SPEC® CFP2006 Result

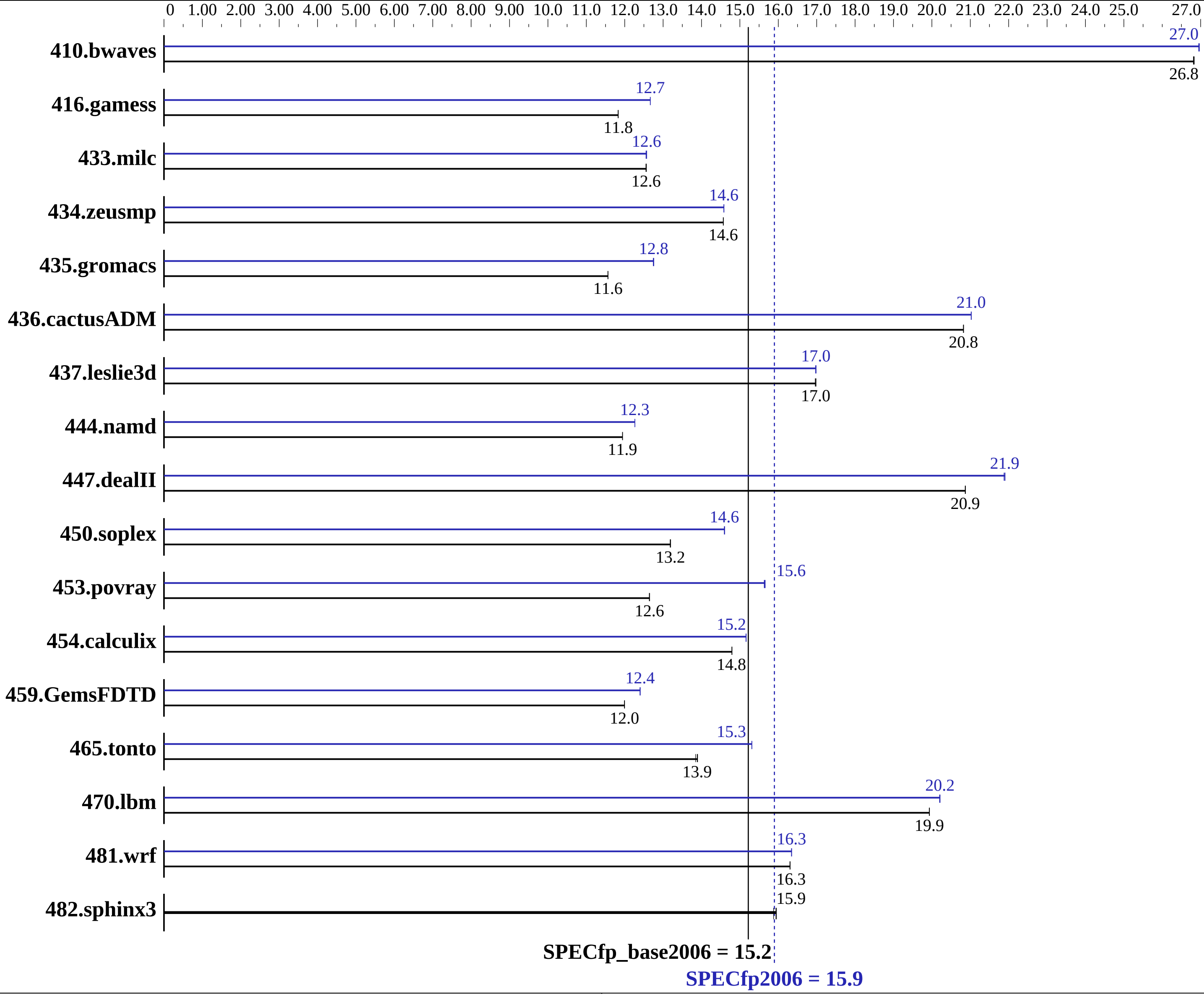
Sun Microsystems
Sun SPARC Enterprise M3000

SPECfp®2006 = 15.9

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

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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

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://stdcxx.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.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

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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 -ll2amm
```

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 -ll2amm
```

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 -ll2amm
```

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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SPEC CFP2006 Result

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 -ll2amm`

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.dealII: `-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 -ll2amm`

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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

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

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