18.8	483	18.9	482	18.9	499	18.2	499	18.2	499	18.2
435.gromacs	321	22.2	321	22.3	321	22.3	326	21.9	324	22.0	325	22.0
436.cactusADM	295	40.5	294	40.7	293	40.8	164	72.7	165	72.6	164	73.0
437.leslie3d	486	19.4	480	19.6	478	19.7	486	19.4	480	19.6	478	19.7
444.namd	447	17.9	447	18.0	448	17.9	445	18.0	446	18.0	445	18.0
447.dealII	371	30.8	371	30.8	371	30.9	352	32.5	352	32.5	353	32.4
450.soplex	552	15.1	543	15.4	542	15.4	491	17.0	495	16.9	492	16.9
453.povray	188	28.3	188	28.3	189	28.1	161	33.1	160	33.2	160	33.2
454.calculix	450	18.3	451	18.3	451	18.3	305	27.0	307	26.9	305	27.0
459.GemsFDTD	445	23.8	444	23.9	445	23.9	437	24.3	436	24.3	436	24.3
465.tonto	380	25.9	381	25.9	384	25.6	363	27.1	362	27.2	366	26.9
470.lbm	1690	8.13	1646	8.35	1647	8.34	538	25.5	540	25.5	541	25.4
481.wrf	451	24.8	452	24.7	450	24.8	463	24.1	462	24.2	462	24.2
482.sphinx3	634	30.8	638	30.5	632	30.8	627	31.1	645	30.2	634	30.7

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

General Notes

Bios settings:

Snoop Filter: Enabled

Hardware Prefetcher: Enabled

Adjacent Sector Prefetch: Enabled

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode

Benchmarks compiled with automatic parallelization use the following environment settings:

OMP_NUM_THREADS = 4

KMP_AFFINITY = physical,0

KMP_STACKSIZE = 200M



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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:

-fast -parallel

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/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.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.dealIII: -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 -parallel

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: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

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 -parallel -prefetch -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.20090714.04.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.20090714.04.xml>



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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 17:33:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 June 2008.