SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

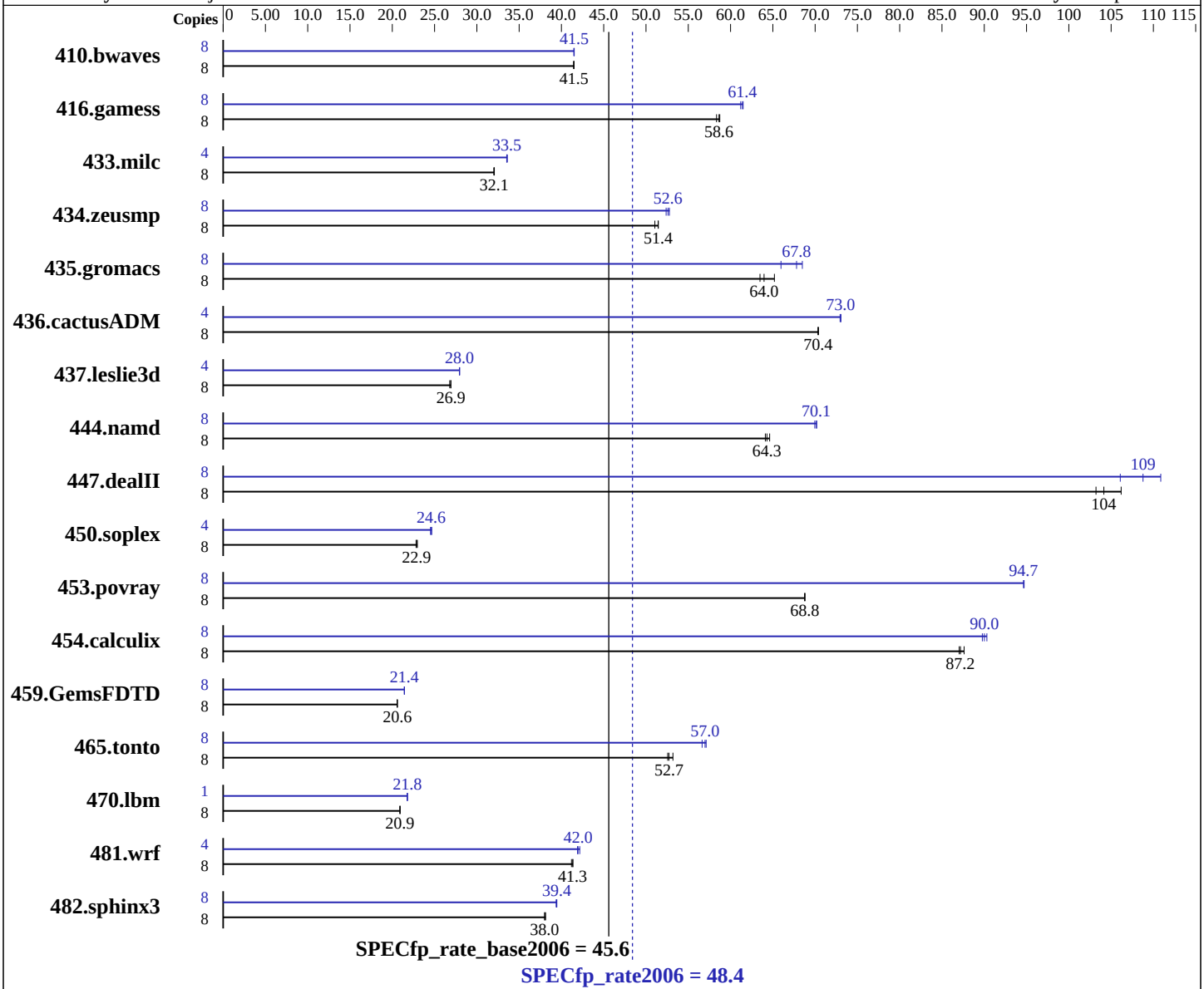
Fujitsu
SPARC Enterprise M3000

SPECfp®_rate2006 = 48.4

SPECfp_rate_base2006 = 45.6

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

Test date: Mar-2011
Hardware Availability: Apr-2011
Software Availability: Sep-2010



Hardware

CPU Name:	SPARC64 VII+
CPU Characteristics:	
CPU MHz:	2860
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:	5632 KB I+D on chip per chip

Continued on next page

Software

Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
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

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu
SPARC Enterprise M3000

SPECfp_rate2006 = 48.4

SPECfp_rate_base2006 = 45.6

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

Test date: Mar-2011
Hardware Availability: Apr-2011
Software Availability: Sep-2010

L3 Cache: None
Other Cache: None
Memory: 32 GB (8 x 4 GB, 2-way interleaved)
Disk Subsystem: 1 x 300 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	2623	41.4	**2622**	**41.5**	2620	41.5	8	2622	41.5	**2619**	**41.5**	2619	41.5
416.gamess	8	2685	58.3	**2672**	**58.6**	2667	58.7	8	**2551**	**61.4**	2560	61.2	2547	61.5
433.milc	8	2295	32.0	**2291**	**32.1**	2290	32.1	4	1095	33.5	**1095**	**33.5**	1093	33.6
434.zeusmp	8	**1415**	**51.4**	1426	51.0	1415	51.5	8	**1384**	**52.6**	1380	52.8	1390	52.4
435.gromacs	8	900	63.5	876	65.2	**893**	**64.0**	8	**842**	**67.8**	834	68.5	866	66.0
436.cactusADM	8	**1359**	**70.4**	1358	70.4	1359	70.3	4	655	73.0	654	73.0	**655**	**73.0**
437.leslie3d	8	2807	26.8	2793	26.9	**2793**	**26.9**	4	**1345**	**28.0**	1346	27.9	1345	28.0
444.namd	8	1001	64.1	993	64.6	**998**	**64.3**	8	917	70.0	**915**	**70.1**	914	70.2
447.dealII	8	862	106	**879**	**104**	887	103	8	**841**	**109**	863	106	825	111
450.soplex	8	2925	22.8	**2916**	**22.9**	2905	23.0	4	1361	24.5	**1355**	**24.6**	1353	24.7
453.povray	8	619	68.8	619	68.8	**619**	**68.8**	8	450	94.7	449	94.7	**450**	**94.7**
454.calculix	8	758	87.0	753	87.6	**757**	**87.2**	8	735	89.8	**733**	**90.0**	731	90.3
459.GemsFDTD	8	4120	20.6	4127	20.6	**4121**	**20.6**	8	3959	21.4	3961	21.4	**3961**	**21.4**
465.tonto	8	1498	52.6	**1493**	**52.7**	1480	53.2	8	**1381**	**57.0**	1378	57.1	1390	56.6
470.lbm	8	5256	20.9	**5256**	**20.9**	5258	20.9	1	632	21.7	630	21.8	**631**	**21.8**
481.wrf	8	2161	41.4	2170	41.2	**2162**	**41.3**	4	**1065**	**42.0**	1060	42.2	1066	41.9
482.sphinx3	8	4089	38.1	**4100**	**38.0**	4102	38.0	8	3951	39.5	3960	39.4	**3953**	**39.4**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

```
  Oracle Solaris Studio 12.2 is distributed with mandatory OS patches
   118683-05  119963-20  120753-08
  Oracle Solaris Studio 12.2 and patches are available at
   http://oracle.com/goto/solarisstudio

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

```
  Processes were assigned to specific processors using 'pbind'
  commands.  The config file option 'submit' was used, along
  with a list of processors in the 'BIND' variable, to generate
  the pbind commands.  (For details, please see the config file.)
```

Operating System Notes

```
  ulimit -s 131072 was used to limit the space
  consumed by the stack (and therefore make more
  space available to 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 SPARC Enterprise M3000 server from
 Fujitsu.  The SPARC Enterprise M3000 server from Oracle and from
 Fujitsu 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

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 -xlinkopt -xvector
-xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xunroll=8 -ll2amm

C++ benchmarks:
-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M -xlinkopt -xvector
-xO4 -xalias_level=compatible -xprefetch=latx:0.5 -library=no%Cstd
-I/mnt/spec//stdcxx-4.2.1/include
-I/mnt/spec//stdcxx-4.2.1/build/include
-L/mnt/spec//stdcxx-4.2.1/build/lib -R/mnt/spec//stdcxx-4.2.1/build/lib
-lstd8d

Fortran benchmarks:
-fast -fma=fused -xipo=2 -xpagesize=4M -xlinkopt -xvector
-xprefetch_level=2 -ll2amm -lmopt

Benchmarks using both Fortran and C:
-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M -xlinkopt
-xvector -xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xunroll=8 -xprefetch_level=2 -ll2amm -lmopt

Base Other Flags

C benchmarks:
-xjobs=4 -V -#

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

Fortran benchmarks:
-xjobs=4 -V -v

Continued on next page

Base Other Flags (Continued)

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: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused`
`-xpagesize=4M -xipo=2 -xarch=generic -xcache=generic`
`-xlinkopt -fsimple=1 -W2,-Ainline:rs=400 -xalias_level=std`
`-xprefetch_auto_type=indirect_array_access -xprefetch_level=3`
`-xunroll=2`

470.lbm: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused`
`-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2`
`-xchip=generic -lfast`

482.sphinx3: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused`
`-xpagesize=4M -xipo=1 -xalias_level=strong`
`-xprefetch=latx:1.5 -xunroll=4 -lbsdmalloc`

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 -xO3 -xchip=generic -xinline= -xlinkopt`
`-xprefetch_level=2 -xprefetch=latx:2.5 -ll2amm -lfast`

Continued on next page

Peak Optimization Flags (Continued)

447.dealII: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=no%Cstd
-I/mnt/spec//stdcxx-4.2.1/include
-I/mnt/spec//stdcxx-4.2.1/build/include -xipo=2
-xprefetch_auto_type=indirect_array_access -xrestrict
-xchip=generic -xunroll=4
-L/mnt/spec//stdcxx-4.2.1/build/lib
-R/mnt/spec//stdcxx-4.2.1/build/lib -lstd8d

450.soplex: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=stlport4
-xarch=generic -xprefetch=no%auto

453.povray: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -lfast -xO4 -xipo=2
-xunroll=4 -xprefetch=no%auto

Fortran benchmarks:

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

416.gamess: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xprefetch=no%auto -xO3 -lfast

434.zeusmp: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xO4 -xprefetch=latx:1 -xunroll=8 -lfast
-lbsdmalloc

437.leslie3d: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=1 -xO3
-xcache=generic -xprefetch=latx:2 -xunroll=10 -ll2amm

459.GemsFDTD: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=1 -xarch=sparcvis2
-xprefetch_auto_type=indirect_array_access -xprefetch_level=2
-xprefetch=latx:0.1 -xunroll=7

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xprefetch=no%auto -xunroll=4
-lbsdmalloc

Continued on next page

Peak Optimization Flags (Continued)

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 -xvector -xinline=`
`-xchip=generic -fsimple=0 -xunroll=7 -xprefetch=no%auto`

436.cactusADM: `-fast`(cc) `-fast`(f90) `-fma=fused -xpagesize=4M`
`-xalias_level=std -xunroll=12 -lfast`

454.calculix: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast`(cc) `-fast`(f90)
`-fma=fused -xpagesize=4M -xipo=2 -xcache=generic`
`-xprefetch=latx:3 -xunroll=8 -xalias_level=std -lmopt`

481.wrf: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast`(cc) `-fast`(f90)
`-fma=fused -xpagesize=4M -xalias_level=std -xipo=2 -xO4`
`-xcache=generic -xprefetch_auto_type=indirect_array_access`
`-xprefetch=latx:1`

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/Oracle-Solaris-Studio12.2-SPARC.20110413.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.20110413.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 19:12:32 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 April 2011.