SPEC® CFP2006 Result

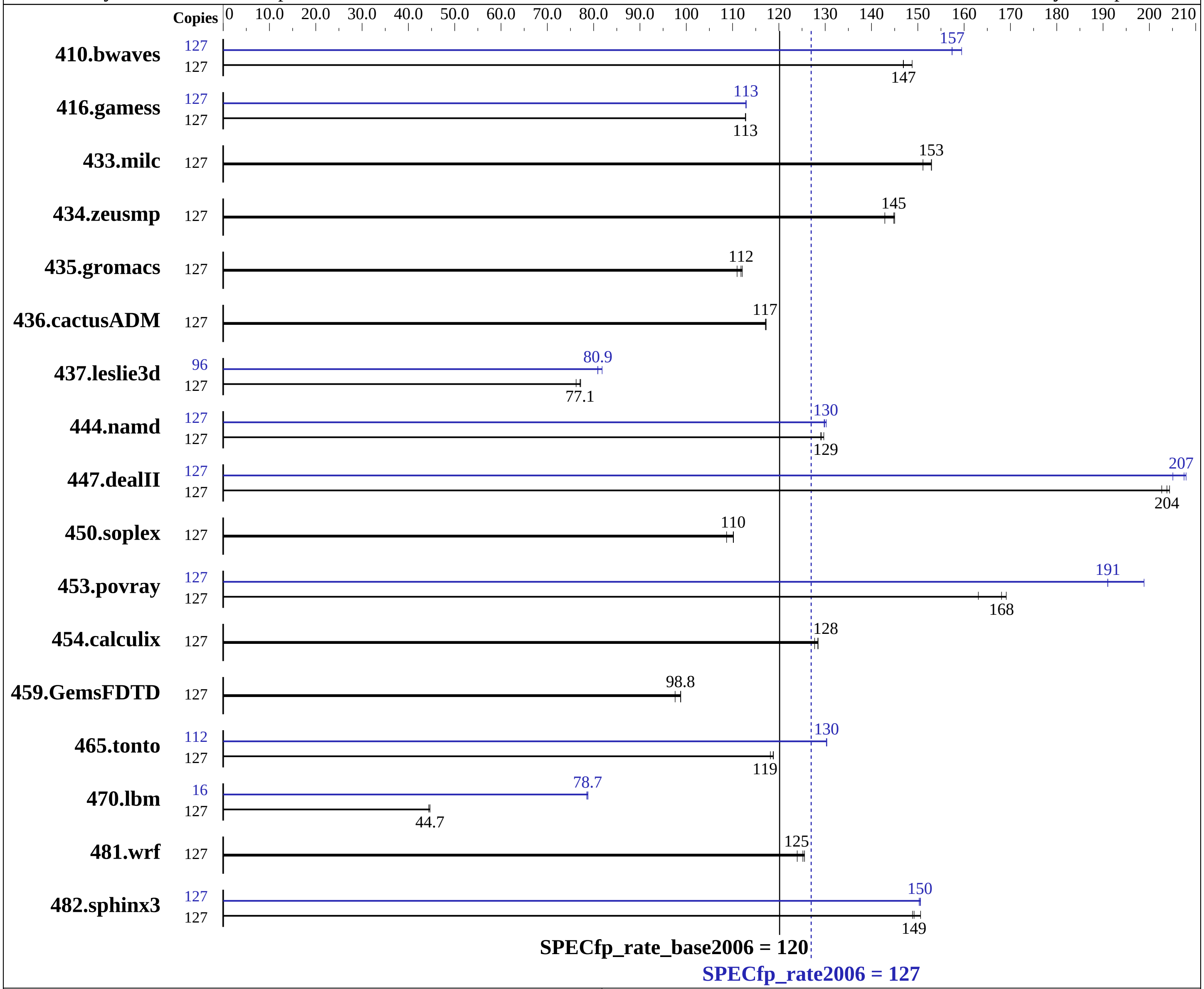
Oracle Corporation
SPARC T3-1

SPECfp®_rate2006 = 127

SPECfp_rate_base2006 = 120

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

Test date: Aug-2010
Hardware Availability: Oct-2010
Software Availability: Sep-2010



Hardware

CPU Name:	SPARC T3
CPU Characteristics:	
CPU MHz:	1649
FPU:	Integrated
CPU(s) enabled:	16 cores, 1 chip, 16 cores/chip, 8 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	16 KB I + 8 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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Software

Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
Auto Parallel:	No
File System:	zfs with gzip compression
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

L3 Cache:	None
Other Cache:	None
Memory:	128 GB (16 x 8 GB)
Disk Subsystem:	750 GB (zfs 3 x 2-way mirrors on 6x SAS 300G 10000 RPM)
Other Hardware:	None

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	127	11601	149	**11748**	**147**	11753	147	127	10823	159	**10964**	**157**	10967	157
416.gamess	127	22034	113	**22052**	**113**	22055	113	127	22012	113	**22030**	**113**	22033	113
433.milc	127	7621	153	7715	151	**7624**	**153**	127	7621	153	7715	151	**7624**	**153**
434.zeusmp	127	7970	145	8088	143	**7981**	**145**	127	7970	145	8088	143	**7981**	**145**
435.gromacs	127	8171	111	**8109**	**112**	8089	112	127	8171	111	**8109**	**112**	8089	112
436.cactusADM	127	12943	117	12961	117	**12950**	**117**	127	12943	117	12961	117	**12950**	**117**
437.leslie3d	127	**15494**	**77.1**	15664	76.2	15464	77.2	96	11027	81.8	11157	80.9	**11153**	**80.9**
444.namd	127	7853	130	**7887**	**129**	7893	129	127	7849	130	7820	130	**7841**	**130**
447.dealII	127	7109	204	7169	203	**7129**	**204**	127	**7002**	**207**	7085	205	6987	208
450.soplex	127	**9617**	**110**	9743	109	9611	110	127	**9617**	**110**	9743	109	9611	110
453.povray	127	4143	163	**4020**	**168**	3996	169	127	3538	191	**3537**	**191**	3398	199
454.calculix	127	**8160**	**128**	8203	128	8155	128	127	**8160**	**128**	8203	128	8155	128
459.GemsFDTD	127	13636	98.8	13806	97.6	**13643**	**98.8**	127	13636	98.8	13806	97.6	**13643**	**98.8**
465.tonto	127	10517	119	10576	118	**10523**	**119**	112	8454	130	8461	130	**8459**	**130**
470.lbm	127	39067	44.7	39302	44.4	**39073**	**44.7**	16	**2793**	**78.7**	2800	78.5	2791	78.8
481.wrf	127	11300	126	11444	124	**11331**	**125**	127	11300	126	11444	124	**11331**	**125**
482.sphinx3	127	16628	149	**16591**	**149**	16435	151	127	16470	150	**16450**	**150**	16437	151

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

Submit Notes

```
Processes were bound to cores using "submit" and "pbind".  The config
file option 'submit' was used in order to accomplish this.
```

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).

 /etc/system parameters
    autoup=600
       Causes pages older than the listed number of seconds to
```

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Operating System Notes (Continued)

```
         be written by fsflush.
      tune_t_fsflushr=10
         Controls how many seconds elapse between runs of the
         page flush daemon, fsflush.
      lpg_alloc_prefer=1
         Indicates that extra effort should be taken to ensure
         that pages are created in the nearby lgroup (NUMA location).
      tsb_rss_factor=128
         Suggests that the the size of the TSB (Translation
         Storage Buffer) may be increased if it is more than
         25% (128/512) full.  Doing so may reduce TSB traps,
         at the cost of additional kernel memory.
      zfs:zfs_arc_max=0x10000000
      zfs:zfs_arc_min=0x10000000
         Limits the consumption of memory by the zfs file system
         cache to 256 MB.  (The arc_max sets the maximum cache
         size; arc_min sets the minimum.)
      zfs:zfs_prefetch_disable = 1
         Indicates that prefetching is not desired.  This setting
         may be desirable when the file system cache is small.
   USB devices were turned off with ILOM command
      set /SYS/MB/USB component_state=disabled
   The "webconsole" service was turned off using
      svcadm disable webconsole
   The system had 296 GB of swap space.
```

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:
-g -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2
-xalias_level=std -M /usr/lib/ld/map.bssalign

C++ benchmarks:
-g0 -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xdepend -xalias_level=compatible

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Base Optimization Flags (Continued)

C++ benchmarks (continued):
`-M /usr/lib/ld/map.bssalign`

Fortran benchmarks:
`-g -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2`
`-M /usr/lib/ld/map.bssalign`

Benchmarks using both Fortran and C:
`-g -fast`(cc) `-fast`(f90) `-fma=fused -xipo=2 -xpagesize=4M`
`-xprefetch_level=2 -xalias_level=std -M /usr/lib/ld/map.bssalign`

Base Other Flags

C benchmarks:
`-xjobs=32 -V -#`

C++ benchmarks:
`-xjobs=32 -verbose=diags,version`

Fortran benchmarks:
`-xjobs=32 -V -v`

Benchmarks using both Fortran and C:
`-xjobs=32 -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:

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Peak Optimization Flags (Continued)

433.milc: basepeak = yes

470.lbm: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign -xprefetch_level=3 -xipo=2 -xrestrict

482.sphinx3: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign -xinline= -xprefetch_level=2 -Wc,-Qlp-ol=1 -xrestrict -xalias_level=strong -fsimple=1 -xlinkopt=2 -lfast

C++ benchmarks:

444.namd: -g0 -library=stlport4 -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign -xprefetch_level=1 -xlinkopt=2

447.dealII: -g0 -library=stlport4 -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign -xipo=2 -xrestrict

450.soplex: basepeak = yes

453.povray: -g0 -library=stlport4 -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign -xipo=2 -xrestrict -xlinkopt=2

Fortran benchmarks:

410.bwaves: -g -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=3 -M /usr/lib/ld/map.bssalign

416.gamess: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign -xlinkopt=2

434.zeusmp: basepeak = yes

437.leslie3d: -g -fast -fma=fused -xpagesize_heap=4M -xpagesize_stack=64K -M /usr/lib/ld/map.bssalign -xprefetch_level=3 -xprefetch=latx:1.6 -qoption cg -Qlp=1 -qoption cg -Qlp-fa=0 -qoption cg -Qlp-fl=1 -qoption cg -Qlp-av=448 -qoption cg -Qlp-t=4

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Peak Optimization Flags (Continued)

459.GemsFDTD: `basepeak = yes`

465.tonto: `-g -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2 -lfast`

Benchmarks using both Fortran and C:

435.gromacs: `basepeak = yes`

436.cactusADM: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-xjobs=32 -V -#`

C++ benchmarks:
`-xjobs=32 -verbose=diags,version`

Fortran benchmarks:
`-xjobs=32 -V -v`

Benchmarks using both Fortran and C:
`-xjobs=32 -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.20110110.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.20110110.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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