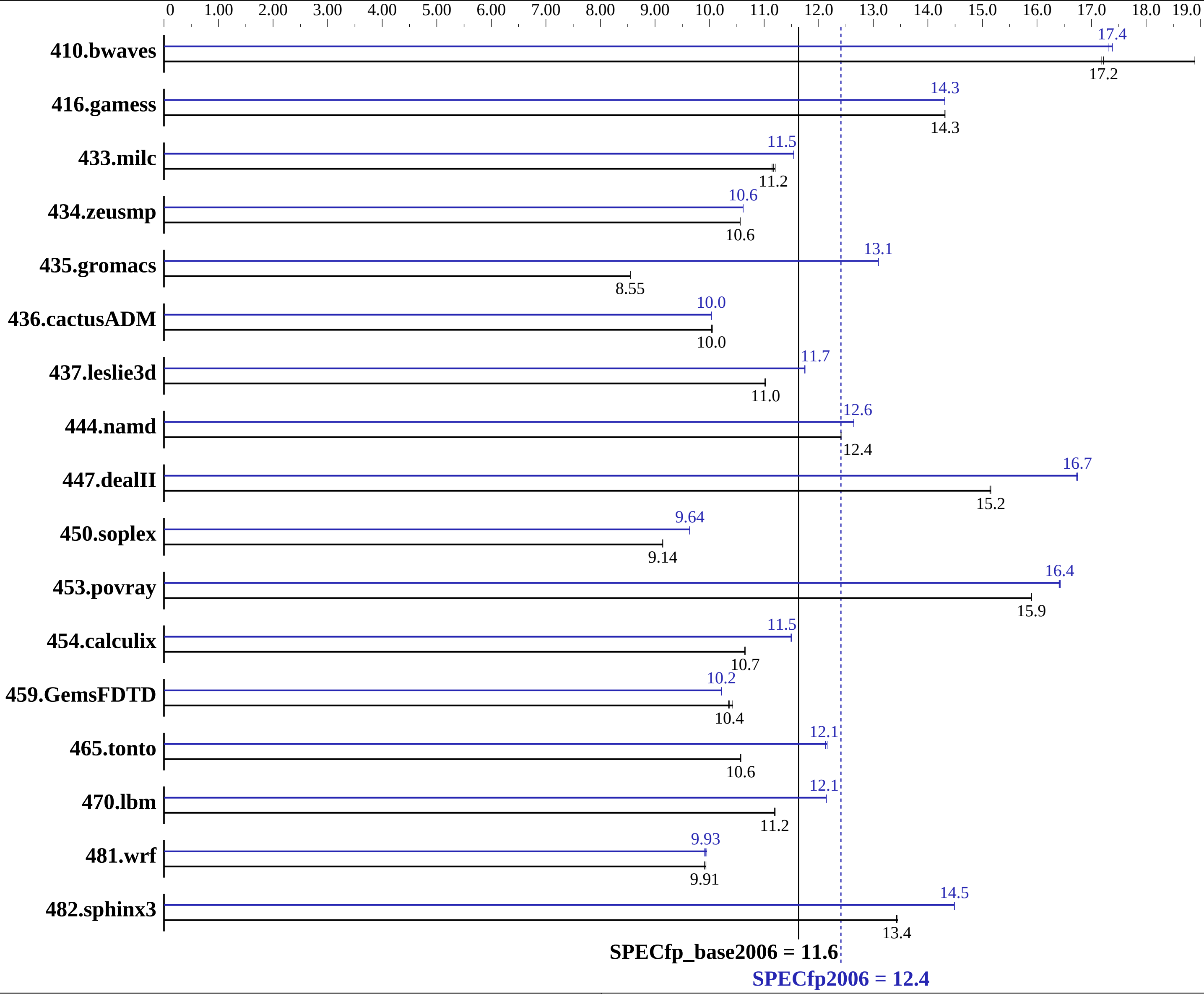
SPEC® CFP2006 Result

Sun Microsystems
Sun Fire X4200

SPECfp®2006 = 12.4

SPECfp_base2006 = 11.6

CPU2006 license: 6		**Test date:**	Apr-2006
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Oct-2005
Tested by:	Sun Microsystems	**Software Availability:**	Jul-2006



Hardware

CPU Name:	AMD Opteron 254
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip
CPU(s) orderable:	1-2 chips
Primary Cache:	64 KB I + 64 KB D on chip per chip
Secondary Cache:	1 MB I+D on chip per chip

Continued on next page

Software

Operating System:	Solaris 10 1/06
Compiler:	Sun Studio 11 with patch 120759-06
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Sun Microsystems
Sun Fire X4200

SPECfp2006 = 12.4
SPECfp_base2006 = 11.6

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems
Test date: Apr-2006
Hardware Availability: Oct-2005
Software Availability: Jul-2006

L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB, PC3200 CL3 DDR ECC Reg)
Disk Subsystem: SAS,36GB,10K RPM
Other Hardware: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	719	18.9	**789**	**17.2**	791	17.2	785	17.3	782	17.4	**782**	**17.4**
416.gamess	**1368**	**14.3**	1368	14.3	1368	14.3	1368	14.3	1368	14.3	**1368**	**14.3**
433.milc	824	11.1	**822**	**11.2**	819	11.2	795	11.5	795	11.5	**795**	**11.5**
434.zeusmp	862	10.6	862	10.6	**862**	**10.6**	857	10.6	857	10.6	**857**	**10.6**
435.gromacs	835	8.55	836	8.55	**835**	**8.55**	**545**	**13.1**	545	13.1	545	13.1
436.cactusADM	1189	10.1	1192	10.0	**1191**	**10.0**	**1191**	**10.0**	1191	10.0	1191	10.0
437.leslie3d	854	11.0	**852**	**11.0**	852	11.0	800	11.7	800	11.8	**800**	**11.7**
444.namd	**646**	**12.4**	646	12.4	646	12.4	**634**	**12.6**	634	12.6	634	12.6
447.dealII	755	15.2	**755**	**15.2**	756	15.1	**683**	**16.7**	684	16.7	683	16.7
450.soplex	913	9.14	912	9.14	**912**	**9.14**	866	9.63	**865**	**9.64**	865	9.64
453.povray	335	15.9	335	15.9	**335**	**15.9**	324	16.4	**324**	**16.4**	324	16.4
454.calculix	**774**	**10.7**	774	10.7	775	10.6	717	11.5	**718**	**11.5**	718	11.5
459.GemsFDTD	1018	10.4	**1024**	**10.4**	1025	10.3	**1038**	**10.2**	1038	10.2	1038	10.2
465.tonto	931	10.6	**931**	**10.6**	931	10.6	**812**	**12.1**	812	12.1	809	12.2
470.lbm	1227	11.2	**1228**	**11.2**	1228	11.2	1132	12.1	1132	12.1	**1132**	**12.1**
481.wrf	1124	9.93	**1127**	**9.91**	1127	9.91	1123	9.95	**1125**	**9.93**	1127	9.91
482.sphinx3	1449	13.5	1452	13.4	**1451**	**13.4**	1346	14.5	1345	14.5	**1345**	**14.5**

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

Operating System Notes

```
ulimit -s 131072  (shell): increases stack


/etc/system parameters
   tune_t_fsflushr=1
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   autoup=900
      Causes pages older than the listed number of seconds to
      be written by fsflush.
```

Platform Notes

```
Default BIOS settings were used.
```

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 -xipo=2 -xarch=amd64a`

C++ benchmarks:
`-fast -xipo=2 -xarch=amd64a -library=stlport4`

Continued on next page

Base Optimization Flags (Continued)

Fortran benchmarks:
`-fast -xipo=2 -xarch=amd64a`

Benchmarks using both Fortran and C:
`-fast`(cc) `-fast`(f90) `-xipo=2 -xarch=amd64a`

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

436.cactusADM: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_WORDS_LITTLEENDIAN`

Peak Optimization Flags

C benchmarks:

433.milc: -fast -xarch=amd64a -xipo=2 -xprefetch=auto -xprefetch_level=3 -xpagesize=2m

470.lbm: -fast -xarch=amd64a -xpagesize=2m -W2,-Ainline:inc=200 -W2,-Ainline:cs=500 -xprefetch_level=3

482.sphinx3: -fast -xarch=amd64a -xrestrict -xipo=2 -xprefetch=auto -xpagesize=2m -Wd,-iropt-prof -W2,-Ashort_ldst:ldld -W2,-Ainline:rs=50 -M /usr/lib/ld/map.bssalign

C++ benchmarks:

444.namd: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xarch=amd64a -xipo=2 -library=stlport4

447.dealII: -fast -xarch=amd64a -xipo=2 -xvector -Qoption iropt -Abcopy -xalias_level -xrestrict -xregs=frameptr -library=stlport4

450.soplex: -fast -xipo=2 -xarch=sse2a -library=stlport4

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: -fast -xarch=amd64a -unroll=5 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -Qoption iropt -Rloop_dist

416.gamess: -fast -xarch=amd64a -xipo=2 -xprefetch_level=3

434.zeusmp: -fast -xarch=amd64a -xipo=2 -xregs=frameptr

437.leslie3d: -fast -xipo=2 -xarch=sse2a

459.GemsFDTD: -fast -xarch=amd64a -xipo=2 -xprefetch_level=3 -xpagesize=2m

465.tonto: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xarch=amd64a -xipo=2 -xvector=lib -xalias -xdepend -lbsdmalloc

Benchmarks using both Fortran and C:

435.gromacs: -fast(cc) -fast(f90) -xipo=2 -xarch=amd64a -Wu,-fsimple=3 -Qoption ube -fsimple=3

Continued on next page

Sun Microsystems
Sun Fire X4200

SPECfp2006 = 12.4
SPECfp_base2006 = 11.6

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems
Test date: Apr-2006
Hardware Availability: Oct-2005
Software Availability: Jul-2006

Peak Optimization Flags (Continued)

436.cactusADM: -fast(cc) -fast(f90) -xipo=2 -xarch=amd64a

454.calculix: -fast(cc) -fast(f90) -xarch=amd64a -xpagesize=2m -xprefetch=auto -xprefetch_level=3 -W2,-Ainline:inc=200 -W2,-Ainline:cs=500 -unroll=5 -stackvar -xO4 -xipo=2 -Qoption iropt -Rloop_dist

481.wrf: Same as 436.cactusADM

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-Solaris-Studio-Opteron.20090715.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio-Opteron.20090715.02.xml

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

Tested with SPEC CPU2006 v91.
Report generated on Tue Jul 22 10:02:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 August 2006.