SPEC® CFP2006 Result

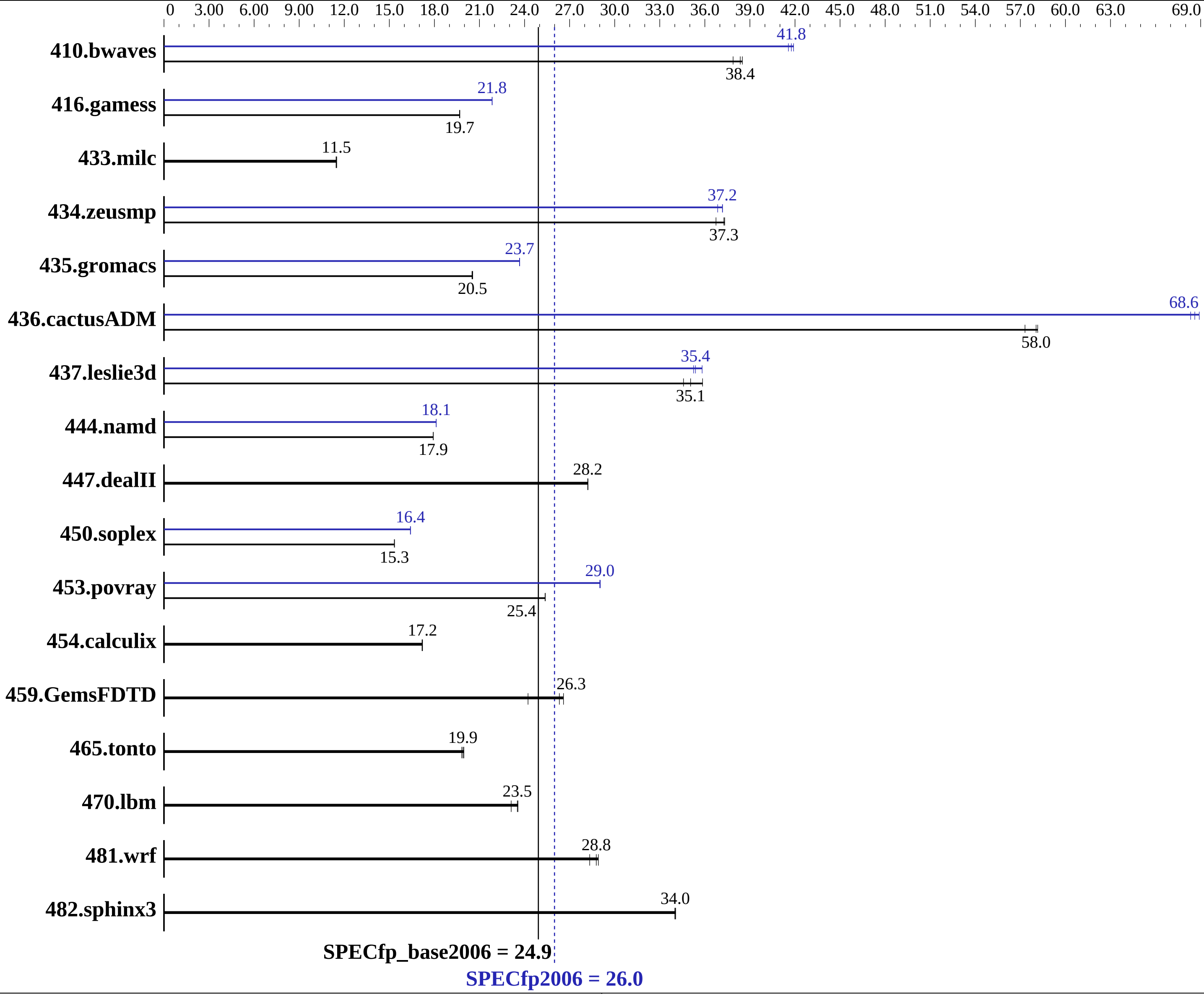
Sun Microsystems
Sun Fire X2250

SPECfp®2006 = 26.0

SPECfp_base2006 = 24.9

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Aug-2008
Hardware Availability: Aug-2008
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Xeon X5272
CPU Characteristics:	
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 (order by # of 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:	OpenSolaris 2008.05
Compiler:	Sun Studio Express 11/08
Auto Parallel:	Yes
File System:	OS on zfs, Benchmark on ufs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

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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: 2 x 250 GB SATA 7200 RPM
Other Hardware: None

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	359	37.9	**354**	**38.4**	353	38.5	324	41.9	327	41.6	**325**	**41.8**
416.gamess	**995**	**19.7**	994	19.7	996	19.7	897	21.8	896	21.8	**896**	**21.8**
433.milc	801	11.5	**800**	**11.5**	798	11.5	801	11.5	**800**	**11.5**	798	11.5
434.zeusmp	248	36.7	**244**	**37.3**	244	37.3	247	36.9	245	37.2	**245**	**37.2**
435.gromacs	**348**	**20.5**	348	20.5	347	20.5	302	23.7	**302**	**23.7**	302	23.7
436.cactusADM	209	57.3	**206**	**58.0**	205	58.2	175	68.3	**174**	**68.6**	173	68.9
437.leslie3d	**268**	**35.1**	262	35.9	272	34.6	267	35.3	**266**	**35.4**	262	35.8
444.namd	447	17.9	447	17.9	**447**	**17.9**	443	18.1	442	18.1	**442**	**18.1**
447.dealII	406	28.2	**406**	**28.2**	405	28.2	406	28.2	**406**	**28.2**	405	28.2
450.soplex	**544**	**15.3**	543	15.3	544	15.3	508	16.4	**508**	**16.4**	509	16.4
453.povray	**210**	**25.4**	210	25.4	210	25.4	183	29.0	**183**	**29.0**	183	29.0
454.calculix	**480**	**17.2**	480	17.2	479	17.2	**480**	**17.2**	480	17.2	479	17.2
459.GemsFDTD	399	26.6	**403**	**26.3**	438	24.2	399	26.6	**403**	**26.3**	438	24.2
465.tonto	496	19.8	493	20.0	**494**	**19.9**	496	19.8	493	20.0	**494**	**19.9**
470.lbm	595	23.1	583	23.6	**584**	**23.5**	595	23.1	583	23.6	**584**	**23.5**
481.wrf	394	28.3	**388**	**28.8**	386	28.9	394	28.3	**388**	**28.8**	386	28.9
482.sphinx3	**573**	**34.0**	573	34.0	572	34.1	**573**	**34.0**	573	34.0	572	34.1

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

Operating System Notes

```
Environment variable SUNW_MP_THR_IDLE set to SPIN
Environment variable OMP_NUM_THREADS set to 4
'ulimit -s unlimited' was used to set environment stack size

Added additional 8GB of swap from UFS filesystem, using following commands:
mkfile 8g /data1/swapfile;  swap -a /data1/swapfile

Kernel Parameters (/etc/system):
autoup=900
tune_t_fsflushr=1
```

Platform Notes

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

Base Compiler Invocation

C benchmarks:
 cc

C++ benchmarks:
 CC

Fortran benchmarks:
 f90

Benchmarks using both Fortran and C:
 cc f90

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
436.cactusADM: -DSPEC_CPU_LP64
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
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_WORDS_LITTLEENDIAN
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
 -fast -xautopar -xipo=2 -xvector=simd -m64

C++ benchmarks:
 -fast -xipo=2 -xvector=simd -m64 -library=stlport4

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Base Optimization Flags (Continued)

Fortran benchmarks:
-fast -xautopar -xipo=2 -xvector=simd -m64

Benchmarks using both Fortran and C:
-fast(cc) -xautopar -xipo=2 -xvector=simd -m64 -fast(f90)

Base Other Flags

C benchmarks:
-V

C++ benchmarks:
-verbose=version

Fortran benchmarks:
-V

Benchmarks using both Fortran and C:
-V

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Peak Portability Flags

433.milc: -DSPEC_CPU_LP64
436.cactusADM: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_WORDS_LITTLEENDIAN
482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xautopar -xipo=2 -xvector=simd -m64 -library=stlport4

447.dealII: basepeak = yes

450.soplex: -fast -xipo=2 -m32 -library=stlport4

453.povray: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64 -xvector=simd -lumem -xalias_level=compatible -xautopar -Qoption ube -fsimple=3 -library=stlport4

Fortran benchmarks:

410.bwaves: -fast -m64 -xipo=2 -xprefetch -xprefetch_level=2 -xautopar -xreduction -Qoption ube -fsimple=3

416.gamess: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64 -xdepend -xalias -stackvar -aligncommon=16 -Qoption ube -fsimple=3

434.zeusmp: -fast -xautopar -xipo=2 -xvector=simd -m64

437.leslie3d: Same as 434.zeusmp

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

435.gromacs: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90) -xipo=2 -m64 -Wu,-fsimple=3 -Qoption ube -fsimple=3

436.cactusADM: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast(cc) -xautopar -xipo=2 -xvector=simd -m64 -xpagesize_heap=2m -Wu,-fsimple=3 -fast(f90) -Qoption ube -fsimple=3 -Qoption iropt -Aujam:noinner

454.calculix: basepeak = yes

481.wrf: basepeak = yes

Peak Other Flags

C benchmarks:
-V

C++ benchmarks:
-verbose=version

Fortran benchmarks:
-V

Benchmarks using both Fortran and C:
-V

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090714.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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