SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

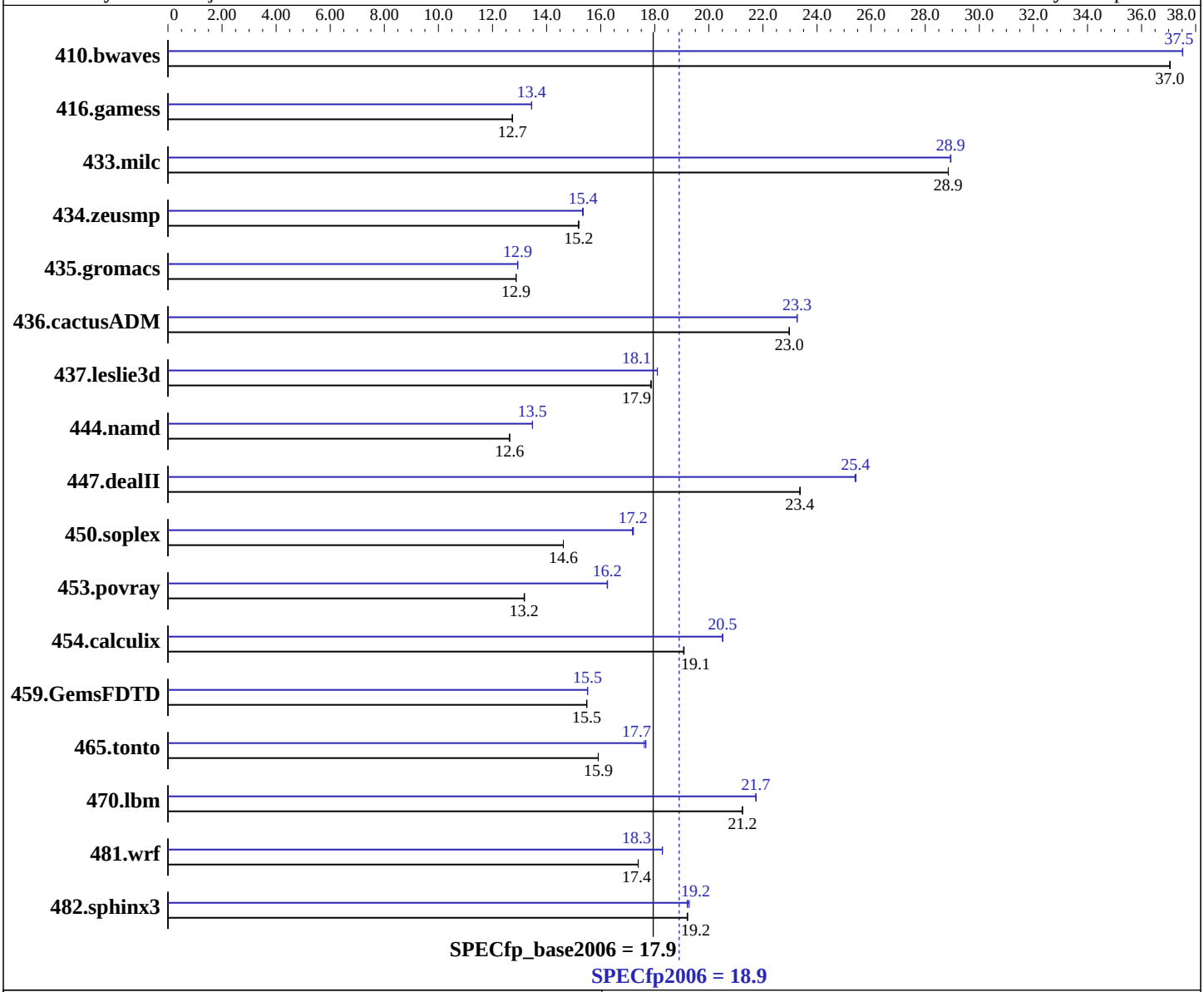
Oracle Corporation
SPARC Enterprise M3000

SPECfp®2006 = 18.9

SPECfp_base2006 = 17.9

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Fujitsu

Test date: Feb-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

Oracle Corporation
SPARC Enterprise M3000

SPECfp2006 = 18.9

SPECfp_base2006 = 17.9

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Fujitsu

Test date: Feb-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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	367	37.0	**367**	**37.0**	367	37.1	**362**	**37.5**	362	37.5	362	37.5
416.gamess	1538	12.7	1537	12.7	**1537**	**12.7**	1456	13.5	**1456**	**13.4**	1457	13.4
433.milc	318	28.9	**318**	**28.9**	318	28.9	**317**	**28.9**	317	29.0	317	28.9
434.zeusmp	599	15.2	599	15.2	**599**	**15.2**	**593**	**15.4**	593	15.4	594	15.3
435.gromacs	555	12.9	**555**	**12.9**	555	12.9	**552**	**12.9**	552	12.9	552	12.9
436.cactusADM	520	23.0	**520**	**23.0**	520	23.0	514	23.3	514	23.3	**514**	**23.3**
437.leslie3d	526	17.9	**526**	**17.9**	526	17.9	519	18.1	**519**	**18.1**	520	18.1
444.namd	**635**	**12.6**	635	12.6	635	12.6	595	13.5	**595**	**13.5**	595	13.5
447.dealII	**490**	**23.4**	490	23.4	489	23.4	450	25.4	**450**	**25.4**	450	25.4
450.soplex	**570**	**14.6**	570	14.6	570	14.6	**485**	**17.2**	485	17.2	486	17.2
453.povray	**404**	**13.2**	403	13.2	404	13.2	328	16.2	327	16.3	**328**	**16.2**
454.calculix	**433**	**19.1**	432	19.1	433	19.1	402	20.5	402	20.5	**402**	**20.5**
459.GemsFDTD	685	15.5	**685**	**15.5**	685	15.5	684	15.5	**684**	**15.5**	684	15.5
465.tonto	618	15.9	619	15.9	**618**	**15.9**	557	17.7	**557**	**17.7**	559	17.6
470.lbm	647	21.2	**647**	**21.2**	647	21.2	**632**	**21.7**	632	21.7	632	21.7
481.wrf	643	17.4	**642**	**17.4**	642	17.4	611	18.3	**611**	**18.3**	611	18.3
482.sphinx3	1014	19.2	**1014**	**19.2**	1015	19.2	1015	19.2	**1013**	**19.2**	1011	19.3

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
-xcache=generic -xalias_level=std -xprefetch=latx:1.2
-xprefetch_level=3 -xunroll=4 -ll2amm -lbsdmalloc

C++ benchmarks:
-xdepend -M /usr/lib/ld/map.bssalign -fast -fma=fused -xipo=2
-xpagesize=4M -xlinkopt -xvector -xcache=generic
-xalias_level=compatible -xprefetch_level=2 -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:
-M /usr/lib/ld/map.bssalign -fast -fma=fused -xipo=2 -xpagesize=4M
-xlinkopt -xvector -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xprefetch=latx:2

Benchmarks using both Fortran and C:
-M /usr/lib/ld/map.bssalign -fast(cc) -fast(f90) -fma=fused -xipo=2
-xpagesize=4M -xlinkopt -xvector -xcache=generic -xalias_level=std
-xprefetch=latx:1.2 -xprefetch_level=3 -xunroll=4
-xprefetch_auto_type=indirect_array_access -xprefetch=latx:2

Base Other Flags

C benchmarks:
-xjobs=2 -V -#

C++ benchmarks:
-xjobs=2 -verbose=diags,version

Continued on next page

Base Other Flags (Continued)

Fortran benchmarks:
`-xjobs=2 -V -v`

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 -M /usr/lib/ld/map.bssalign -xipo=2 -xO4 -xlinkopt -xvector -xunroll=4 -fsimple=1 -W2,-Ainline:rs=400 -xalias_level=std -xprefetch_auto_type=indirect_array_access -xprefetch_level=3`

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: `-fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2 -xunroll=4 -xprefetch_level=3 -xprefetch=latx:1.2 -ll2amm -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=2 -xchip=generic -xalias_level=any -xprefetch=no%auto -xunroll=2`

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 -xO4
-xchip=generic -xrestrict -xunroll=4
-xprefetch_auto_type=indirect_array_access
-xprefetch=latx:0.5 -L/mnt/spec//stdcxx-4.2.1/build/lib
-R/mnt/spec//stdcxx-4.2.1/build/lib -lstd8d -ll2amm

450.soplex: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -Qoption cg -Qlp-ol=1 -Qoption cg -Qlp-it=3
-Qoption cg -Qlp-imb=1 -Qoption iropt -Apf:pdl=3
-xalias_level=simple -xrestrict -library=stlport4 -xipo=2
-xO4 -xunroll=10 -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -ll2amm

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 -xcache=generic -xunroll=3 -xprefetch=no%auto
-lfast -lbsdmalloc

Fortran benchmarks:

410.bwaves: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xlinkopt -xunroll=4 -xprefetch=latx:3

416.gamess: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO3 -xlinkopt -xprefetch_level=1
-xunroll=6 -lfast -lbsdmalloc

434.zeusmp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2 -xO4
-xprefetch=latx:3 -lfast

437.leslie3d: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2
-xunroll=7 -xprefetch_level=1 -xprefetch=latx:1.2

459.GemsFDTD: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xunroll=9 -xprefetch_level=3 -xprefetch=latx:2

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO4 -xunroll=3 -ll2amm -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 -xchip=generic -fsimple=0
-xprefetch_auto_type=indirect_array_access -xunroll=4

436.cactusADM: -fast(cc) -fast(f90) -fma=fused -xpagesize=4M
-xalias_level=std -M /usr/lib/ld/map.bssalign -xipo=2
-xprefetch_auto_type=indirect_array_access -xprefetch_level=2
-xprefetch=latx:1.2 -lfast

454.calculix: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xprefetch_level=3 -xprefetch=latx:3
-xalias_level=std

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
-xcache=generic -xunroll=5
-xprefetch_auto_type=indirect_array_access -xprefetch=latx:2

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/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 19:10:35 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 April 2011.