SPEC® CFP2006 Result

Sun Microsystems

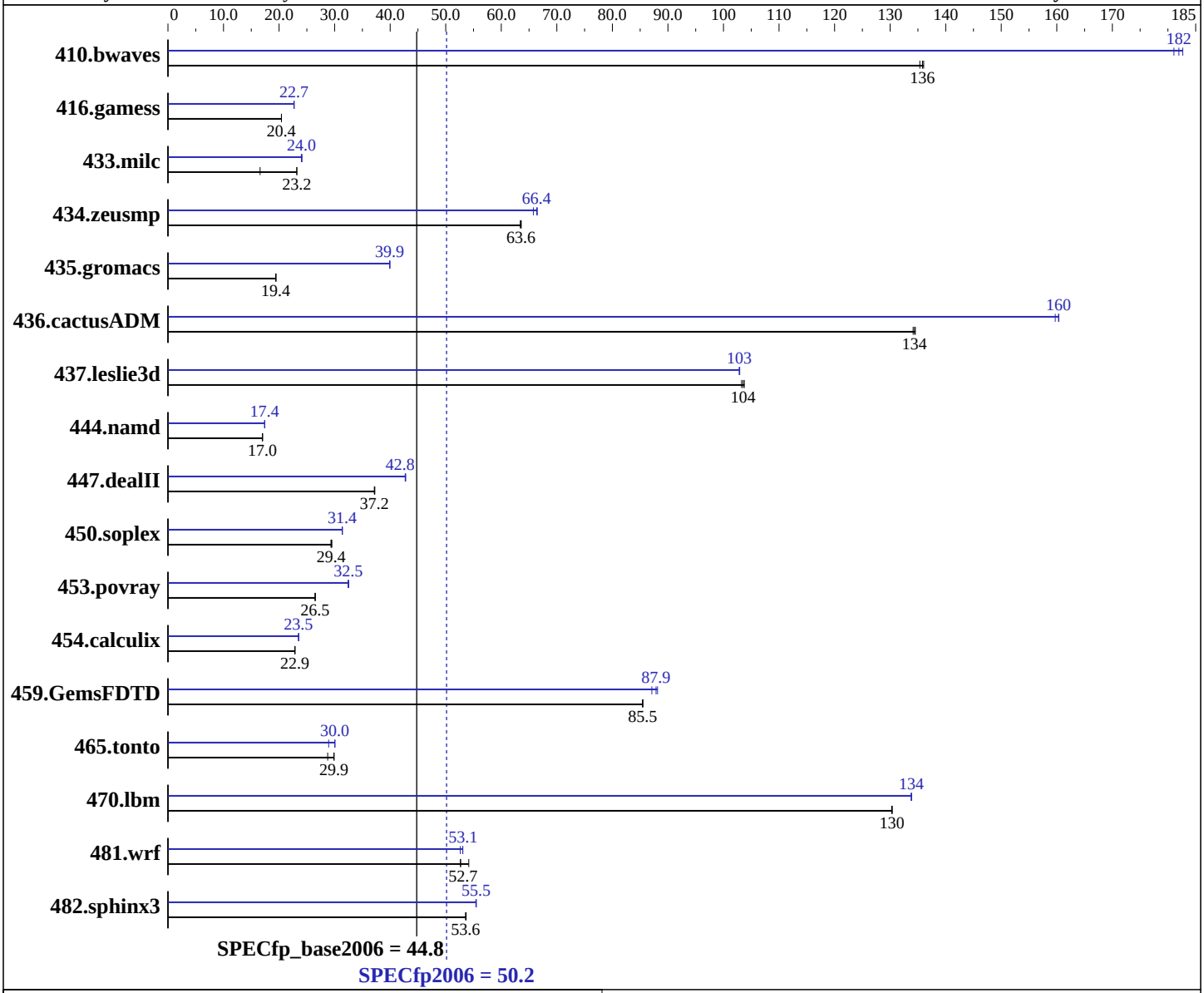
Sun Blade X6275 (Intel Xeon X5570 2.93GHz)

SPECfp®2006 = 50.2

SPECfp_base2006 = 44.8

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Jun-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 or 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	OpenSolaris 2008.11
Compiler:	Sun Studio 12 Update 1 (backend build 20090309)
Auto Parallel:	Yes
File System:	zfs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

Continued on next page

SPEC CFP2006 Result

Sun Microsystems

Sun Blade X6275 (Intel Xeon X5570 2.93GHz)

SPECfp2006 = 50.2

SPECfp_base2006 = 44.8

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Jun-2009

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6 x 4 GB DDR3-1333)
Disk Subsystem: 1 x 24 GB, SAS, Sun FlashDisk
Other Hardware: None

Other Software: MicroQuill SmartHeap Library 9.01 for x64
Apache C++ Standard Library V4.2.1

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	100	135	99.9	136	**100**	**136**	**74.7**	**182**	74.4	183	75.0	181
416.gamess	**959**	**20.4**	959	20.4	958	20.4	**863**	**22.7**	863	22.7	861	22.7
433.milc	396	23.2	**396**	**23.2**	553	16.6	382	24.0	380	24.1	**382**	**24.0**
434.zeusmp	**143**	**63.6**	143	63.6	143	63.4	**137**	**66.4**	137	66.5	138	65.8
435.gromacs	368	19.4	367	19.4	**368**	**19.4**	179	40.0	179	39.9	**179**	**39.9**
436.cactusADM	89.1	134	**88.9**	**134**	88.8	135	74.8	160	**74.5**	**160**	74.5	160
437.leslie3d	90.6	104	**90.8**	**104**	91.0	103	91.4	103	91.3	103	**91.4**	**103**
444.namd	471	17.0	471	17.0	**471**	**17.0**	**461**	**17.4**	460	17.4	461	17.4
447.dealII	**308**	**37.2**	307	37.2	308	37.2	268	42.7	**267**	**42.8**	267	42.8
450.soplex	284	29.3	283	29.5	**284**	**29.4**	266	31.4	266	31.4	**266**	**31.4**
453.povray	201	26.5	**201**	**26.5**	201	26.5	164	32.4	163	32.5	**164**	**32.5**
454.calculix	**361**	**22.9**	361	22.9	361	22.8	350	23.5	**351**	**23.5**	351	23.5
459.GemsFDTD	**124**	**85.5**	124	85.5	124	85.5	122	87.1	**121**	**87.9**	120	88.1
465.tonto	**329**	**29.9**	342	28.8	329	29.9	327	30.1	340	28.9	**328**	**30.0**
470.lbm	105	130	**105**	**130**	105	130	**103**	**134**	103	134	103	134
481.wrf	**212**	**52.7**	206	54.2	212	52.7	212	52.6	210	53.1	**210**	**53.1**
482.sphinx3	**364**	**53.6**	364	53.6	363	53.7	352	55.4	**351**	**55.5**	351	55.5

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

Compiler Invocation Notes

```
The Apache C++ Standard Library V4.2.1 was installed from
http://stdcxx.apache.org/download.html using:
    alias gmake=specmake
    gmake BUILDTYPE=8D CONFIG=sunpro.config
```

Operating System Notes

```
ulimit -s 131072  (shell): increases stack
/etc/system parameters
   tune_t_fsflushr=10
   autoup=900
   set lpg_alloc_prefer=1
   set zfs:zfs_arc_max = 0x10000000
```

Platform Notes

```
Default BIOS settings used except:
Hyper-Threading Technology set to Enabled,
Intel VT-d: Disabled.  VT-d, if enabled, supports
remapping of I/O DMA transfers for virtualization.
```

General Notes

```
Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "8"
SUNW_MP_PROCBIND = "true"
SUNW_MP_THR_IDLE = "SPIN"
447.dealII (peak): "apache_stdcxx_4_2_1" src.alt was used.

447.dealII (base): "apache_stdcxx_4_2_1" src.alt was 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

Continued on next page

Base Portability Flags (Continued)

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 -m64 -xvector=simd -xautopar`

C++ benchmarks:
`-fast -xipo=2 -m64 -xvector=simd -library=no%Cstd`
`-I/data1/stdcxx-4.2.1/include -I/data1/stdcxx-4.2.1/build/include`
`-L/data1/stdcxx-4.2.1/build/lib -R/data1/stdcxx-4.2.1/build/lib -lstd8D`

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

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

Base Other Flags

C benchmarks:
`-V -# -xjobs=16`

C++ benchmarks:
`-verbose=diags,version -xjobs=16`

Fortran benchmarks:
`-V -v -xjobs=16`

Benchmarks using both Fortran and C:
`-V -# -xjobs=16 -v`

Peak Compiler Invocation

C benchmarks:
`cc`

C++ benchmarks:
`CC`

Fortran benchmarks:
`f90`

Continued on next page

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
cc f90

Peak Portability Flags

436.cactusADM: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_WORDS_LITTLEENDIAN

Peak Optimization Flags

C benchmarks:

433.milc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M

470.lbm: -fast -xipo=2 -m64 -xvector=simd -xautopar -xreduction
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap_mt64
-lmvec

482.sphinx3: -fast -xipo=2 -m64 -xpagesize=2M -xvector=simd
-xprefetch=no%auto -xautopar -xreduction

C++ benchmarks:

444.namd: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xunroll=8 -library=stlport4

447.dealII: -fast -xipo=2 -m64 -xpagesize=2M -xalias_level=compatible
-xdepend -library=no%Cstd -I/data1/stdcxx-4.2.1/include
-I/data1/stdcxx-4.2.1/build/include
-L/data1/stdcxx-4.2.1/build/lib
-R/data1/stdcxx-4.2.1/build/lib -lstd8D

450.soplex: -fast -xipo=2 -xpagesize=2M -xrestrict
-xalias_level=simple -xdepend -xprefetch=no%auto
-library=stlport4

453.povray: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=compatible -library=stlport4

Fortran benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

410.bwaves: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xprefetch=no%auto -xautopar -xreduction

416.gamess: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xunroll=1 -qoption iropt -Ainline:cp=19
-qoption iropt -Ainline:rs=50 -qoption iropt -Ainline:irs=30

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

437.leslie3d: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xvector=simd -xautopar -xreduction -lumem

459.GemsFDTD: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xvector=simd -xautopar -xreduction

465.tonto: -fast -xipo=2 -m64 -xpagesize=2M -xautopar -stackvar
-xreduction -xprefetch=no%auto -xvector=lib -xalias
-xdepend

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xipo=2 -m64 -xpagesize=2M -fsimple=2
-Qoption ube -fsimple=3 -xprefetch=no%auto -xautopar
-xreduction

436.cactusADM: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xipo=2 -m64 -xvector=simd -xautopar
-W2,-Aparallel:nthreads=16
-Qoption iropt -Aparallel:nthreads=16

454.calculix: -fast(cc) -fast(f90) -xipo=2 -m64 -xpagesize=2M
-xvector=simd

481.wrf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xipo=2 -m64 -xpagesize=2M -xvector=lib,simd
-xprefetch=no%auto -xautopar -xreduction

Peak Other Flags

C benchmarks:
```
-V -# -xjobs=16
```

C++ benchmarks:
```
-verbose=diags,version -xjobs=16
```

Fortran benchmarks:
```
-V -v -xjobs=16
```

Benchmarks using both Fortran and C:
```
-V -# -xjobs=16 -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_64.20090710.00.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090710.00.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 01:55:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 April 2009.