SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

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

Benchmark	Copies	Result
410.bwaves	127 / 127	157 / 147
416.gamess	127 / 127	113 / 113
433.milc	127	153
434.zeusmp	127	145
435.gromacs	127	112
436.cactusADM	127	117
437.leslie3d	96 / 127	80.9 / 77.1
444.namd	127 / 127	130 / 129
447.dealII	127 / 127	207 / 204
450.soplex	127	110
453.povray	127 / 127	191 / 168
454.calculix	127	128
459.GemsFDTD	127	98.8
465.tonto	112 / 127	130 / 119
470.lbm	16 / 127	78.7 / 44.7
481.wrf	127	125
482.sphinx3	127 / 127	150 / 149

SPECfp_rate_base2006 = 120

SPECfp_rate2006 = 127

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

Continued on next page

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

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation
SPARC T3-1

SPECfp_rate2006 = 127
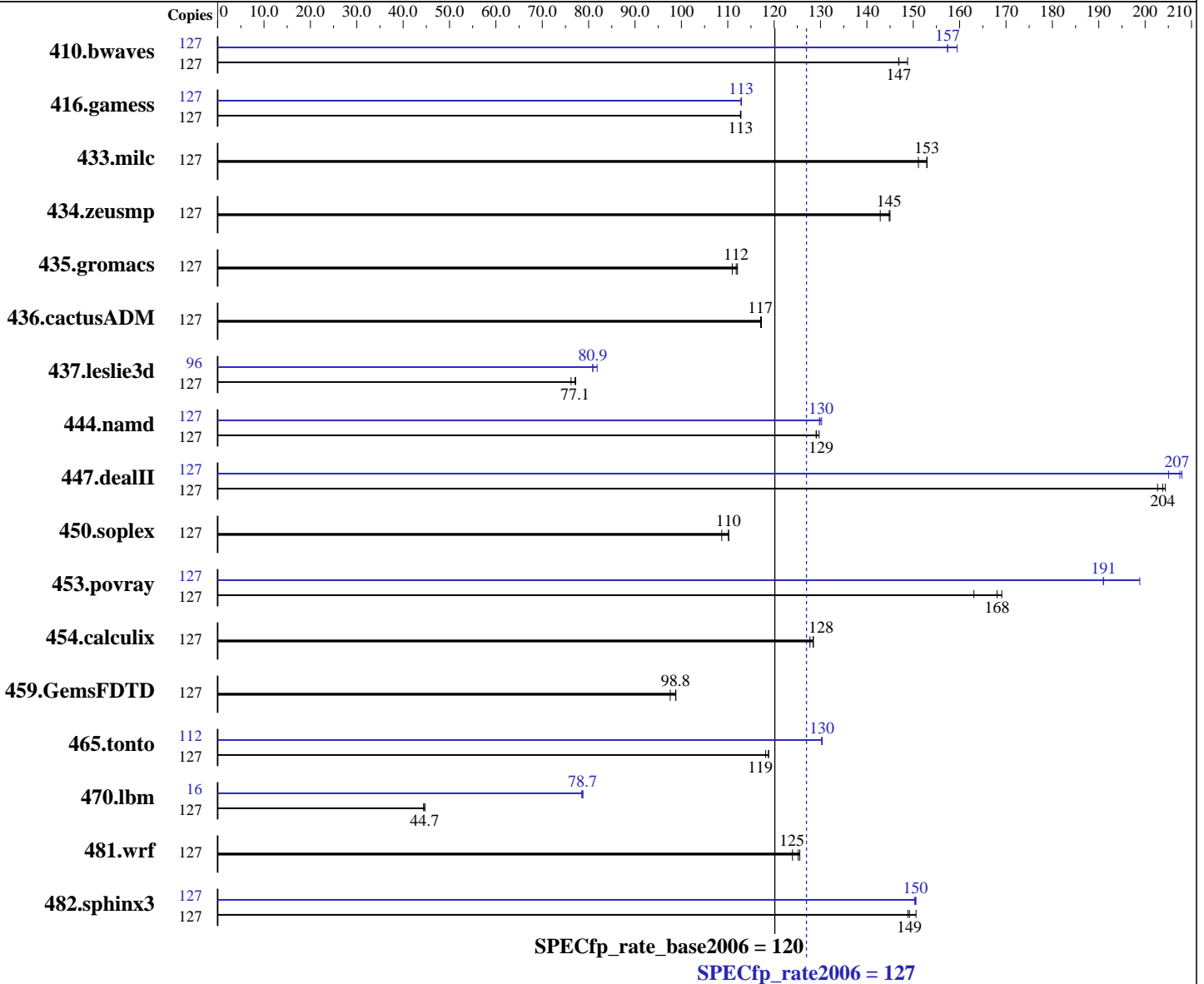
SPECfp_rate_base2006 = 120

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

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

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

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak 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

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

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
```
Continued on next page

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

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:

Continued on next page

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

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
```

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

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.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 16:29:51 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 January 2011.