SPEC® CFP2006 Result

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Fujitsu Limited

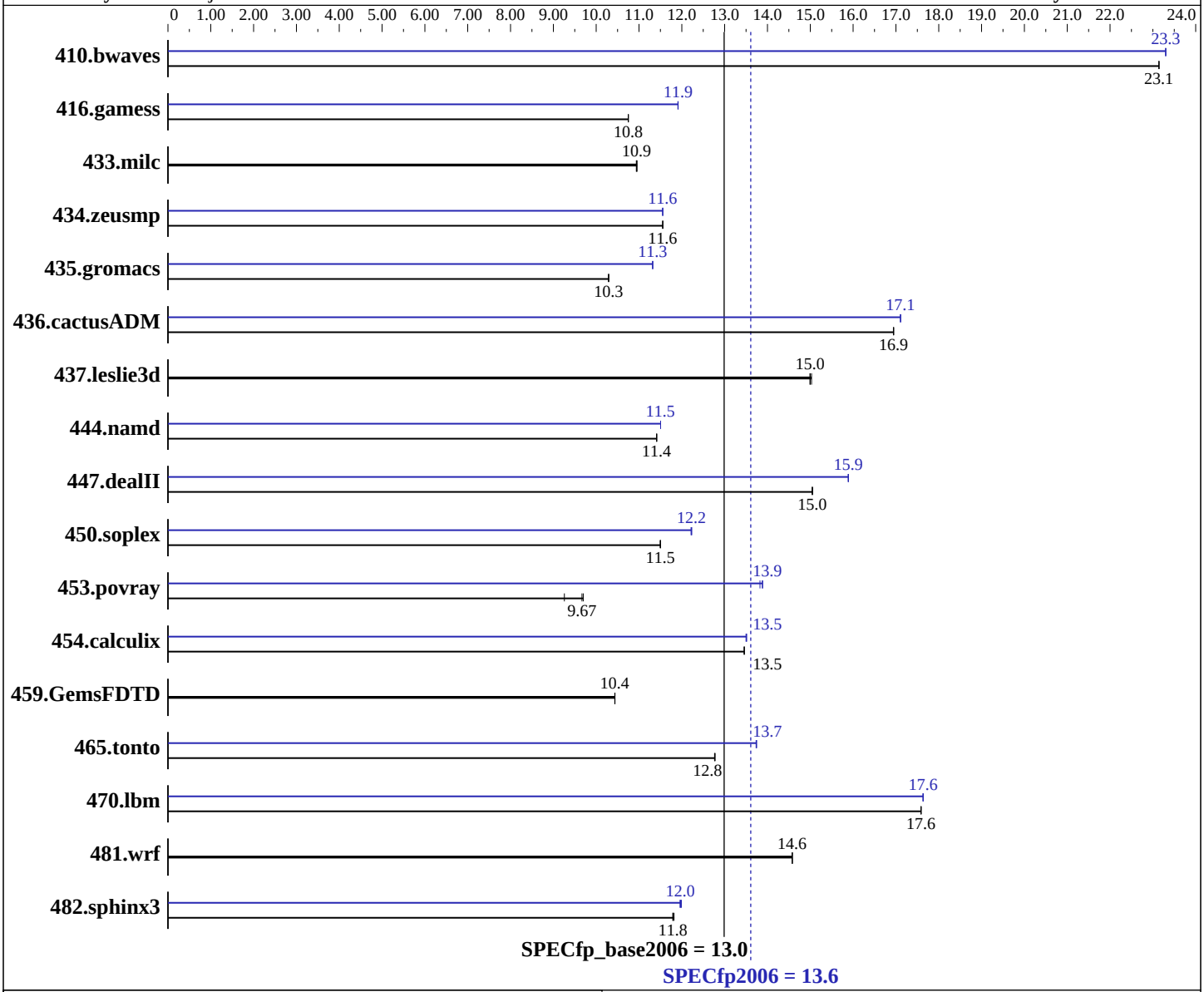
Fujitsu SPARC Enterprise M3000

SPECfp®2006 = 13.6

SPECfp_base2006 = 13.0

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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	587	23.1	587	23.1	**587**	**23.1**	583	23.3	583	23.3	**583**	**23.3**
416.gamess	1821	10.8	1821	10.7	**1821**	**10.8**	**1644**	**11.9**	1643	11.9	1644	11.9
433.milc	839	10.9	838	11.0	**839**	**10.9**	839	10.9	838	11.0	**839**	**10.9**
434.zeusmp	788	11.6	788	11.6	**788**	**11.6**	788	11.6	788	11.6	**788**	**11.6**
435.gromacs	694	10.3	694	10.3	**694**	**10.3**	631	11.3	631	11.3	**631**	**11.3**
436.cactusADM	705	16.9	705	16.9	**705**	**16.9**	699	17.1	**699**	**17.1**	699	17.1
437.leslie3d	627	15.0	**627**	**15.0**	625	15.0	627	15.0	**627**	**15.0**	625	15.0
444.namd	**703**	**11.4**	703	11.4	703	11.4	697	11.5	697	11.5	**697**	**11.5**
447.dealII	**760**	**15.0**	760	15.1	760	15.0	**720**	**15.9**	720	15.9	720	15.9
450.soplex	**725**	**11.5**	725	11.5	726	11.5	683	12.2	**682**	**12.2**	682	12.2
453.povray	548	9.70	575	9.26	**550**	**9.67**	383	13.9	**383**	**13.9**	385	13.8
454.calculix	**613**	**13.5**	613	13.5	613	13.5	611	13.5	**611**	**13.5**	611	13.5
459.GemsFDTD	**1017**	**10.4**	1016	10.4	1017	10.4	**1017**	**10.4**	1016	10.4	1017	10.4
465.tonto	**770**	**12.8**	771	12.8	770	12.8	716	13.7	716	13.7	**716**	**13.7**
470.lbm	**781**	**17.6**	781	17.6	781	17.6	779	17.6	**779**	**17.6**	779	17.6
481.wrf	**766**	**14.6**	766	14.6	766	14.6	**766**	**14.6**	766	14.6	766	14.6
482.sphinx3	1649	11.8	**1653**	**11.8**	1653	11.8	**1628**	**12.0**	1626	12.0	1630	12.0

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/ss12_patches.jsp
```

Operating System Notes

```
Processes were assigned to a specific processor(processor_id 3)
using 'psrset' command. (as below)
    # psrset -c 3
    # psrset -e 1 runspec -c ...

Shell Environments:
   Default setting.

System Tunables:
```

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Operating System Notes (Continued)

```
(/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`

Base Optimization Flags

C benchmarks:
`-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2 -xalias_level=std -xprefetch_level=3 -xprefetch_auto_type=indirect_array_access`

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Base Optimization Flags (Continued)

C++ benchmarks:
`-library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2 -xalias_level=compatible`

Fortran benchmarks:
`-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2`

Benchmarks using both Fortran and C:
`-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`

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 -xipo=2 -fma=fused -xpagesize=4M -xprefetch_level=3 -xvector -xarch=generic`

482.sphinx3: `-xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xipo=2 -fma=fused -xpagesize=4M`

C++ benchmarks:

444.namd: `-library=stlport4 -fast -xipo=2 -fma=fused -xpagesize=4M -xdepend -xalias_level=compatible -xprefetch_level=1`

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Peak Optimization Flags (Continued)

447.dealII: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -fma=fused
-xpagesize=4M -xdepend -xalias_level=compatible -xrestrict
-xprefetch_auto_type=indirect_array_access -xprefetch_level=2

450.soplex: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -xdepend
-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

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

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

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xipo=2 -fma=fused -xpagesize=4M -xinline= -xchip=generic
-fsimple=0

436.cactusADM: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xipo=2 -fma=fused -xpagesize=4M

454.calculix: -fast(cc) -fast(f90) -xipo=2 -fma=fused -xpagesize=4M

481.wrf: basepeak = yes

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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