SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

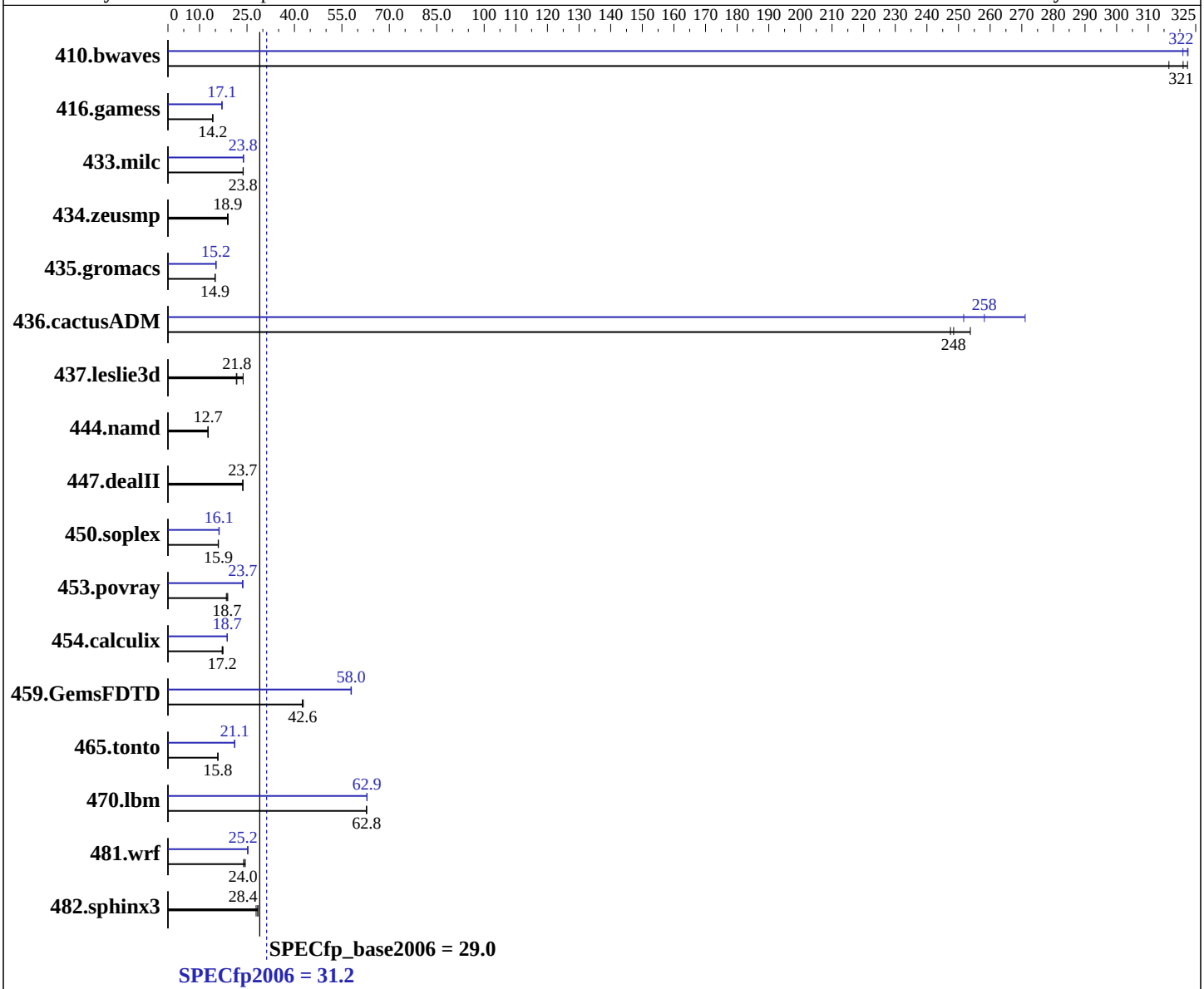
Intel QSSC-S4R (Intel Xeon E7530, 1.86 GHz)

SPECfp®2006 = 31.2

SPECfp_base2006 = 29.0

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Jan-2010



Hardware

CPU Name:	Intel Xeon E7530
CPU Characteristics:	Intel Turbo Boost Technology up to 2.13 GHz
CPU MHz:	1866
FPU:	Integrated
CPU(s) enabled:	24 cores, 4 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 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 Kernel 2.6.27.19-5 on x86_64
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

Intel QSSC-S4R (Intel Xeon E7530, 1.86 GHz)

SPECfp2006 = 31.2

SPECfp_base2006 = 29.0

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Jan-2010

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (64x 4GB Quad-Rank DDR3-1066, ECC, CL9)
Disk Subsystem: 146 GB SAS, 10000RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	42.9	317	42.1	322	**42.3**	**321**	42.3	321	42.1	323	**42.2**	**322**
416.gamess	1381	14.2	**1382**	**14.2**	1385	14.1	1144	17.1	1149	17.0	**1145**	**17.1**
433.milc	386	23.8	385	23.8	**386**	**23.8**	**385**	**23.8**	386	23.8	383	24.0
434.zeusmp	479	19.0	**480**	**18.9**	484	18.8	479	19.0	**480**	**18.9**	484	18.8
435.gromacs	481	14.9	**478**	**14.9**	478	14.9	471	15.2	**470**	**15.2**	469	15.2
436.cactusADM	**48.1**	**248**	48.3	247	47.1	254	**46.3**	**258**	47.5	252	44.1	271
437.leslie3d	**431**	**21.8**	435	21.6	395	23.8	**431**	**21.8**	435	21.6	395	23.8
444.namd	633	12.7	632	12.7	**632**	**12.7**	633	12.7	632	12.7	**632**	**12.7**
447.dealII	483	23.7	483	23.7	**483**	**23.7**	483	23.7	483	23.7	**483**	**23.7**
450.soplex	525	15.9	522	16.0	**524**	**15.9**	517	16.1	514	16.2	**517**	**16.1**
453.povray	**285**	**18.7**	288	18.5	281	18.9	225	23.7	226	23.5	**225**	**23.7**
454.calculix	481	17.1	**479**	**17.2**	474	17.4	441	18.7	440	18.7	**440**	**18.7**
459.GemsFDTD	248	42.8	**249**	**42.6**	250	42.5	183	57.9	**183**	**58.0**	183	58.0
465.tonto	**624**	**15.8**	623	15.8	624	15.8	466	21.1	467	21.1	**466**	**21.1**
470.lbm	219	62.8	**219**	**62.8**	219	62.8	**218**	**62.9**	218	63.0	218	62.9
481.wrf	457	24.5	**465**	**24.0**	466	24.0	443	25.2	**443**	**25.2**	441	25.3
482.sphinx3	**686**	**28.4**	685	28.4	699	27.9	**686**	**28.4**	685	28.4	699	27.9

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
```

Base Compiler Invocation

C benchmarks:

```
icc   -m64
```

C++ benchmarks:

```
icpc  -m64
```

Continued on next page

Base Compiler Invocation (Continued)

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 -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Peak Compiler Invocation

C benchmarks:
icc -m64

Continued on next page

Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -ansi-alias

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -parallel -ansi-alias -auto-ilp32

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -auto-ilp32

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -parallel

Continued on next page

Peak Optimization Flags (Continued)

416.gamess: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-unroll2 -Ob0 -ansi-alias -scalar-rep-`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-unroll2 -Ob0 -opt-prefetch -parallel`

465.tonto: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-inline-calloc -opt-malloc-options=3 -auto -unroll4`

Benchmarks using both Fortran and C:

435.gromacs: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-opt-prefetch -auto-ilp32`

436.cactusADM: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-unroll2 -opt-prefetch -parallel -auto-ilp32`

454.calculix: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `Same as 454.calculix`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.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 v1.1.
Report generated on Wed Jul 23 07:58:22 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 May 2010.