



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

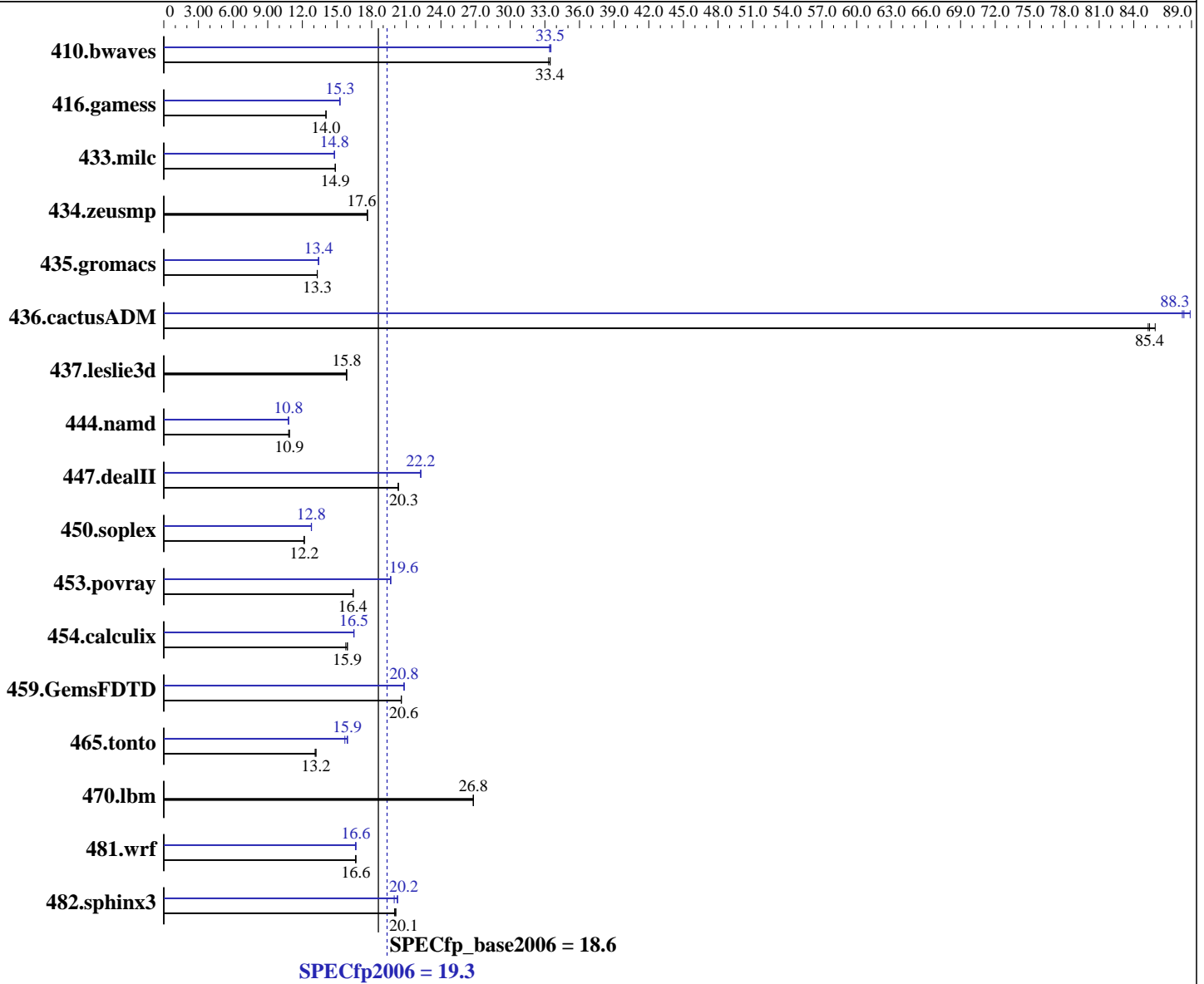
Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



## Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics:  
 CPU MHz: 2000  
 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 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

Test date: Oct-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 DDR2-667 FB-DIMM)  
Disk Subsystem: 1 x 73 GB 10000 RPM SAS  
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	<b>406</b>	<b>33.4</b>	408	33.3	406	33.5	405	33.5	407	33.4	<b>406</b>	<b>33.5</b>
416.gamess	1394	14.0	<b>1394</b>	<b>14.0</b>	1394	14.0	1285	15.2	<b>1283</b>	<b>15.3</b>	1283	15.3
433.milc	618	14.9	618	14.8	<b>618</b>	<b>14.9</b>	621	14.8	621	14.8	<b>621</b>	<b>14.8</b>
434.zeusmp	<b>516</b>	<b>17.6</b>	516	17.6	517	17.6	<b>516</b>	<b>17.6</b>	516	17.6	517	17.6
435.gromacs	538	13.3	537	13.3	<b>537</b>	<b>13.3</b>	<b>532</b>	<b>13.4</b>	532	13.4	534	13.4
436.cactusADM	<b>140</b>	<b>85.4</b>	140	85.2	139	85.9	135	88.2	134	88.9	<b>135</b>	<b>88.3</b>
437.leslie3d	595	15.8	593	15.8	<b>594</b>	<b>15.8</b>	595	15.8	593	15.8	<b>594</b>	<b>15.8</b>
444.namd	<b>737</b>	<b>10.9</b>	737	10.9	742	10.8	743	10.8	743	10.8	<b>743</b>	<b>10.8</b>
447.dealII	564	20.3	<b>563</b>	<b>20.3</b>	563	20.3	514	22.2	514	22.3	<b>514</b>	<b>22.2</b>
450.soplex	685	12.2	<b>685</b>	<b>12.2</b>	687	12.1	653	12.8	652	12.8	<b>653</b>	<b>12.8</b>
453.povray	324	16.4	325	16.4	<b>325</b>	<b>16.4</b>	271	19.7	<b>271</b>	<b>19.6</b>	271	19.6
454.calculix	<b>519</b>	<b>15.9</b>	524	15.8	519	15.9	501	16.5	501	16.5	<b>501</b>	<b>16.5</b>
459.GemsFDTD	516	20.6	516	20.6	<b>516</b>	<b>20.6</b>	510	20.8	<b>510</b>	<b>20.8</b>	510	20.8
465.tonto	747	13.2	<b>747</b>	<b>13.2</b>	751	13.1	618	15.9	<b>620</b>	<b>15.9</b>	627	15.7
470.lbm	513	26.8	<b>513</b>	<b>26.8</b>	512	26.8	513	26.8	<b>513</b>	<b>26.8</b>	512	26.8
481.wrf	<b>672</b>	<b>16.6</b>	673	16.6	671	16.6	671	16.6	<b>671</b>	<b>16.6</b>	673	16.6
482.sphinx3	970	20.1	976	20.0	<b>971</b>	<b>20.1</b>	977	20.0	962	20.3	<b>964</b>	<b>20.2</b>

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

OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 200M

## Base Compiler Invocation

C benchmarks:  
icc

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

## Base Compiler Invocation (Continued)

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 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

Test date: Oct-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 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

Test date: Oct-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.dealIII: -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 = 19.3

PowerEdge 1950 III (Intel Xeon E5405, 2.00 GHz)

SPECfp\_base2006 = 18.6

CPU2006 license: 55

Test date: Oct-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.20090713.02.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.20090713.02.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Tue Jul 22 20:20:15 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 11 November 2008.