SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

SGI

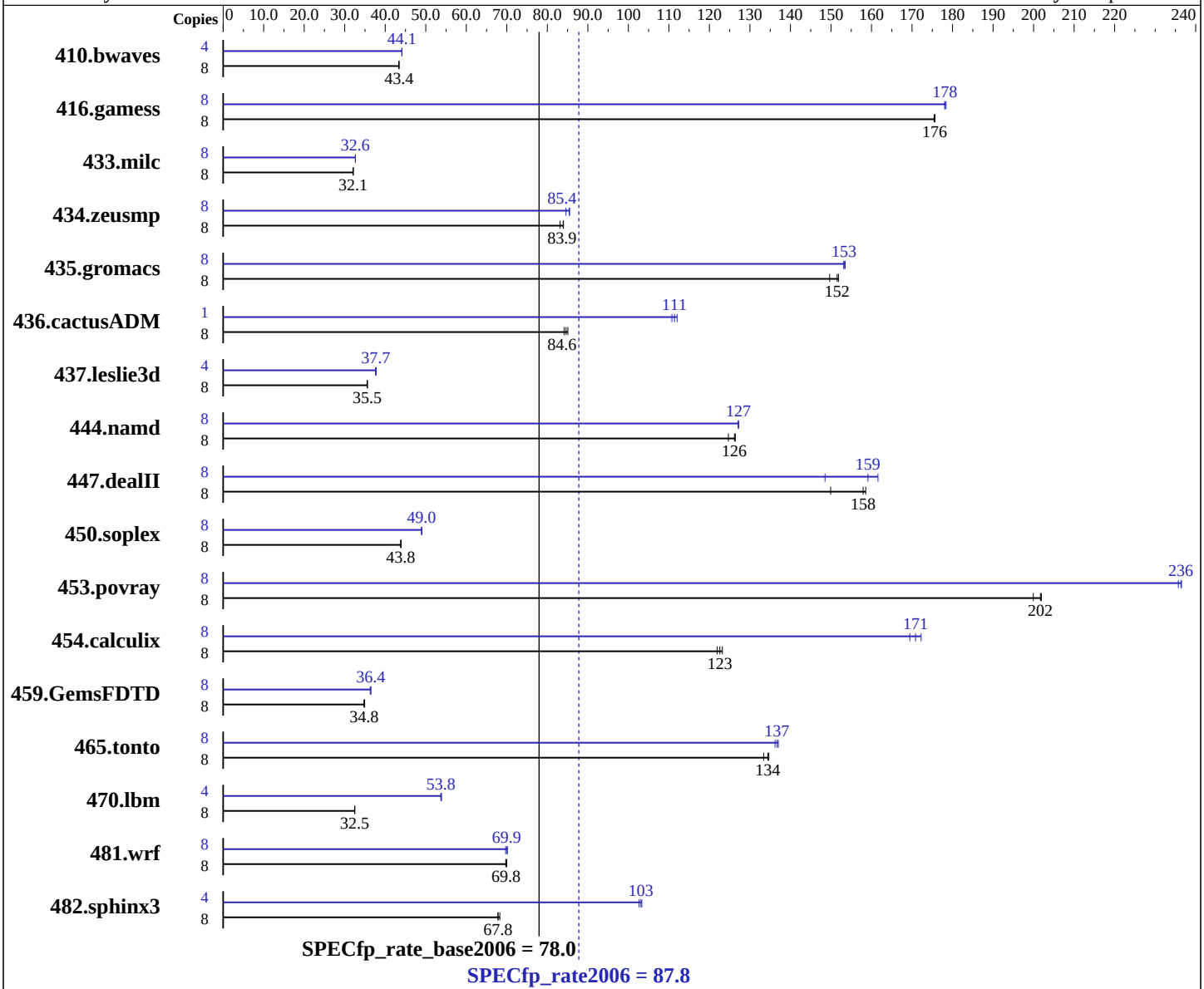
SGI Altix XE 320 (Intel Xeon E5472, 3.00 GHz)

SPECfp®_rate2006 = 87.8

SPECfp_rate_base2006 = 78.0

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

Test date: May-2008
Hardware Availability: Feb-2008
Software Availability: Apr-2008



Hardware

CPU Name:	Intel Xeon E5472
CPU Characteristics:	Quad Core, 3.0 GHz
CPU MHz:	2992
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1 Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler for Linux Version 10.1, Build 20070913
Auto Parallel:	Yes
File System:	xfs
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

SGI

SGI Altix XE 320 (Intel Xeon E5472, 3.00 GHz)

SPECfp_rate2006 = 87.8

SPECfp_rate_base2006 = 78.0

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

Test date: May-2008
Hardware Availability: Feb-2008
Software Availability: Apr-2008

L3 Cache: None
Other Cache: None
Memory: 16 GB (8*2GB PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem: 1 x 250 GB SATA (Hitachi Deskstar 7200rpm)
Other Hardware: None

Other Software: SGI ProPack 5 for Linux Service Pack 5 Binutils 2.17

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**2506**	**43.4**	2507	43.4	2505	43.4	4	**1232**	**44.1**	1233	44.1	1232	44.1
416.gamess	8	893	175	892	176	**892**	**176**	8	880	178	**879**	**178**	878	178
433.milc	8	**2289**	**32.1**	2288	32.1	2290	32.1	8	**2250**	**32.6**	2249	32.6	2251	32.6
434.zeusmp	8	867	84.0	**868**	**83.9**	876	83.1	8	852	85.5	861	84.6	**852**	**85.4**
435.gromacs	8	**377**	**152**	376	152	382	150	8	373	153	**373**	**153**	372	154
436.cactusADM	8	1124	85.1	1136	84.1	**1130**	**84.6**	1	107	112	108	111	**107**	**111**
437.leslie3d	8	2118	35.5	2111	35.6	**2116**	**35.5**	4	995	37.8	**999**	**37.7**	999	37.6
444.namd	8	**508**	**126**	508	126	515	125	8	504	127	505	127	**505**	**127**
447.dealII	8	577	159	610	150	**579**	**158**	8	616	149	**575**	**159**	566	162
450.soplex	8	1522	43.8	**1522**	**43.8**	1519	43.9	8	1362	49.0	**1362**	**49.0**	1361	49.0
453.povray	8	213	200	**211**	**202**	211	202	8	**180**	**236**	180	237	181	236
454.calculix	8	541	122	536	123	**538**	**123**	8	383	172	389	169	**386**	**171**
459.GemsFDTD	8	**2439**	**34.8**	2440	34.8	2430	34.9	8	**2330**	**36.4**	2338	36.3	2329	36.4
465.tonto	8	585	135	**586**	**134**	590	133	8	578	136	575	137	**576**	**137**
470.lbm	8	**3384**	**32.5**	3383	32.5	3388	32.4	4	1023	53.7	1020	53.9	**1022**	**53.8**
481.wrf	8	1281	69.7	1277	70.0	**1280**	**69.8**	8	1282	69.7	**1278**	**69.9**	1274	70.2
482.sphinx3	8	2284	68.3	**2299**	**67.8**	2299	67.8	4	755	103	760	103	**756**	**103**

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

General Notes

```
BIOS settings:
  Snoop Filter:             Enabled
  Hardware Prefetcher:      Enabled
  Adjacent Sector Prefetch: Disabled
All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
The taskset utility was used to bind processes to cores
Parallel settings for 436.cactusADM peak:
  OMP_NUM_THREADS = 8
  KMP_AFFINITY = physical,0
  KMP_STACKSIZE = 64M
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

433.milc: `icc`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib -I/opt/intel/fc/10.1.008/include`

Benchmarks using both Fortran and C:
`icc ifort`

Peak 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`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-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`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3`

Continued on next page

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.03.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.03.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 18:00:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 May 2008.