# SPEC® CFP2006 Result



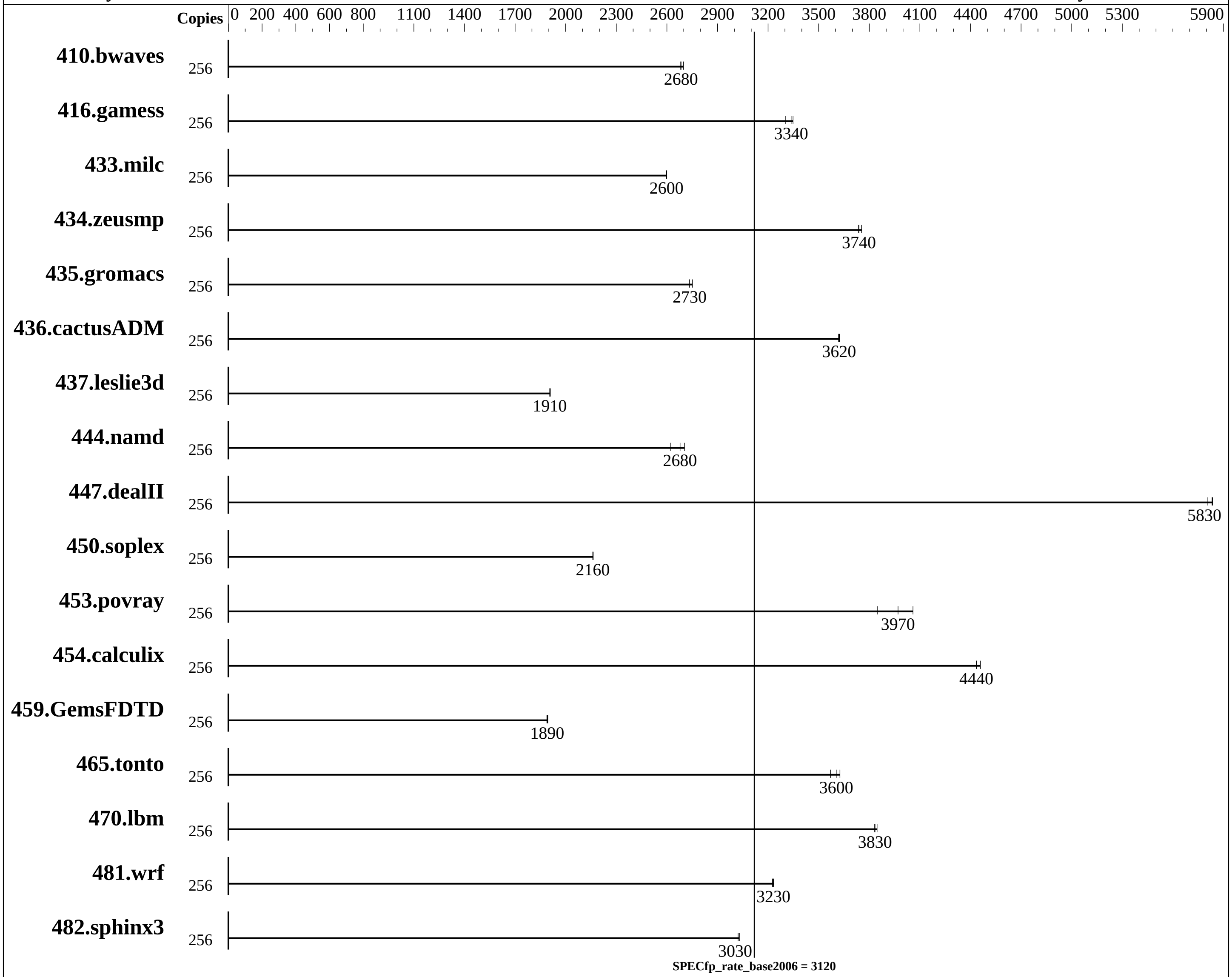
## SGI

SGI UV 2000 (Intel Xeon E5-4640, 2.4 GHz)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 3120

| | | | |
|---|---|---|---|
| **CPU2006 license:** | 4 | **Test date:** | Aug-2012 |
| **Test sponsor:** | SGI | **Hardware Availability:** | Jun-2012 |
| **Tested by:** | SGI | **Software Availability:** | Jul-2012 |




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-4640 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.80 GHz |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 128 cores, 16 chips, 8 cores/chip, 2 threads/core |
| CPU(s) orderable: | 4-256 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |

Continued on next page

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 (x86_64) SP2, Kernel 3.0.31-0.9.1.4402.0.PTF-default |
| Compiler: | C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.3.293 of Intel Fortran Studio XE for Linux |
| Auto Parallel: | No |
| File System: | tmpfs |
| System State: | Run Level 3 (multi-user) |

Continued on next page

SGI

SGI UV 2000 (Intel Xeon E5-4640, 2.4 GHz)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 3120

**CPU2006 license:** 4
**Test sponsor:** SGI
**Tested by:** SGI

**Test date:** Aug-2012
**Hardware Availability:** Jun-2012
**Software Availability:** Jul-2012

L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (64 x 16 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem: 8 TB tmpfs
Other Hardware: NUMAlink6 routers

Base Pointers: 32/64-bit
Peak Pointers: Not Applicable
Other Software: SGI Accelerate 1.4 Patch 10916
SGI Foundation Software 2.6,
Build 706rp6.sles11sp2-1208152008

## Results Table

| | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benchmark** | **Copies** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Copies** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** |
| 410.bwaves | 256 | 1289 | 2700 | **1296** | **2680** | 1299 | 2680 | | | | | | | |
| 416.gamess | 256 | 1497 | 3350 | 1518 | 3300 | **1502** | **3340** | | | | | | | |
| 433.milc | 256 | 904 | 2600 | 905 | 2600 | **905** | **2600** | | | | | | | |
| 434.zeusmp | 256 | 621 | 3750 | **623** | **3740** | 624 | 3730 | | | | | | | |
| 435.gromacs | 256 | 664 | 2750 | **668** | **2730** | 669 | 2730 | | | | | | | |
| 436.cactusADM | 256 | 846 | 3620 | **845** | **3620** | 844 | 3620 | | | | | | | |
| 437.leslie3d | 256 | 1261 | 1910 | **1262** | **1910** | 1263 | 1910 | | | | | | | |
| 444.namd | 256 | 759 | 2700 | **767** | **2680** | 784 | 2620 | | | | | | | |
| 447.dealII | 256 | 502 | 5840 | 504 | 5810 | **502** | **5830** | | | | | | | |
| 450.soplex | 256 | **988** | **2160** | 988 | 2160 | 987 | 2160 | | | | | | | |
| 453.povray | 256 | 354 | 3850 | **343** | **3970** | 336 | 4060 | | | | | | | |
| 454.calculix | 256 | **476** | **4440** | 476 | 4430 | 474 | 4460 | | | | | | | |
| 459.GemsFDTD | 256 | 1438 | 1890 | 1434 | 1890 | **1436** | **1890** | | | | | | | |
| 465.tonto | 256 | **699** | **3600** | 695 | 3630 | 705 | 3570 | | | | | | | |
| 470.lbm | 256 | 915 | 3850 | **917** | **3830** | 918 | 3830 | | | | | | | |
| 481.wrf | 256 | 886 | 3230 | 885 | 3230 | **886** | **3230** | | | | | | | |
| 482.sphinx3 | 256 | 1651 | 3020 | 1647 | 3030 | **1648** | **3030** | | | | | | | |

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

## Submit Notes

```
The dplace mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate dplace commands to bind each copy to a specific processor.
For details, please see the config file.
```

## Operating System Notes

```
Tmpfs filesystem set up with:
  mount -t tmpfs -o size=8192g,rw tmpfs /mnt/shm/
Stack size set to unlimited using "ulimit -s unlimited"
```

## General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/mnt/shm/cpu2006-1.2/libs/32:/mnt/shm/cpu2006-1.2/libs/64"

 Binaries compiled on a system with 2x Xeon E5540 CPU + 32GB
 memory using SLES11 SP1
 Transparent Huge Pages disabled with:
 echo never  > /sys/kernel/mm/transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1 > /proc/sys/vm/drop_caches
```

## Base Compiler Invocation

C benchmarks:
`icc   -m64`

C++ benchmarks:
`icpc  -m64`

Fortran benchmarks:
`ifort -m64`

Benchmarks using both Fortran and C:
`icc   -m64 ifort -m64`

## 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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
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 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

SGI

SGI UV 2000 (Intel Xeon E5-4640, 2.4 GHz)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 3120

**CPU2006 license:** 4
**Test sponsor:** SGI
**Tested by:** SGI

**Test date:** Aug-2012
**Hardware Availability:** Jun-2012
**Software Availability:** Jul-2012

# Base Optimization Flags

C benchmarks:
`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias -opt-mem-layout-trans=3`

C++ benchmarks:
`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias -opt-mem-layout-trans=3`

Fortran benchmarks:
`-xAVX -ipo -O3 -no-prec-div -opt-prefetch`

Benchmarks using both Fortran and C:
`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias -opt-mem-layout-trans=3`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120912.html
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120912.xml
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.xml



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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 10:32:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 September 2012.