SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

SGI

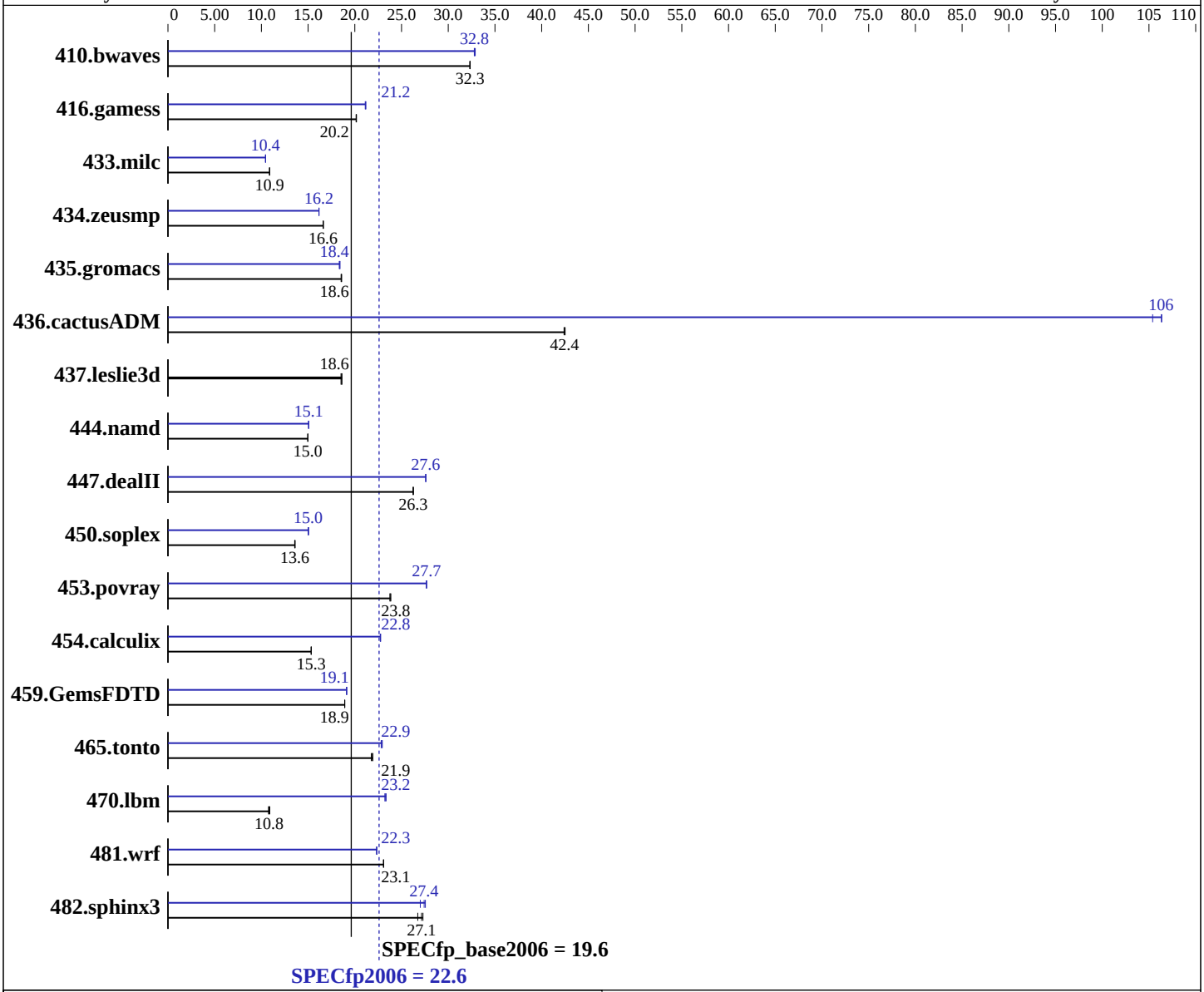
SGI Altix ICE 8200
(Intel Xeon E5440, 2.83 GHz)

SPECfp®2006 = 22.6

SPECfp_base2006 = 19.6

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

Test date: Jan-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5440
CPU Characteristics:	Quad Core, 2.83GHz
CPU MHz:	2833
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:	NFSv3 IPoIB
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 ICE 8200
(Intel Xeon E5440, 2.83 GHz)

SPECfp2006 = 22.6

SPECfp_base2006 = 19.6

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

Test date: Jan-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (8*2GB PC2-5300 FB-DIMMs)
Disk Subsystem: 16 TB RAID 5+1
32 x 500 GB SATA (Seagate Barracuda 7200 rpm)
Other Hardware: None

Other Software: SGI ProPack 5 for Linux Service Pack 3
Binutils 2.17

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	420	32.4	**420**	**32.3**	421	32.3	**414**	**32.8**	414	32.8	413	32.9
416.gamess	970	20.2	**971**	**20.2**	972	20.1	**925**	**21.2**	927	21.1	925	21.2
433.milc	**844**	**10.9**	844	10.9	844	10.9	**879**	**10.4**	878	10.5	879	10.4
434.zeusmp	**548**	**16.6**	548	16.6	547	16.6	**563**	**16.2**	563	16.2	563	16.2
435.gromacs	385	18.5	384	18.6	**384**	**18.6**	389	18.3	**388**	**18.4**	388	18.4
436.cactusADM	282	42.4	**282**	**42.4**	281	42.5	113	105	**112**	**106**	112	106
437.leslie3d	508	18.5	505	18.6	**506**	**18.6**	508	18.5	505	18.6	**506**	**18.6**
444.namd	535	15.0	536	15.0	**536**	**15.0**	532	15.1	**532**	**15.1**	533	15.0
447.dealII	**436**	**26.3**	436	26.2	435	26.3	414	27.6	415	27.6	**415**	**27.6**
450.soplex	**613**	**13.6**	615	13.6	613	13.6	**555**	**15.0**	556	15.0	554	15.1
453.povray	224	23.8	223	23.9	**224**	**23.8**	192	27.7	192	27.7	**192**	**27.7**
454.calculix	**538**	**15.3**	539	15.3	538	15.3	363	22.7	362	22.8	**363**	**22.8**
459.GemsFDTD	**561**	**18.9**	561	18.9	561	18.9	555	19.1	**555**	**19.1**	555	19.1
465.tonto	**450**	**21.9**	449	21.9	452	21.8	431	22.8	429	22.9	**430**	**22.9**
470.lbm	1277	10.8	**1270**	**10.8**	1260	10.9	588	23.4	592	23.2	**591**	**23.2**
481.wrf	**484**	**23.1**	484	23.1	484	23.1	**500**	**22.3**	500	22.3	500	22.4
482.sphinx3	714	27.3	729	26.7	**718**	**27.1**	707	27.6	**711**	**27.4**	722	27.0

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

General Notes

```
BIOS settings:
  Snoop Filter:             Disabled
  Hardware Prefetcher:      Enabled
  Adjacent Sector Prefetch: Enabled
All benchmarks compiled in 64-bit mode except 450.soplex,
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
Benchmarks compiled with automatic parallelization use
the following environment settings:
  OMP_NUM_THREADS = 8
  KMP_AFFINITY = physical,0
  KMP_STACKSIZE = 200M
```

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 -parallel

C++ benchmarks:
-fast -parallel

Fortran benchmarks:
-fast -parallel

Benchmarks using both Fortran and C:
-fast -parallel

Peak Compiler Invocation

C benchmarks (except as noted below):
```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

433.milc: `icc`

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

450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include`

Fortran benchmarks:
```
ifort
```

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`
437.leslie3d: `-DSPEC_CPU_LP64`
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 -parallel`

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: `basepeak = yes`

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

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 -parallel -prefetch -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.20090714.04.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.20090714.04.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 16:32:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 February 2008.