



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

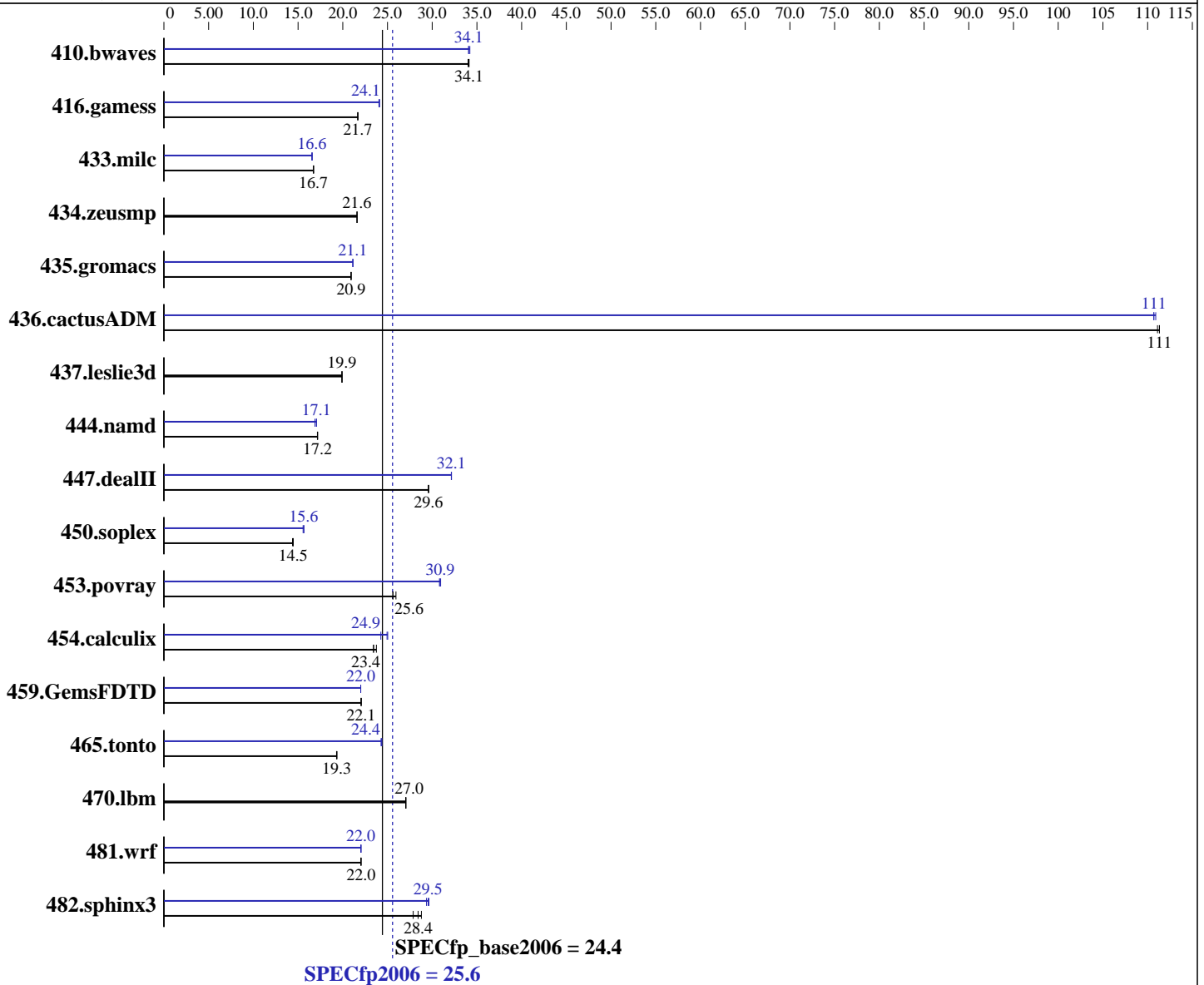
Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon X5460
 CPU Characteristics: 3166
 CPU MHz: Integrated
 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) SP2, Kernel 2.6.16-60.0.21-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042, l_fproc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 80 GB 5400 RPM SATA
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	398	34.1	400	34.0	398	34.1	399	34.1	399	34.1	397	34.2
416.gamess	904	21.7	902	21.7	904	21.7	813	24.1	814	24.0	812	24.1
433.milc	548	16.7	549	16.7	549	16.7	555	16.5	553	16.6	554	16.6
434.zeusmp	421	21.6	421	21.6	422	21.6	421	21.6	421	21.6	422	21.6
435.gromacs	341	20.9	341	20.9	341	20.9	338	21.1	338	21.1	338	21.1
436.cactusADM	107	111	107	111	108	111	108	111	108	111	108	111
437.leslie3d	472	19.9	472	19.9	472	19.9	472	19.9	472	19.9	472	19.9
444.namd	466	17.2	467	17.2	467	17.2	470	17.1	475	16.9	470	17.1
447.dealII	386	29.6	387	29.6	386	29.6	356	32.2	356	32.1	356	32.1
450.soplex	577	14.5	577	14.5	580	14.4	536	15.6	533	15.7	533	15.6
453.povray	208	25.6	208	25.6	205	25.9	173	30.8	172	30.9	172	30.9
454.calculix	352	23.4	352	23.4	347	23.8	331	24.9	330	25.0	340	24.3
459.GemsFDTD	481	22.1	481	22.0	481	22.1	482	22.0	482	22.0	482	22.0
465.tonto	509	19.4	510	19.3	509	19.3	405	24.3	404	24.4	404	24.4
470.lbm	508	27.0	508	27.0	508	27.1	508	27.0	508	27.0	508	27.1
481.wrf	507	22.0	507	22.0	507	22.0	507	22.0	507	22.0	507	22.0
482.sphinx3	699	27.9	686	28.4	677	28.8	658	29.6	664	29.4	660	29.5

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

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

General Notes

All benchmarks compiled in 64-bit mode except 450.soplex and 482.sphinx3, at peak, are compiled in 32-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

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:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

```
482.sphinx3: /opt/intel/Compiler/11.0/042/bin/ia32/icc
             -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
             -I/opt/intel/Compiler/11.0/042/ipp/ia32/include
```

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/Compiler/11.0/042/bin/ia32/icpc
            -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
            -I/opt/intel/Compiler/11.0/042/ipp/ia32/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
470.lbm: -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) -xSSE4.1 -ipo -O3
         -no-prec-div -static -fno-alias
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Peak Optimization Flags (Continued)

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-
-opt-prefetch

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

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

Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel

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

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

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

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

454.calculix: -xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 25.6

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp_base2006 = 24.4

CPU2006 license: 55

Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Peak Optimization Flags (Continued)

```
481.wrf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
        -parallel -auto-ilp32
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.05.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.06.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.05.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.06.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 Tue Jul 22 20:59:15 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 October 2008.