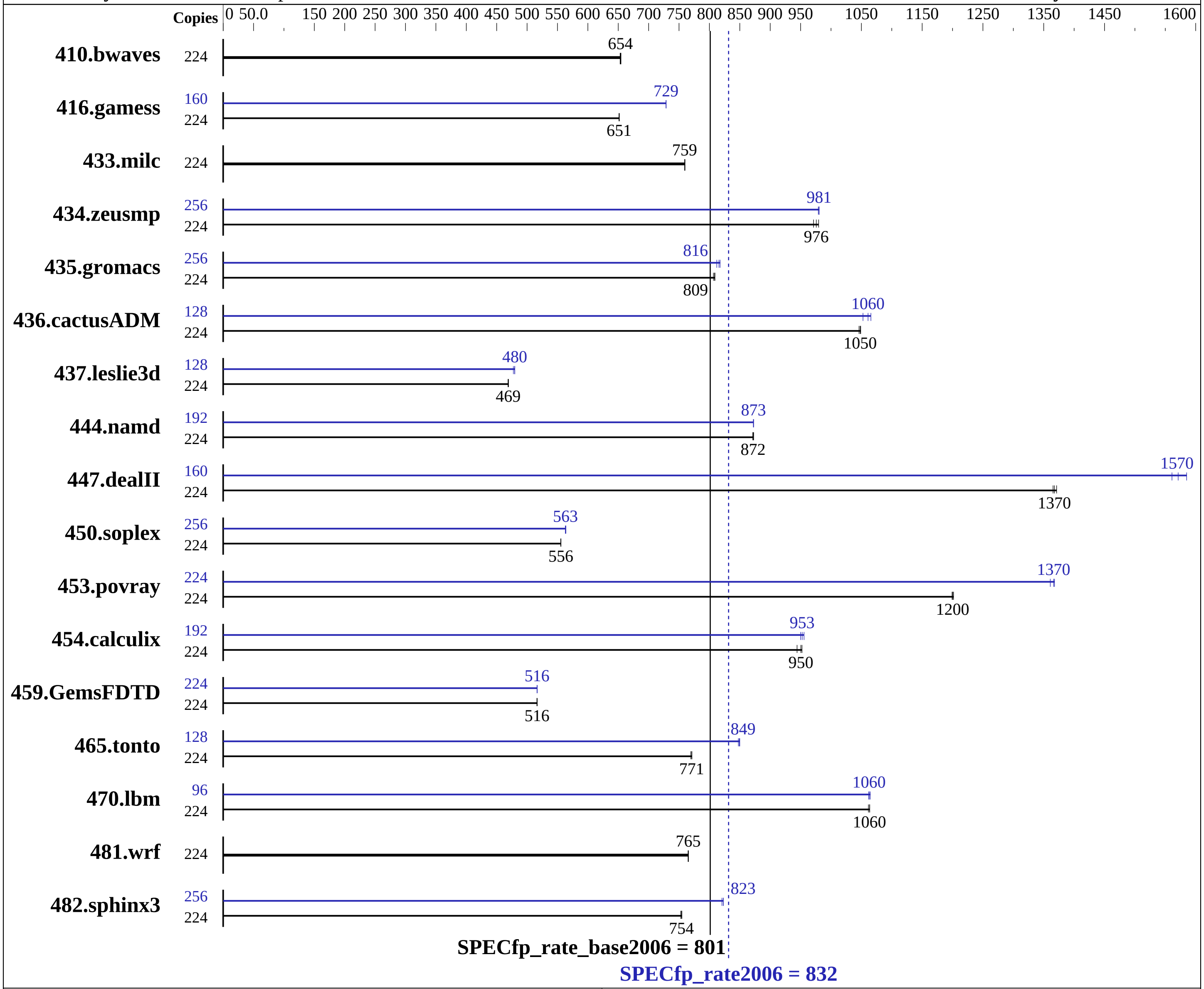
SPEC® CFP2006 Result

Oracle Corporation
SPARC T7-1

SPECfp®_rate2006 = 832

SPECfp_rate_base2006 = 801

CPU2006 license: 6		**Test date:**	Oct-2015
Test sponsor:	Oracle Corporation	**Hardware Availability:**	Oct-2015
Tested by:	Oracle Corporation	**Software Availability:**	Oct-2015



Hardware

CPU Name:	SPARC M7
CPU Characteristics:	
CPU MHz:	4133
FPU:	Integrated
CPU(s) enabled:	32 cores, 1 chip, 32 cores/chip, 8 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	16 KB I + 16 KB D on chip per core
Secondary Cache:	2 MB I on chip per chip (256 KB / 4 cores); 4 MB D on chip per chip (256 KB / 2 cores)

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Software

Operating System:	Oracle Solaris 11.3
Compiler:	C/C++/Fortran: Version 12.4 of Oracle Solaris Studio, 4/15 Patch Set
Auto Parallel:	No
File System:	zfs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit

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L3 Cache: 64 MB I+D on chip per chip (8 MB / 4 cores)
Other Cache: None
Memory: 512 GB (16 x 32 GB 4Rx4 PC4-2133P-L)
Disk Subsystem: 732 GB, 4 x 400 GB SAS SSD (mirrored)
Other Hardware: None

Other Software: None

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	224	4661	653	**4656**	**654**	4651	654	224	4661	653	**4656**	**654**	4651	654
416.gamess	224	6729	652	**6733**	**651**	6734	651	160	4298	729	**4298**	**729**	4299	729
433.milc	224	2706	760	2708	759	**2708**	**759**	224	2706	760	2708	759	**2708**	**759**
434.zeusmp	224	2081	980	2099	971	**2089**	**976**	256	2376	981	**2376**	**981**	2379	979
435.gromacs	224	1977	809	1983	807	**1978**	**809**	256	2236	818	2251	812	**2241**	**816**
436.cactusADM	224	2559	1050	**2554**	**1050**	2552	1050	128	1453	1050	**1442**	**1060**	1435	1070
437.leslie3d	224	**4490**	**469**	4485	469	4492	469	128	2508	480	**2508**	**480**	2520	477
444.namd	224	2062	871	**2061**	**872**	2058	873	192	**1765**	**873**	1765	872	1765	873
447.dealII	224	1869	1370	**1874**	**1370**	1877	1370	160	**1165**	**1570**	1155	1590	1173	1560
450.soplex	224	3361	556	**3362**	**556**	3363	555	256	3786	564	**3791**	**563**	3792	563
453.povray	224	994	1200	992	1200	**993**	**1200**	224	**872**	**1370**	871	1370	876	1360
454.calculix	224	**1944**	**950**	1941	952	1957	944	192	1658	956	1667	950	**1663**	**953**
459.GemsFDTD	224	4605	516	4600	517	**4602**	**516**	224	**4601**	**516**	4601	517	4602	516
465.tonto	224	2865	769	**2859**	**771**	2858	771	128	1486	848	1482	850	**1483**	**849**
470.lbm	224	2894	1060	2899	1060	**2894**	**1060**	96	**1241**	**1060**	1239	1060	1242	1060
481.wrf	224	3269	765	3271	765	**3269**	**765**	224	3269	765	3271	765	**3269**	**765**
482.sphinx3	224	**5790**	**754**	5785	755	5799	753	256	6063	823	6080	821	**6065**	**823**

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

/etc/system parameters
   set user_reserve_hint_pct=85
      Informs the system about how much memory is expected
      to be used by applications (as a percentage)
```

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Operating System Notes (Continued)

```
poweradm set administrative-authority=none
    Disables Solaris power management

600 GB of swap space was configured
```

Platform Notes

```
Power policy set to 'disabled' at ILOM Power Managment menu
Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ 5569a0425e2ad530534e4c79a46e4d28
running on t7-1-003.us.oracle.com Mon Oct 19 13:04:22 2015

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /usr/sbin/psrinfo
   SPARC-M7 (chipid 0, clock 4133 MHz)
   1 chips
   256 threads
   4133 MHz

From kstat:       32 cores

From prtconf: 489728 Megabytes

/etc/release:
     Oracle Solaris 11.3 SPARC
uname -a:
   SunOS t7-1-003.us.oracle.com 5.11 11.3 sun4v sparc sun4v

disk: df -h  $SPEC
Filesystem            Size   Used  Available Capacity  Mounted on
spec/nogz/cpu2006     732G   400G       332G    55%    /cpu2006

(End of data from sysinfo program)
```

General Notes

```
SPEC CPU2006 benchmark was updated with runspec --update
```

Base Compiler Invocation

C benchmarks:
cc

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Base Compiler Invocation (Continued)

C++ benchmarks:
`CC`

Fortran benchmarks:
`f90`

Benchmarks using both Fortran and C:
`cc f90`

Base Portability Flags

447.dealII: `-DBOOST_NO_COMPILER_CONFIG`

Base Optimization Flags

C benchmarks:
`-g -xsegment_align=64K -fast -xipo=2 -xpagesize_heap=256M -xthroughput -xalias_level=std -xprefetch_level=3 -xprefetch_auto_type=indirect_array_access`

C++ benchmarks:
`-g -xsegment_align=64K -fast -xipo=2 -xpagesize_heap=256M -xthroughput -xalias_level=compatible -library=stdcxx4 -template=extdef`

Fortran benchmarks:
`-g -xsegment_align=64K -fast -xipo=2 -xpagesize_heap=256M -xthroughput`

Benchmarks using both Fortran and C:
`-g -xsegment_align=64K -fast`(cc) `-fast`(f90) `-xipo=2 -xpagesize_heap=256M -xthroughput -xalias_level=std -xprefetch_level=3 -xprefetch_auto_type=indirect_array_access`

Base Other Flags

C benchmarks:
`-xjobs=32 -V`

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

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

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Base Other Flags (Continued)

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 Portability Flags

447.dealII: `-DBOOST_NO_COMPILER_CONFIG`

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `-g -fast -xipo=2 -xpagesize_heap=256M -xalias_level=std -xthroughput -xprefetch_level=2 -xprefetch_auto_type=indirect_array_access -xprefetch=latx:3`

482.sphinx3: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xipo=2 -xalias_level=std -xprefetch=no%auto`

C++ benchmarks:

444.namd: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xalias_level=compatible -library=stdcxx4 -template=extdef -xthroughput`

447.dealII: `-g -fast -xpagesize=4M -xalias_level=compatible -library=stdcxx4 -template=extdef -xprefetch=no%auto -xipo=2 -xrestrict`

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Peak Optimization Flags (Continued)

450.soplex: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xalias_level=simple -xrestrict -library=stlport4 -xprefetch_level=2 -xprefetch_auto_type=indirect_array_access -xthroughput

453.povray: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xipo=2 -xalias_level=compatible -xpagesize_heap=256M -library=stdcxx4 -template=extdef -xthroughput -xprefetch=no%auto

Fortran benchmarks:

410.bwaves: basepeak = yes

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

434.zeusmp: -g -fast -xipo=2 -xpagesize=4M -xthroughput

437.leslie3d: -g -fast -xipo=2 -xpagesize=4M -xprefetch=no%auto

459.GemsFDTD: -g -fast -xipo=2 -xpagesize=4M -xprefetch_level=3 -xthroughput

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

Benchmarks using both Fortran and C:

435.gromacs: -g -fast(cc) -fast(f90) -xpagesize=4M -xipo=2 -xthroughput

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

454.calculix: -g -fast(cc) -fast(f90) -xipo=2 -xpagesize=4M -xprefetch=no%auto -xalias_level=std

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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.4.20151118.html
http://www.spec.org/cpu2006/flags/Oracle-Tseries-RevB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.4.20151118.xml
http://www.spec.org/cpu2006/flags/Oracle-Tseries-RevB.xml

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

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