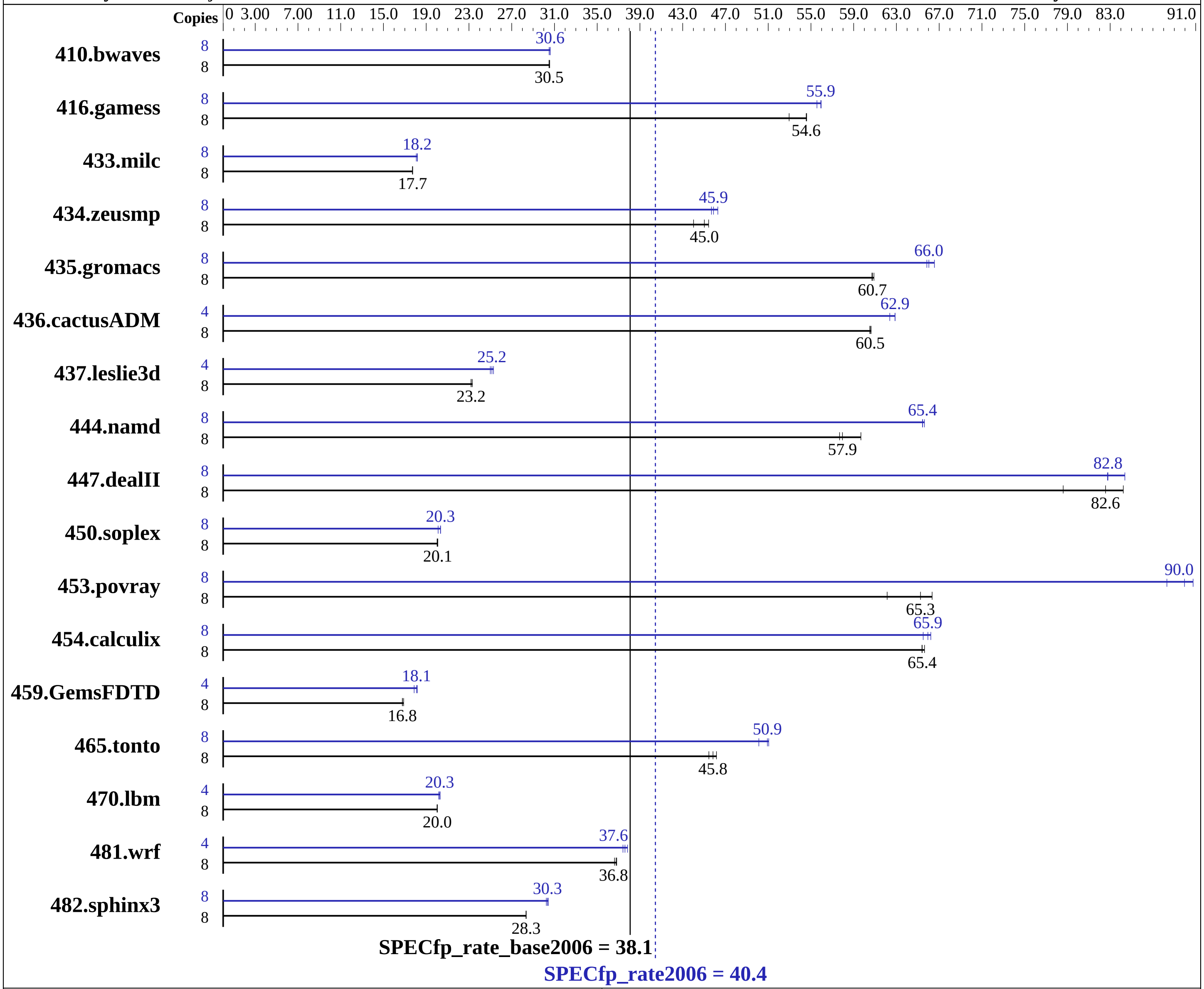
SPEC® CFP2006 Result

Sun Microsystems
Sun SPARC Enterprise M3000

SPECfp®_rate2006 = 40.4

SPECfp_rate_base2006 = 38.1

CPU2006 license: 6		**Test date:**	Oct-2009
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Jan-2010
Tested by:	Fujitsu	**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

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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	8	3566	30.5	3558	30.6	**3564**	**30.5**	8	3565	30.5	**3554**	**30.6**	3552	30.6
416.gamess	8	2869	54.6	**2871**	**54.6**	2958	53.0	8	**2801**	**55.9**	2799	56.0	2819	55.6
433.milc	8	4147	17.7	**4142**	**17.7**	4141	17.7	8	4064	18.1	**4043**	**18.2**	4041	18.2
434.zeusmp	8	1654	44.0	**1617**	**45.0**	1603	45.4	8	**1587**	**45.9**	1573	46.3	1593	45.7
435.gromacs	8	**940**	**60.7**	941	60.7	938	60.9	8	867	65.8	858	66.6	**865**	**66.0**
436.cactusADM	8	1580	60.5	**1579**	**60.5**	1577	60.6	4	766	62.4	760	62.9	**760**	**62.9**
437.leslie3d	8	**3240**	**23.2**	3241	23.2	3225	23.3	4	1504	25.0	**1495**	**25.2**	1486	25.3
444.namd	8	1112	57.7	**1107**	**57.9**	1075	59.7	8	**980**	**65.4**	980	65.4	978	65.6
447.dealII	8	**1108**	**82.6**	1087	84.2	1164	78.6	8	**1105**	**82.8**	1106	82.7	1085	84.4
450.soplex	8	3333	20.0	3323	20.1	**3324**	**20.1**	8	3317	20.1	3279	20.3	**3282**	**20.3**
453.povray	8	**652**	**65.3**	642	66.3	685	62.1	8	469	90.8	482	88.3	**473**	**90.0**
454.calculix	8	**1009**	**65.4**	1006	65.6	1009	65.4	8	997	66.2	1008	65.5	**1001**	**65.9**
459.GemsFDTD	8	5063	16.8	5027	16.9	**5062**	**16.8**	4	2375	17.9	**2345**	**18.1**	2336	18.2
465.tonto	8	1705	46.2	1732	45.4	**1718**	**45.8**	8	1570	50.1	1542	51.0	**1546**	**50.9**
470.lbm	8	5493	20.0	**5485**	**20.0**	5484	20.0	4	2725	20.2	**2713**	**20.3**	2707	20.3
481.wrf	8	**2430**	**36.8**	2427	36.8	2440	36.6	4	1194	37.4	**1188**	**37.6**	1181	37.8
482.sphinx3	8	5498	28.4	**5501**	**28.3**	5502	28.3	8	5156	30.2	5125	30.4	**5139**	**30.3**

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.)
```

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 -xalias_level=std`
`-xprefetch_auto_type=indirect_array_access -xprefetch_level=3 -ll2amm`

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`
`-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 -ll2amm`

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 -ll2amm`

Base Other Flags

C benchmarks:
`-xjobs=4 -V -#`

C++ benchmarks:
`-xjobs=4 -verbose=diags,version`

Fortran benchmarks:
`-xjobs=4 -V -v`

Benchmarks using both Fortran and C:
`-xjobs=4 -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: `-xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -fma=fused -xpagesize=4M -xipo=2 -xinline= -xprefetch=no%auto -xalias_level=strong -lfast -ll2amm`

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.dealII: `-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=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`

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

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Peak Optimization Flags (Continued)

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 -xipo=2 -xprefetch_level=3 -xprefetch=latx:1.8

434.zeusmp: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=1 -ll2amm

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

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

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 -xprefetch=latx:1.2 -xunroll=5

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

481.wrf: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -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=4 -V -#`

C++ benchmarks:
`-xjobs=4 -verbose=diags,version`

Fortran benchmarks:
`-xjobs=4 -V -v`

Benchmarks using both Fortran and C:
`-xjobs=4 -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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