SPEC® CFP2006 Result

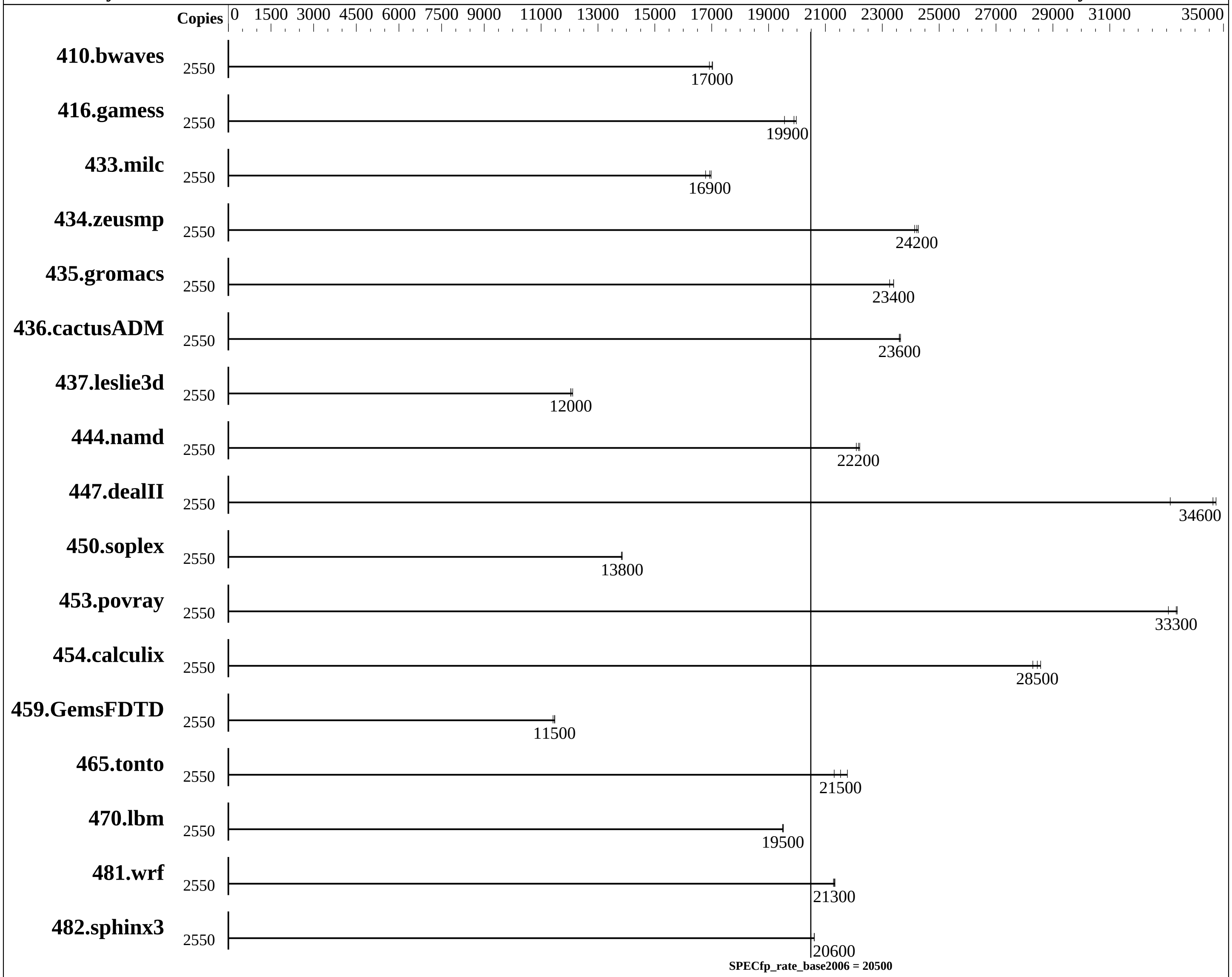
SGI

SGI Altix UV 1000 (Intel Xeon E7-4870, 2.4 GHz)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 20500

CPU2006 license:	4	**Test date:**	Feb-2011
Test sponsor:	SGI	**Hardware Availability:**	Apr-2011
Tested by:	SGI	**Software Availability:**	Mar-2011



Hardware

CPU Name:	Intel Xeon E7-4870
CPU Characteristics:	Intel Turbo Boost Technology not enabled
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	1280 cores, 128 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable:	2-256 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:	SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7.1-uv
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	tmpfs
System State:	Run Level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 4 TB (1024 x 4 GB 4Rx8 PC3-8500R-7, ECC)
Disk Subsystem: 4 TB tmpfs
Other Hardware: NUMAlink5 routers

Peak Pointers: Not Applicable
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2550	2035	17000	**2037**	**17000**	2048	16900							
416.gamess	2550	2553	19600	2499	20000	**2510**	**19900**							
433.milc	2550	**1383**	**16900**	1395	16800	1379	17000							
434.zeusmp	2550	961	24100	956	24300	**958**	**24200**							
435.gromacs	2550	778	23400	783	23300	**778**	**23400**							
436.cactusADM	2550	1291	23600	1289	23600	**1291**	**23600**							
437.leslie3d	2550	1979	12100	**1990**	**12000**	1990	12000							
444.namd	2550	921	22200	926	22100	**923**	**22200**							
447.dealII	2550	881	33100	840	34700	**842**	**34600**							
450.soplex	2550	**1536**	**13800**	1535	13900	1538	13800							
453.povray	2550	**407**	**33300**	406	33400	410	33100							
454.calculix	2550	736	28600	**739**	**28500**	744	28300							
459.GemsFDTD	2550	**2358**	**11500**	2356	11500	2369	11400							
465.tonto	2550	1178	21300	1152	21800	**1165**	**21500**							
470.lbm	2550	1797	19500	1795	19500	**1796**	**19500**							
481.wrf	2550	1338	21300	1335	21300	**1336**	**21300**							
482.sphinx3	2550	2425	20500	2411	20600	**2412**	**20600**							

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

Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

Operating System Notes

```
Tmpfs filesystem set up with:
  mkdir -p /mnt/shm
  mount -t tmpfs -o size=4096g,rw,mpol=interleave tmpfs /mnt/shm/
  The mpol=interleave option sets the NUMA memory allocation
  policy for all files to allocate from each node in turn.

ulimit -s unlimited

Kernel is generally available as 2.6.32.29-0.3.1.2687.3.PTF-default
```

Platform Notes

```
OS on 146 GB SAS disk
```

General Notes

```
Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5
```

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

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

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Base Optimization Flags (Continued)

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

Fortran benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:
`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/platform.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 19:33:38 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 April 2011.