



SPEC[®] CFP2006 Result

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Sun Microsystems

SPECfp[®]2006 = 15.9

Sun SPARC Enterprise M3000

SPECfp_base2006 = 15.2

CPU2006 license: 6

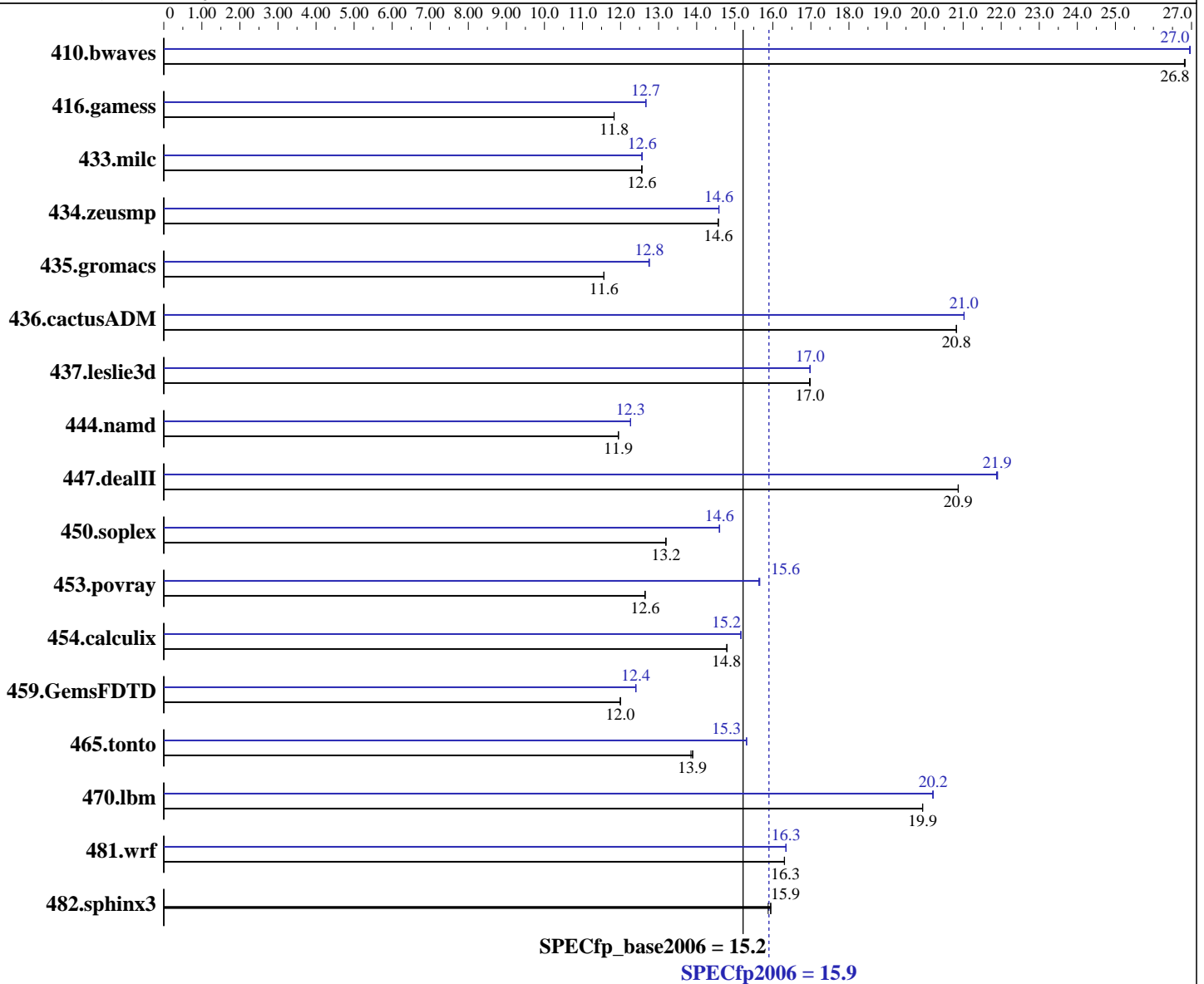
Test sponsor: Sun Microsystems

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Jan-2010

Software Availability: Oct-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2750
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5 MB I+D on chip per chip

Software

Operating System: Solaris 10 10/09 with patch 119963-18
 Compiler: Sun Studio 12 Update 1
 Auto Parallel: No
 File System: ufs
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: Apache C++ Standard Library V4.2.1

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L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8 x 2 GB), 2-way interleaved
 Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
 Other Hardware: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	507	26.8	506	26.8	507	26.8	504	27.0	504	27.0	504	26.9
416.gamess	1655	11.8	1655	11.8	1655	11.8	1546	12.7	1546	12.7	1546	12.7
433.milc	731	12.6	731	12.6	731	12.6	730	12.6	731	12.6	730	12.6
434.zeusmp	625	14.6	625	14.6	625	14.6	624	14.6	624	14.6	624	14.6
435.gromacs	617	11.6	618	11.6	617	11.6	560	12.7	560	12.8	560	12.8
436.cactusADM	574	20.8	574	20.8	574	20.8	568	21.0	568	21.0	568	21.0
437.leslie3d	554	17.0	554	17.0	553	17.0	553	17.0	554	17.0	554	17.0
444.namd	671	11.9	672	11.9	672	11.9	654	12.3	654	12.3	654	12.3
447.dealII	548	20.9	548	20.9	548	20.9	522	21.9	522	21.9	523	21.9
450.soplex	633	13.2	632	13.2	632	13.2	571	14.6	572	14.6	571	14.6
453.povray	421	12.6	421	12.6	421	12.6	340	15.7	340	15.6	340	15.6
454.calculix	558	14.8	558	14.8	558	14.8	544	15.2	544	15.2	544	15.2
459.GemsFDTD	885	12.0	884	12.0	885	12.0	856	12.4	856	12.4	855	12.4
465.tonto	708	13.9	708	13.9	711	13.8	643	15.3	643	15.3	643	15.3
470.lbm	689	19.9	689	19.9	689	19.9	680	20.2	680	20.2	680	20.2
481.wrf	685	16.3	685	16.3	685	16.3	683	16.3	683	16.3	683	16.3
482.sphinx3	1223	15.9	1222	16.0	1228	15.9	1223	15.9	1222	16.0	1228	15.9

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

Compiler Invocation Notes

Sun Studio compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12u1_patches.jsp

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

Submit Notes

The config file option 'submit' was used. Processes were assigned to specific processors using 'pbind' commands. The list of processors to use was provided in the 'BIND' variable, to generate the pbind commands. (For details, please see the config file.)



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Operating System Notes

Shell Environments:

```
ulimit -s 131072 was used to limit the space consumed
by the stack.(making more space available for the heap)
```

System Tunables:

(/etc/system parameters)

```
tune_t_fsflushr=10
```

```
Controls how many seconds elapse between runs of the
page flush daemon, fsflush.
```

```
autoup=600
```

```
Causes pages older than the listed number of seconds to
be written by fsflush.
```

```
bufhwm=3000
```

```
Memory byte limit for caching I/O buffers.
```

```
segmap_percent=1
```

```
Set maximum percent memory for file system cache.
```

Other System Settings:

```
The webconsole service was turned off using svcadm disable webconsole.
```

Platform Notes

Memory is 2-way interleaved by filling all slots with the same capacity DIMMs.

This result is measured on a Fujitsu SPARC Enterprise M3000 Server.
Note that the Fujitsu SPARC Enterprise M3000 and Sun SPARC Enterprise M3000 are electrically equivalent.

General Notes

447.dealIII (peak): "apache_stdccx4_2_1" src.alt was used.

447.dealIII (base): "apache_stdccx4_2_1" src.alt was used.

Base Compiler Invocation

C benchmarks:

cc

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Base Compiler Invocation (Continued)

C++ benchmarks:
cc

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Base Optimization Flags

C benchmarks:

```
-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2  
-xalias_level=std -xprefetch_auto_type=indirect_array_access  
-xprefetch=latx:2 -M /usr/lib/ld/map.bssalign -l12amm
```

C++ benchmarks:

```
-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2  
-xalias_level=compatible -xprefetch_level=3 -library=no%Cstd  
-I/export/cpu2006-v1.1/stdcxx-4.2.1/include  
-I/export/cpu2006-v1.1/stdcxx-4.2.1/build/include  
-M /usr/lib/ld/map.bssalign  
-L/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib  
-R/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib -lstd8d
```

Fortran benchmarks:

```
-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2  
-xprefetch=latx:2 -M /usr/lib/ld/map.bssalign -l12amm
```

Benchmarks using both Fortran and C:

```
-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M  
-xprefetch_level=2 -xalias_level=std  
-xprefetch_auto_type=indirect_array_access -xprefetch=latx:2  
-M /usr/lib/ld/map.bssalign -l12amm
```

Base Other Flags

C benchmarks:

```
-xjobs=2 -V -#
```

C++ benchmarks:

```
-xjobs=2 -verbose=diags,version
```

Fortran benchmarks:

```
-xjobs=2 -V -v
```

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Base Other Flags (Continued)

Benchmarks using both Fortran and C:
-xjobs=2 -V -# -v

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Peak Optimization Flags

C benchmarks:

433.milc: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=2
-xprefetch=latx:2 -fsimple=1
-xprefetch_auto_type=indirect_array_access
-W2,-Ainline:rs=400 -xalias_level=std -l12amm

470.lbm: -fast -fma=fused -xpagesize=4M -xipo=2 -xarch=generic
-xvector -xprefetch_level=3

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xdepend -fast -fma=fused -xpagesize=4M
-xalias_level=compatible -library=stlport4 -xalias_level=any

447.dealIII: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=no%Cstd
-I/export/cpu2006-v1.1/stdcxx-4.2.1/include
-I/export/cpu2006-v1.1/stdcxx-4.2.1/build/include -xipo=2
-xprefetch_level=2 -xrestrict
-L/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib
-R/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib -lstd8d
-l12amm

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Peak Optimization Flags (Continued)

450.soplex: -xdepend -xprofile=collect:./feedback(pass 1)
 -xprofile=use:./feedback(pass 2) -fast -xipo=2
 -xprefetch=latx:0.7 -xprefetch_level=2
 -xprefetch_auto_type=indirect_array_access
 -Qoption cg -Qlp-ol=1 -Qoption cg -Qlp-it=3
 -Qoption cg -Qlp-imb=1 -Qoption iropt -Apf:pdl=3
 -xalias_level=simple -xrestrict -library=stlport4

453.povray: -xdepend -xprofile=collect:./feedback(pass 1)
 -xprofile=use:./feedback(pass 2) -fast -fma=fused
 -xpagesize=4M -xalias_level=compatible -library=stlport4
 -xipo=2 -xlinkopt=2 -xprefetch=latx:4

Fortran benchmarks:

410.bwaves: -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2
 -xprefetch=latx:4

416.gamess: -xprofile=collect:./feedback(pass 1)
 -xprofile=use:./feedback(pass 2) -fast -fma=fused
 -xpagesize=4M -xipo=2 -xprefetch_level=3
 -xprefetch=latx:1.8

434.zeusmp: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
 -xipo=2 -xprefetch_level=3 -xprefetch=latx:2 -ll2amm

437.leslie3d: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
 -xipo=2 -xprefetch=latx:2 -ll2amm

459.GemsFDTD: -fast -fma=fused -xpagesize=4M -xipo=2 -fsimple=1
 -xprefetch=latx:2

465.tonto: -xprofile=collect:./feedback(pass 1)
 -xprofile=use:./feedback(pass 2) -fast -fma=fused
 -xpagesize=4M -xipo=2 -lfast

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
 -xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
 -fma=fused -xpagesize=4M -xipo=2 -xinline= -xchip=generic
 -fsimple=0 -xprefetch=latx:1.2

436.cactusADM: -fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
 -xprefetch_level=2 -xalias_level=std -xprefetch_level=3
 -xprefetch_auto_type=indirect_array_access -fsimple=1

454.calculix: -fast(cc) -fast(f90) -fma=fused -xpagesize=4M -xipo=2
 -xprefetch_level=1 -xprefetch=latx:3.0 -xalias_level=std
 -xprefetch_auto_type=indirect_array_access

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Peak Optimization Flags (Continued)

481.wrf: -fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xprefetch=latx:1.8 -xalias_level=std
-xprefetch_auto_type=indirect_array_access

Peak Other Flags

C benchmarks:

-xjobs=2 -V -#

C++ benchmarks:

-xjobs=2 -verbose=diags,version

Fortran benchmarks:

-xjobs=2 -V -v

Benchmarks using both Fortran and C:

-xjobs=2 -V -# -v

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.xml>

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

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 06:09:44 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 12 January 2010.