



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp®2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19

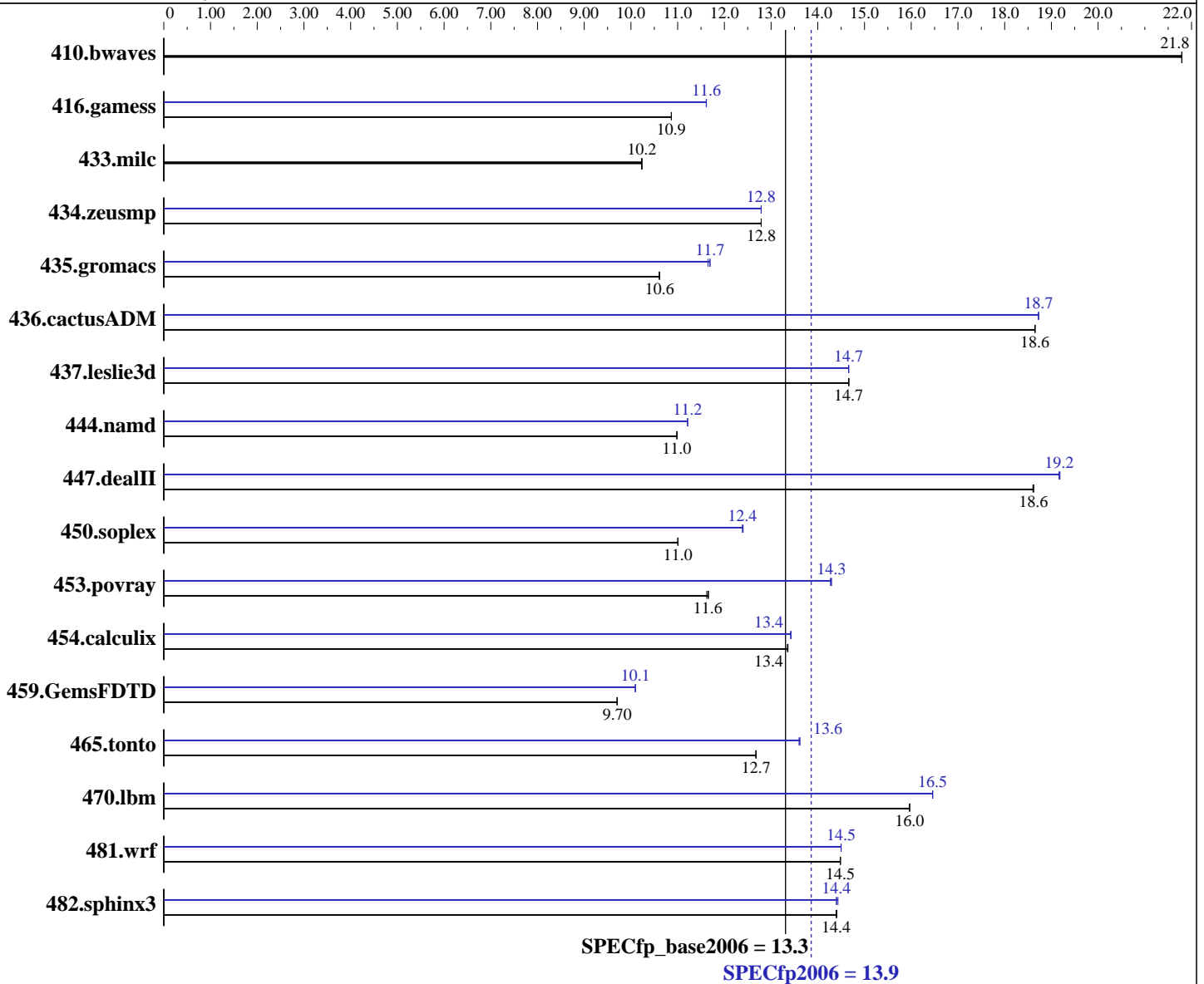
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2530
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 2 CPUMs; each CPUM contains 2 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5632 KB I+D on chip per chip

Continued on next page

Software

Operating System: Solaris 10 5/09 with patches 119963-16, 120753-07, 118683-03
 Compiler: Sun Studio 12 Update 1
 Auto Parallel: No
 File System: ufs
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009

L3 Cache: None
Other Cache: None
Memory: 64 GB (32 x 2 GB), 8-way interleaved
Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
Other Hardware: None

Other Software: 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	624	21.8	624	21.8	624	21.8	624	21.8	624	21.8	624	21.8
416.gamess	1802	10.9	1802	10.9	1802	10.9	1686	11.6	1686	11.6	1686	11.6
433.milc	897	10.2	898	10.2	897	10.2	897	10.2	898	10.2	897	10.2
434.zeusmp	712	12.8	712	12.8	712	12.8	712	12.8	712	12.8	712	12.8
435.gromacs	673	10.6	673	10.6	673	10.6	613	11.7	611	11.7	611	11.7
436.cactusADM	641	18.7	641	18.6	641	18.6	638	18.7	638	18.7	638	18.7
437.leslie3d	641	14.7	641	14.7	641	14.7	641	14.7	641	14.7	641	14.7
444.namd	730	11.0	730	11.0	730	11.0	715	11.2	715	11.2	715	11.2
447.dealII	614	18.6	614	18.6	615	18.6	597	19.2	597	19.2	596	19.2
450.soplex	758	11.0	758	11.0	758	11.0	672	12.4	673	12.4	673	12.4
453.povray	458	11.6	456	11.7	457	11.6	372	14.3	373	14.3	372	14.3
454.calculix	617	13.4	618	13.3	618	13.4	615	13.4	615	13.4	615	13.4
459.GemsFDTD	1093	9.71	1093	9.70	1093	9.70	1051	10.1	1051	10.1	1051	10.1
465.tonto	777	12.7	776	12.7	776	12.7	723	13.6	723	13.6	724	13.6
470.lbm	861	16.0	861	16.0	861	16.0	835	16.5	835	16.5	835	16.5
481.wrf	771	14.5	771	14.5	771	14.5	770	14.5	770	14.5	770	14.5
482.sphinx3	1353	14.4	1354	14.4	1354	14.4	1350	14.4	1353	14.4	1354	14.4

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.)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009

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 8-way interleaved by filling all slots with the same capacity DIMMs.

This result is measured on a Fujitsu SPARC Enterprise M4000 Server. Note that the Fujitsu SPARC Enterprise M4000 and Sun SPARC Enterprise M4000 are electrically equivalent.

General Notes

447.dealII (peak): "apache_stdctx_4_2_1" src.alt was used.

447.dealII (base): "apache_stdctx_4_2_1" src.alt was used.

Base Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009

Base Compiler Invocation (Continued)

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/stdcxx-4.2.1/include  
-I/export/cpu2006/stdcxx-4.2.1/build/include -M /usr/lib/ld/map.bssalign  
-L/export/cpu2006/stdcxx-4.2.1/build/lib  
-R/export/cpu2006/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=8 -V -#
```

C++ benchmarks:

```
-xjobs=8 -verbose=diags,version
```

Fortran benchmarks:

```
-xjobs=8 -V -v
```

Benchmarks using both Fortran and C:

```
-xjobs=8 -V -# -v
```



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Oct-2009
Hardware Availability: Nov-2009
Software Availability: Jul-2009

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: basepeak = yes

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

482.sphinx3: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=2
            -xprefetch=latx:2 -xalias_level=std
            -xprefetch_auto_type=indirect_array_access -ll2amm
```

C++ benchmarks:

```
444.namd: -xdepend -fast -fma=fused -xpagesize=4M
          -xalias_level=compatible -library=stlport4 -xipo=2
          -xprefetch=no%auto

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/stdcxx-4.2.1/include
            -I/export/cpu2006/stdcxx-4.2.1/build/include -xipo=2
            -xprefetch_level=2 -L/export/cpu2006/stdcxx-4.2.1/build/lib
            -R/export/cpu2006/stdcxx-4.2.1/build/lib -lstd8d

450.soplex: -xdepend -xprofile=collect:./feedback(pass 1)
            -xprofile=use:./feedback(pass 2) -fast -xipo=2
            -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
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Oct-2009
Hardware Availability: Nov-2009
Software Availability: Jul-2009

Peak Optimization Flags (Continued)

453.povray (continued):
-xipo=2 -xlinkopt=2

Fortran benchmarks:

410.bwaves: basepeak = yes

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

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

437.leslie3d: Same as 434.zeusmp

459.GemsFDTD: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xprefetch=latx:2

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -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

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

454.calculix: -fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xprefetch=latx:0.5 -xalias_level=std
-xprefetch_auto_type=indirect_array_access -ll2amm

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

Peak Other Flags

C benchmarks:
-xjobs=8 -V -#

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 13.9

Fujitsu SPARC Enterprise M4000

SPECfp_base2006 = 13.3

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009

Peak Other Flags (Continued)

C++ benchmarks:

-xjobs=8 -verbose=diags,version

Fortran benchmarks:

-xjobs=8 -V -v

Benchmarks using both Fortran and C:

-xjobs=8 -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>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 04:12:58 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 28 October 2009.