



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]_rate2006 = 29.5

Fujitsu SPARC Enterprise M3000

SPECfp_rate_base2006 = 28.2

CPU2006 license: 19

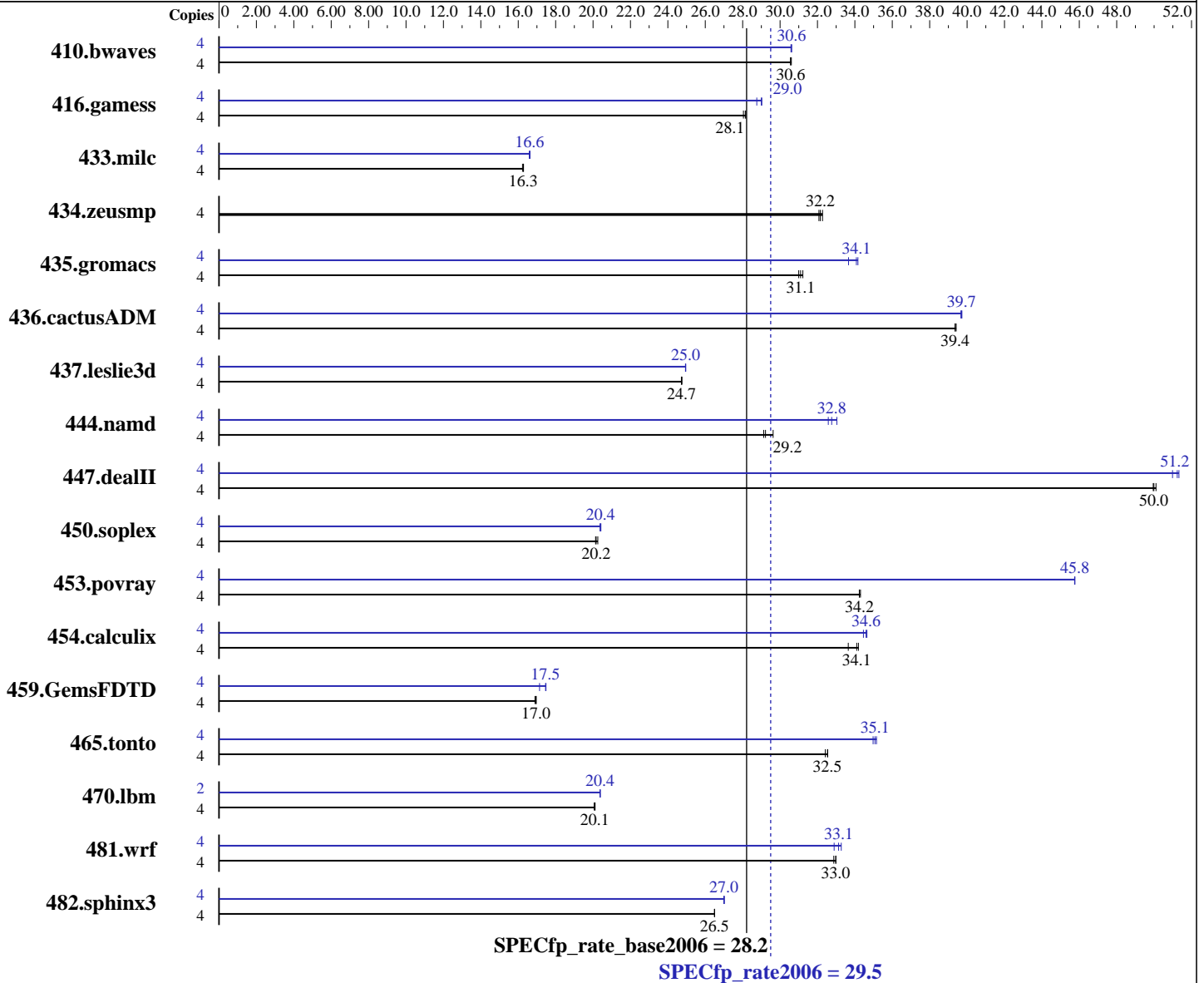
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Nov-2009

Hardware Availability: Jan-2010

Software Availability: Oct-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics: 2 cores
 CPU MHz: 2750
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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



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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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1779	30.6	<u>1778</u>	<u>30.6</u>	1776	30.6	4	1777	30.6	1776	30.6	<u>1776</u>	<u>30.6</u>
416.gamess	4	2781	28.2	<u>2783</u>	<u>28.1</u>	2793	28.0	4	2698	29.0	2724	28.8	<u>2701</u>	<u>29.0</u>
433.milc	4	2263	16.2	<u>2256</u>	<u>16.3</u>	2255	16.3	4	2213	16.6	2208	16.6	<u>2210</u>	<u>16.6</u>
434.zeusmp	4	1135	32.1	<u>1132</u>	<u>32.2</u>	1128	32.3	4	1135	32.1	<u>1132</u>	<u>32.2</u>	1128	32.3
435.gromacs	4	915	31.2	<u>918</u>	<u>31.1</u>	921	31.0	4	848	33.7	<u>838</u>	<u>34.1</u>	836	34.2
436.cactusADM	4	<u>1214</u>	<u>39.4</u>	1215	39.4	1213	39.4	4	1205	39.7	<u>1204</u>	<u>39.7</u>	1203	39.7
437.leslie3d	4	<u>1520</u>	<u>24.7</u>	1519	24.8	1521	24.7	4	1507	25.0	<u>1507</u>	<u>25.0</u>	1508	24.9
444.namd	4	1083	29.6	1101	29.1	<u>1098</u>	<u>29.2</u>	4	971	33.0	985	32.6	<u>979</u>	<u>32.8</u>
447.dealII	4	<u>915</u>	<u>50.0</u>	916	50.0	913	50.1	4	898	51.0	<u>893</u>	<u>51.2</u>	892	51.3
450.soplex	4	1657	20.1	<u>1654</u>	<u>20.2</u>	1647	20.3	4	1637	20.4	<u>1635</u>	<u>20.4</u>	1634	20.4
453.povray	4	<u>621</u>	<u>34.2</u>	622	34.2	620	34.3	4	465	45.8	<u>465</u>	<u>45.8</u>	465	45.7
454.calculix	4	965	34.2	<u>968</u>	<u>34.1</u>	981	33.6	4	958	34.5	<u>954</u>	<u>34.6</u>	953	34.6
459.GemsFDTD	4	<u>2504</u>	<u>17.0</u>	2512	16.9	2502	17.0	4	<u>2431</u>	<u>17.5</u>	2476	17.1	2427	17.5
465.tonto	4	<u>1210</u>	<u>32.5</u>	1214	32.4	1209	32.5	4	<u>1122</u>	<u>35.1</u>	1125	35.0	1120	35.2
470.lbm	4	2740	20.1	<u>2735</u>	<u>20.1</u>	2733	20.1	2	1348	20.4	<u>1348</u>	<u>20.4</u>	1349	20.4
481.wrf	4	<u>1355</u>	<u>33.0</u>	1355	33.0	1359	32.9	4	<u>1349</u>	<u>33.1</u>	1358	32.9	1343	33.3
482.sphinx3	4	2942	26.5	<u>2942</u>	<u>26.5</u>	2943	26.5	4	<u>2887</u>	<u>27.0</u>	2888	27.0	2885	27.0

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 -xalias_level=std
-xprefetch_auto_type=indirect_array_access -xprefetch_level=3
-M /usr/lib/ld/map.bssalign -l12amm

C++ benchmarks:
-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=compatible -xprefetch=latx:0.5 -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
-M /usr/lib/ld/map.bssalign -l12amm

Benchmarks using both Fortran and C:
-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xprefetch_level=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
-fsimple=1 -xprefetch_auto_type=indirect_array_access
-W2,-Ainline:rs=400 -xalias_level=std

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=1
-xalias_level=std -xprefetch_auto_type=indirect_array_access

C++ benchmarks:

444.namd: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=stlport4
-xipo=1 -xprefetch=no%auto -xlinkopt=2 -xunroll=2

447.dealIII: -xdepend -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 -xprefetch=latx:0.5
-L/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib
-R/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib -lstd8d

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Peak Optimization Flags (Continued)

450.soplex: -xdepend -fast -fma=fused -xpagesize=4M
-xalias_level=compatible -library=stlport4 -xipo=2
-xprefetch=latx:0.5

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 -xunroll=4 -lfast

Fortran benchmarks:

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

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

434.zeusmp: basepeak = yes

437.leslie3d: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=1

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

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=1 -fsimple=1
-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 -xunroll=5

436.cactusADM: -fast(cc) -fast(f90) -fma=fused -xpagesize=4M -xipo=2
-xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xprefetch_level=2 -ll2amm

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

481.wrf: -fast(cc) -fast(f90) -fma=fused -xpagesize=4M -xipo=1
-xprefetch_level=3 -xalias_level=std
-xprefetch_auto_type=indirect_array_access -ll2amm



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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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Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 06:10:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 12 January 2010.