SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

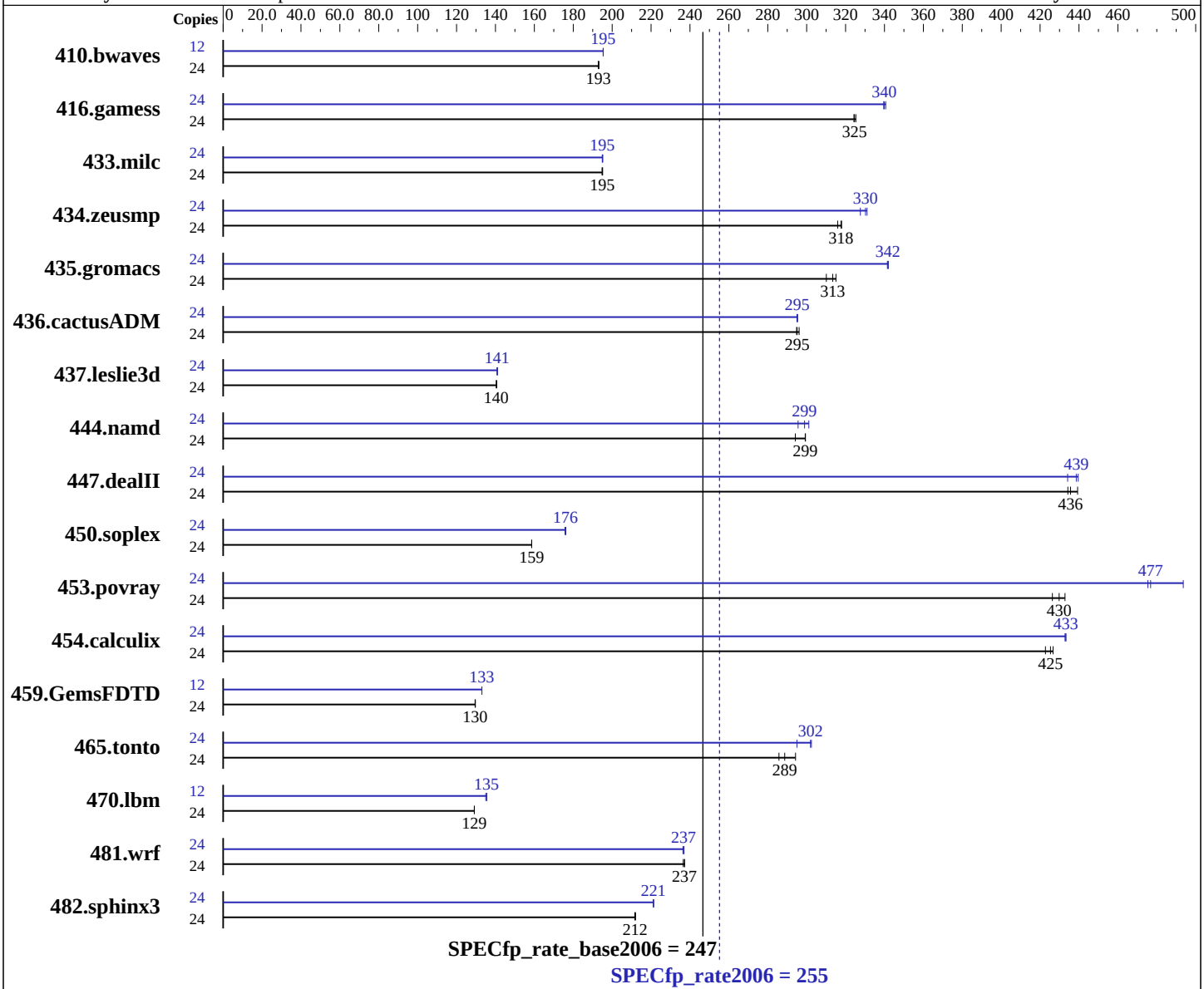
Sun Blade X6270 M2 (Intel Xeon X5680 3.33GHz)

SPECfp®_rate2006 = 255

SPECfp_rate_base2006 = 247

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

Test date: May-2010
Hardware Availability: Jun-2010
Software Availability: Jun-2010



Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1 or 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	Oracle Solaris 10 10/09
Compiler:	Oracle Solaris Studio Express 6/10
Auto Parallel:	No
File System:	zfs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Apache C++ Standard Library V4.2.1

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB DDR3-1333 CL9, 2 Rank, ECC)
Disk Subsystem: 1 x 300 GB, SAS, 10000 RPM
Other Hardware: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1691	193	**1689**	**193**	1689	193	12	834	195	835	195	**835**	**195**
416.gamess	24	1449	324	**1448**	**325**	1445	325	24	1384	340	1380	341	**1382**	**340**
433.milc	24	1129	195	**1130**	**195**	1131	195	24	1130	195	1129	195	**1130**	**195**
434.zeusmp	24	687	318	**688**	**318**	691	316	24	**661**	**330**	660	331	667	328
435.gromacs	24	544	315	553	310	**547**	**313**	24	501	342	502	342	**501**	**342**
436.cactusADM	24	969	296	**972**	**295**	973	295	24	972	295	971	295	**972**	**295**
437.leslie3d	24	1606	140	**1606**	**140**	1604	141	24	**1601**	**141**	1599	141	1602	141
444.namd	24	643	299	**643**	**299**	654	294	24	651	296	639	301	**644**	**299**
447.dealII	24	**630**	**436**	632	434	625	439	24	632	434	625	440	**626**	**439**
450.soplex	24	**1262**	**159**	1262	159	1262	159	24	1139	176	1136	176	**1137**	**176**
453.povray	24	**297**	**430**	299	426	295	433	24	269	475	**268**	**477**	259	494
454.calculix	24	**465**	**425**	464	427	468	423	24	457	433	457	433	**457**	**433**
459.GemsFDTD	24	1964	130	1966	130	**1964**	**130**	12	**957**	**133**	957	133	957	133
465.tonto	24	803	294	**818**	**289**	826	286	24	**782**	**302**	781	302	801	295
470.lbm	24	2554	129	**2553**	**129**	2553	129	12	1221	135	**1217**	**135**	1216	136
481.wrf	24	1133	237	**1130**	**237**	1130	237	24	1131	237	1134	236	**1132**	**237**
482.sphinx3	24	2210	212	**2209**	**212**	2206	212	24	2113	221	2115	221	**2115**	**221**

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

Compiler Invocation Notes

```
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

```
The config file option 'submit' was used.
```

Operating System Notes

```
ulimit -s unlimited  (shell)

/etc/system parameters
   tune_t_fsflushr=10
   autoup=900
   zfs:zfs_arc_max = 0x10000000
   lpg_alloc_prefer=1
```

Platform Notes

```
  Default BIOS settings used except:
    C-State                 : Disabled
    Data Reuse Optimization : Disabled
```

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 Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
433.milc: `-DSPEC_CPU_LP64`
434.zeusmp: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64`
436.cactusADM: `-DSPEC_CPU_LP64`

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Base Portability Flags (Continued)

437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_WORDS_LITTLEENDIAN
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M -xalias_level=std

C++ benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M -xalias_level=compatible
-library=no%Cstd -I/data1/stdcxx-4.2.1/include
-I/data1/stdcxx-4.2.1/build/include -L/data1/stdcxx-4.2.1/build/lib
-R/data1/stdcxx-4.2.1/build/lib -lstd8D

Fortran benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M

Benchmarks using both Fortran and C:
-fast(cc) -xipo=2 -m64 -xpagesize=2M -xalias_level=std -fast(f90)

Base Other Flags

C benchmarks:
-V -# -xjobs=24

C++ benchmarks:
-verbose=diags,version -xjobs=24

Fortran benchmarks:
-V -v -xjobs=24

Benchmarks using both Fortran and C:
-V -# -xjobs=24 -v

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Peak Portability Flags

436.cactusADM: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_WORDS_LITTLEENDIAN

Peak Optimization Flags

C benchmarks:

433.milc: -fast -xipo=2 -m64 -xpagesize=2M -xalias_level=std

470.lbm: -fast -xipo=2 -m64 -lbsdmalloc

482.sphinx3: -fast -xipo=2 -m64 -xpagesize=2M -xalias_level=std
-xunroll=3 -xprefetch=no%auto

C++ benchmarks:

444.namd: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=compatible -library=stlport4

447.dealII: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=compatible -library=no%Cstd
-I/data1/stdcxx-4.2.1/include
-I/data1/stdcxx-4.2.1/build/include
-L/data1/stdcxx-4.2.1/build/lib
-R/data1/stdcxx-4.2.1/build/lib -lstd8D

450.soplex: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=compatible -library=stlport4
-m32 -qoption iropt -Rujam -qoption iropt -Rtile

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Peak Optimization Flags (Continued)

453.povray: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xvector=no%simd -xalias_level=compatible
-library=stlport4

Fortran benchmarks:

410.bwaves: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M

416.gamess: -fast -xipo=2 -m64 -xpagesize=2M -xunroll=1
-xvector=no%simd

434.zeusmp: Same as 410.bwaves

437.leslie3d: -fast -xipo=2 -m64 -Qoption ube -xprefetch_mult=2

459.GemsFDTD: Same as 410.bwaves

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xvector=lib -xalias -lbsdmalloc

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xvector=no%simd -xipo=2 -m64 -xpagesize=2M
-Qoption ube -fsimple=3

436.cactusADM: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -m64 -fast(cc) -fast(f90)
-xipo=0 -xpagesize=2M -xprefetch_level=2 -lumem

454.calculix: -fast(cc) -fast(f90) -xipo=2 -m64 -xpagesize=2M
-xunroll=3 -xprefetch_level=2
-xprefetch_auto_type=indirect_array_access

481.wrf: -fast(cc) -fast(f90) -xipo=2 -m64 -xpagesize=2M

Peak Other Flags

C benchmarks:
-V -# -xjobs=24

C++ benchmarks:
-verbose=diags,version -xjobs=24

Continued on next page

Peak Other Flags (Continued)

Fortran benchmarks:
`-V -v -xjobs=24`

Benchmarks using both Fortran and C:
`-V -# -xjobs=24 -v`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio-x86_64.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio-x86_64.xml`

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