



SPEC® CFP2006 Result

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Sun Microsystems

SPECfp®2006 = 24.0

Sun Fire X2250 (Intel Xeon X5472 3.0GHz)

SPECfp_base2006 = 20.3

CPU2006 license: 6

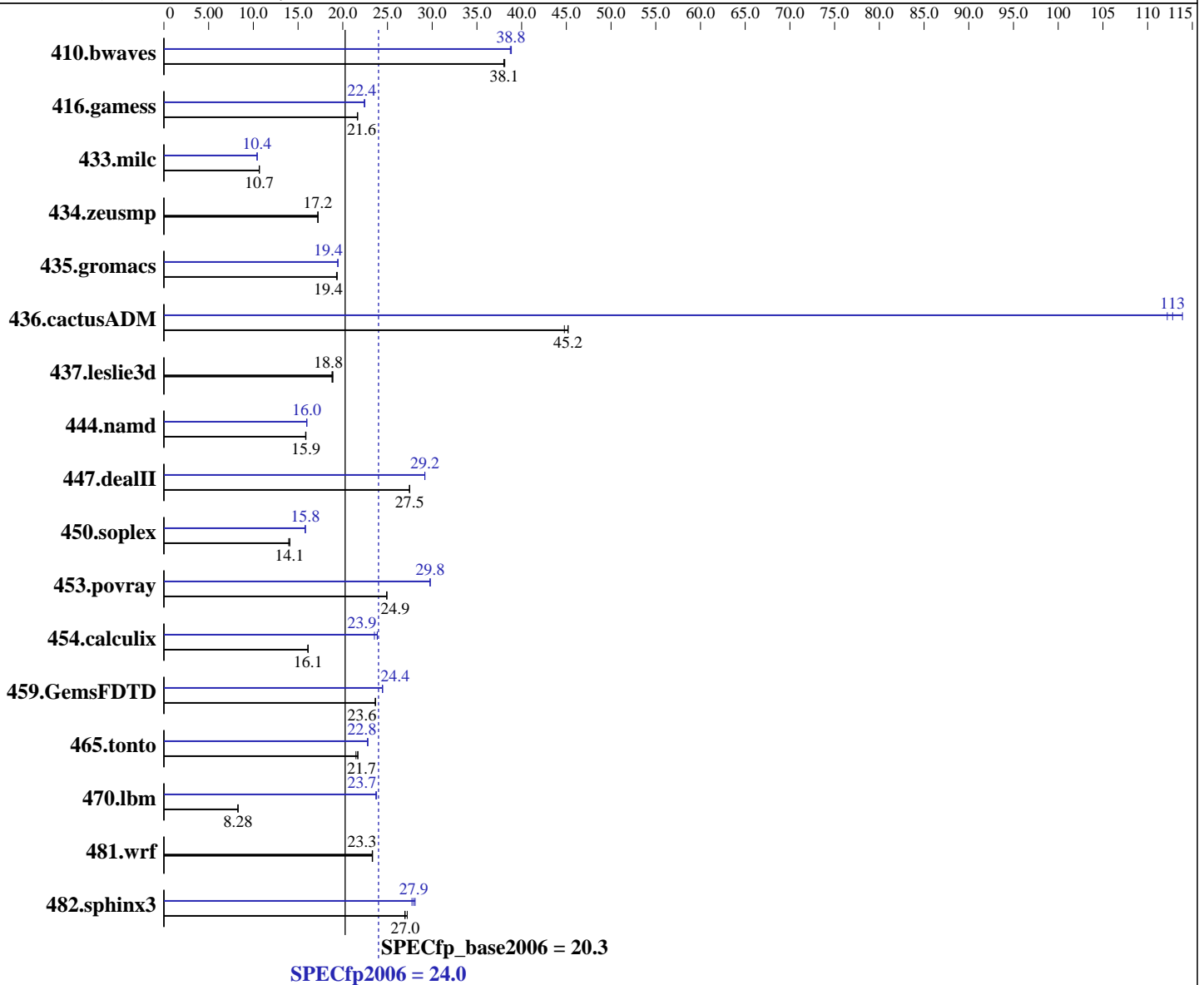
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Aug-2008

Hardware Availability: Aug-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5472
 CPU Characteristics: 1600MHz FSB
 CPU MHz: 3000
 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) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913
 Auto Parallel: Yes
 File System: ReiserFS
 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 (4*4GB Dual-rank PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem: SATA, 500 GB, 7200 RPM
Other Hardware: None

Other Software: Binutils 2.17.10.50

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	358	38.0	357	38.1	357	38.1	350	38.8	351	38.7	350	38.9
416.gamess	903	21.7	905	21.6	905	21.6	874	22.4	871	22.5	873	22.4
433.milc	861	10.7	861	10.7	860	10.7	881	10.4	881	10.4	880	10.4
434.zeusmp	529	17.2	528	17.2	528	17.2	529	17.2	528	17.2	528	17.2
435.gromacs	369	19.4	370	19.3	369	19.4	367	19.5	367	19.4	367	19.4
436.cactusADM	264	45.2	267	44.8	264	45.2	107	112	105	114	106	113
437.leslie3d	499	18.8	500	18.8	497	18.9	499	18.8	500	18.8	497	18.9
444.namd	505	15.9	505	15.9	506	15.8	502	16.0	502	16.0	502	16.0
447.dealII	416	27.5	417	27.5	417	27.5	392	29.2	392	29.2	392	29.2
450.soplex	593	14.1	598	14.0	592	14.1	528	15.8	527	15.8	528	15.8
453.povray	214	24.9	213	24.9	213	24.9	179	29.8	179	29.8	179	29.8
454.calculix	512	16.1	513	16.1	511	16.1	346	23.9	350	23.5	346	23.9
459.GemsFDTD	449	23.6	449	23.6	448	23.7	434	24.4	434	24.5	434	24.4
465.tonto	453	21.7	454	21.7	458	21.5	431	22.8	432	22.8	432	22.8
470.lbm	1657	8.29	1661	8.27	1659	8.28	578	23.8	579	23.7	579	23.7
481.wrf	479	23.3	479	23.3	480	23.3	479	23.3	479	23.3	480	23.3
482.sphinx3	724	26.9	722	27.0	716	27.2	698	27.9	703	27.7	694	28.1

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

Compiler Invocation Notes

OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 200M
KMP_AFFINITY set to physical,0

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.

Platform Notes

BIOS configuration :
Hardware Prefetch : Enabled; Adjacent Sector Prefetch : Enabled



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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:

-fast -parallel



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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
```

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:

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: basepeak = yes

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: basepeak = yes

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.20090714.00.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.20090714.00.xml>



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

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