



# SPEC<sup>®</sup> CFP2006 Result

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Fujitsu Limited

SPECfp<sup>®</sup>\_rate2006 = 35.2

Fujitsu SPARC Enterprise M3000

SPECfp\_rate\_base2006 = 33.6

CPU2006 license: 19

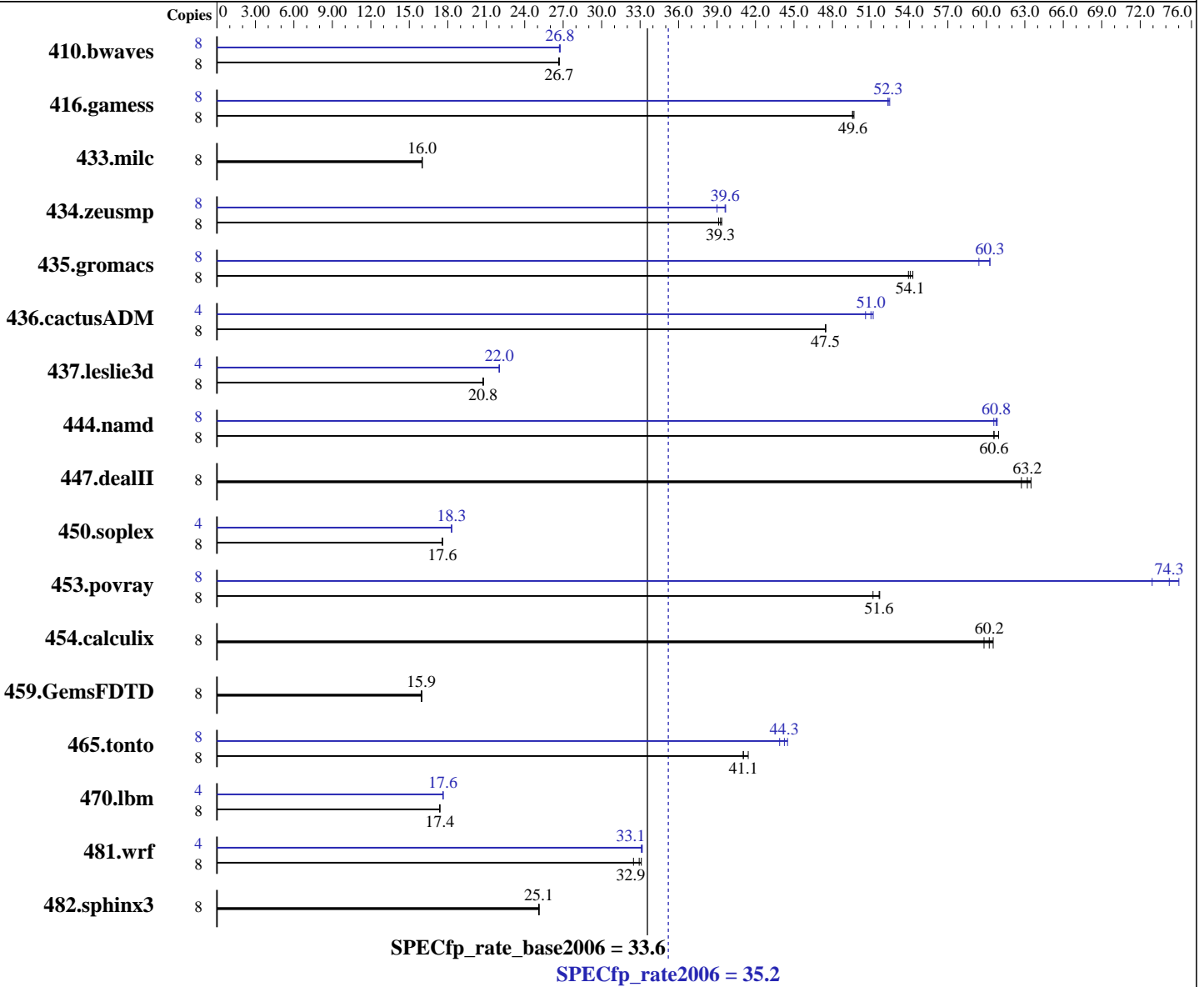
Test sponsor: Fujitsu Limited

Tested by: Fujitsu Limited

Test date: Sep-2008

Hardware Availability: Oct-2008

Software Availability: Oct-2008



**Hardware**

CPU Name: SPARC64 VII  
 CPU Characteristics:  
 CPU MHz: 2520  
 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 10/08  
 Compiler: Sun Studio 12 with patches  
 124861-08, 124863-06, 124867-07, 127143-03,  
 127000-05, 127001-01  
 (see patch information below)

Auto Parallel: No  
 File System: ufs  
 System State: Default  
 Base Pointers: 32-bit

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (2 GB x 8), 2-way interleaved  
Disk Subsystem: 73 GB 10,000 RPM Fujitsu MAY2073RC SAS  
Other Hardware: None

Peak Pointers: 32-bit  
Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	4071	26.7	<b>4076</b>	<b>26.7</b>	4080	26.6	8	4071	26.7	4063	26.8	<b>4064</b>	<b>26.8</b>
416.gamess	8	<b>3158</b>	<b>49.6</b>	3161	49.6	3153	49.7	8	<b>2993</b>	<b>52.3</b>	2993	52.3	2986	52.5
433.milc	8	<b>4589</b>	<b>16.0</b>	4592	16.0	4586	16.0	8	<b>4589</b>	<b>16.0</b>	4592	16.0	4586	16.0
434.zeusmp	8	1849	39.4	<b>1854</b>	<b>39.3</b>	1861	39.1	8	1835	39.7	<b>1837</b>	<b>39.6</b>	1867	39.0
435.gromacs	8	1052	54.3	<b>1057</b>	<b>54.1</b>	1059	53.9	8	948	60.3	961	59.4	<b>948</b>	<b>60.3</b>
436.cactusADM	8	<b>2014</b>	<b>47.5</b>	2015	47.5	2014	47.5	4	<b>937</b>	<b>51.0</b>	945	50.6	934	51.2
437.leslie3d	8	3625	20.7	<b>3624</b>	<b>20.8</b>	3617	20.8	4	1709	22.0	<b>1708</b>	<b>22.0</b>	1707	22.0
444.namd	8	1053	61.0	<b>1059</b>	<b>60.6</b>	1059	60.6	8	<b>1056</b>	<b>60.8</b>	1059	60.6	1054	60.9
447.dealII	8	1442	63.5	1459	62.7	<b>1448</b>	<b>63.2</b>	8	1442	63.5	1459	62.7	<b>1448</b>	<b>63.2</b>
450.soplex	8	3795	17.6	<b>3794</b>	<b>17.6</b>	3794	17.6	4	1824	18.3	<b>1823</b>	<b>18.3</b>	1823	18.3
453.povray	8	823	51.7	832	51.2	<b>824</b>	<b>51.6</b>	8	584	72.9	567	75.0	<b>573</b>	<b>74.3</b>
454.calculix	8	1103	59.8	1090	60.5	<b>1096</b>	<b>60.2</b>	8	1103	59.8	1090	60.5	<b>1096</b>	<b>60.2</b>
459.GemsFDTD	8	<b>5324</b>	<b>15.9</b>	5311	16.0	5328	15.9	8	<b>5324</b>	<b>15.9</b>	5311	16.0	5328	15.9
465.tonto	8	1918	41.0	1900	41.4	<b>1917</b>	<b>41.1</b>	8	<b>1779</b>	<b>44.3</b>	1794	43.9	1769	44.5
470.lbm	8	6327	17.4	<b>6324</b>	<b>17.4</b>	6323	17.4	4	3118	17.6	<b>3117</b>	<b>17.6</b>	3115	17.6
481.wrf	8	2751	32.5	<b>2714</b>	<b>32.9</b>	2700	33.1	4	1350	33.1	1347	33.2	<b>1348</b>	<b>33.1</b>
482.sphinx3	8	<b>6211</b>	<b>25.1</b>	6204	25.1	6214	25.1	8	<b>6211</b>	<b>25.1</b>	6204	25.1	6214	25.1

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/ss12\\_patches.jsp](http://developers.sun.com/sunstudio/downloads/patches/ss12_patches.jsp)

## 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:  
Default setting.

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.

## Base Compiler Invocation

C benchmarks:  
cc

C++ benchmarks:  
CC

Fortran benchmarks:  
f90

Benchmarks using both Fortran and C:  
cc f90



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## Base Optimization Flags

C benchmarks:

-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch\_level=1  
-xalias\_level=std -xprefetch\_auto\_type=indirect\_array\_access

C++ benchmarks:

-library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M  
-xprefetch\_level=1 -xalias\_level=compatible

Fortran benchmarks:

-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch\_level=1

Benchmarks using both Fortran and C:

-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M  
-xprefetch\_level=1 -xalias\_level=std  
-xprefetch\_auto\_type=indirect\_array\_access

## Base Other Flags

C benchmarks:

-xjobs=4

C++ benchmarks:

-xjobs=4

Fortran benchmarks:

-xjobs=4

Benchmarks using both Fortran and C:

-xjobs=4

## Peak Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Fortran benchmarks:

f90

Benchmarks using both Fortran and C:

cc f90



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## Peak Optimization Flags

### C benchmarks:

433.milc: basepeak = yes

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

482.sphinx3: basepeak = yes

### C++ benchmarks:

444.namd: -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M  
-xdepend -xalias\_level=compatible

447.dealII: basepeak = yes

450.soplex: -library=stlport4 -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xipo=1  
-xpagesize=4M -xprefetch=no -fsimple=0 -xrestrict -xdepend  
-xalias\_level=compatible

453.povray: -library=stlport4 -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -fma=fused -xipo=2  
-xpagesize=4M -xdepend -xalias\_level=compatible

### Fortran benchmarks:

410.bwaves: -fast -xipo=2 -xprefetch\_level=2  
-xprefetch\_auto\_type=indirect\_array\_access

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

434.zeusmp: -fast -fma=fused -xipo=2 -xpagesize=4M -lmopt

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

459.GemsFDTD: basepeak = yes

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 -xipo=2 -xpagesize=4M -xinline= -xchip=generic  
-fsimple=0

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## Peak Optimization Flags (Continued)

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: basepeak = yes

481.wrf: Same as 436.cactusADM

## Peak Other Flags

C benchmarks:  
-xjobs=4

C++ benchmarks:  
-xjobs=4

Fortran benchmarks:  
-xjobs=4

Benchmarks using both Fortran and C:  
-xjobs=4

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

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.r3.html>

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

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.r3.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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