



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp<sup>®</sup>\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

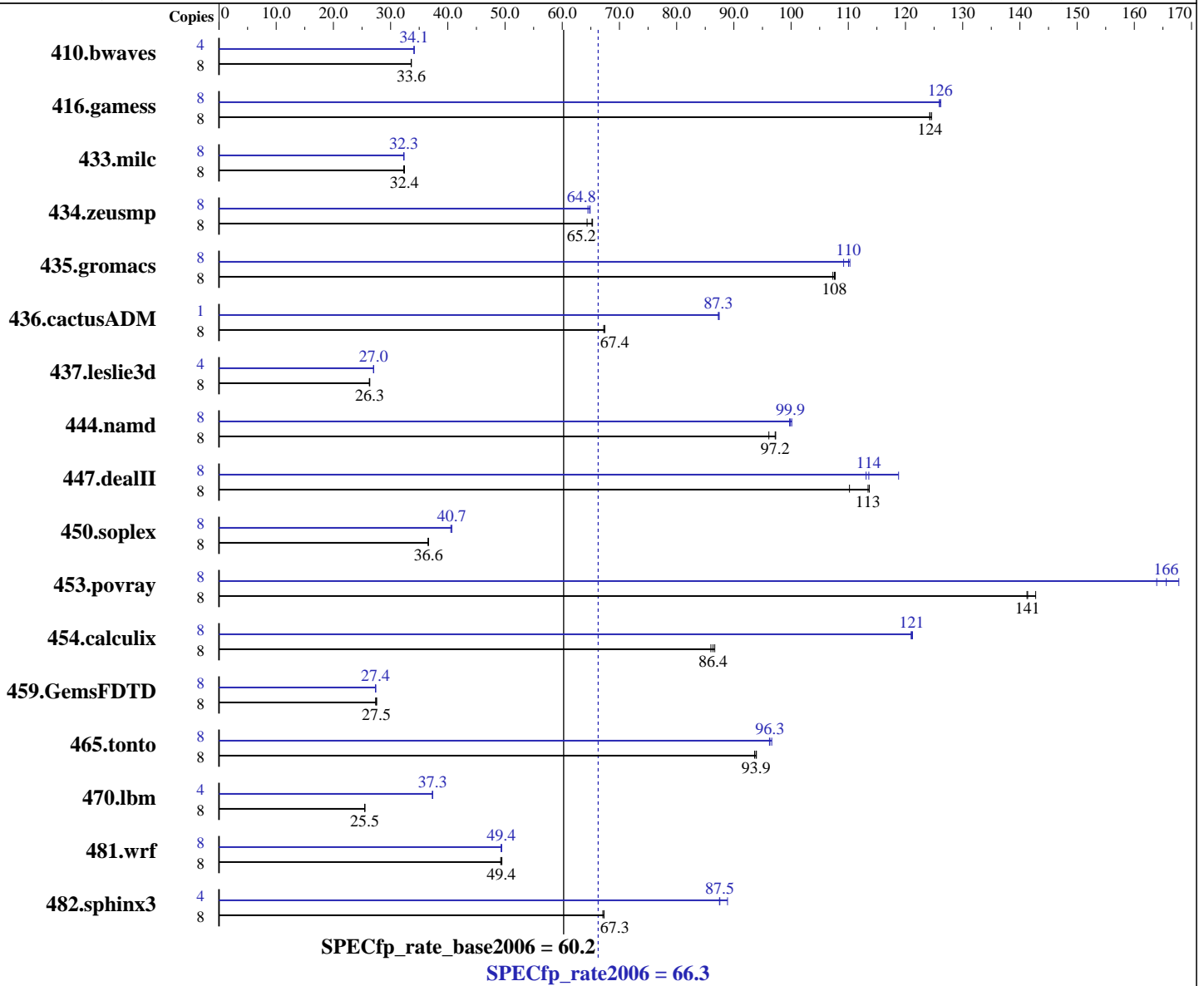
Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 2500  
 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 10.1 for Linux Build 20070913 Package ID: l\_cc\_p\_10.1.008, l\_fc\_p\_10.1.008  
 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.

SPECfp\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007

L3 Cache: None  
Other Cache: None  
Memory: 16 GB (4 x 4 GB 667 MHz ECC CL5 FB-DIMM)  
Disk Subsystem: 1 x 80 GB 7200 RPM SATA  
Other Hardware: None

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

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	8	3234	33.6	3237	33.6	<b>3234</b>	<b>33.6</b>	4	<b>1594</b>	<b>34.1</b>	1594	34.1	1593	34.1		
416.gamess	8	1257	125	<b>1260</b>	<b>124</b>	1261	124	8	1244	126	1242	126	<b>1242</b>	<b>126</b>		
433.milc	8	2275	32.3	2265	32.4	<b>2267</b>	<b>32.4</b>	8	2270	32.3	<b>2273</b>	<b>32.3</b>	2276	32.3		
434.zeusmp	8	1115	65.3	<b>1117</b>	<b>65.2</b>	1131	64.3	8	1129	64.5	<b>1124</b>	<b>64.8</b>	1122	64.9		
435.gromacs	8	<b>531</b>	<b>108</b>	532	107	530	108	8	518	110	<b>519</b>	<b>110</b>	523	109		
436.cactusADM	8	1422	67.3	<b>1418</b>	<b>67.4</b>	1418	67.4	1	<b>137</b>	<b>87.3</b>	137	87.3	137	87.4		
437.leslie3d	8	2862	26.3	<b>2855</b>	<b>26.3</b>	2854	26.4	4	1391	27.0	1391	27.0	<b>1391</b>	<b>27.0</b>		
444.namd	8	<b>660</b>	<b>97.2</b>	667	96.1	659	97.3	8	643	99.7	<b>642</b>	<b>99.9</b>	641	100		
447.dealII	8	805	114	<b>807</b>	<b>113</b>	830	110	8	770	119	<b>806</b>	<b>114</b>	809	113		
450.soplex	8	<b>1823</b>	<b>36.6</b>	1826	36.5	1822	36.6	8	<b>1640</b>	<b>40.7</b>	1640	40.7	1646	40.5		
453.povray	8	298	143	<b>301</b>	<b>141</b>	301	141	8	<b>257</b>	<b>166</b>	254	168	260	164		
454.calculix	8	762	86.7	768	86.0	<b>764</b>	<b>86.4</b>	8	546	121	<b>545</b>	<b>121</b>	544	121		
459.GemsFDTD	8	<b>3087</b>	<b>27.5</b>	3079	27.6	3101	27.4	8	3102	27.4	3098	27.4	<b>3102</b>	<b>27.4</b>		
465.tonto	8	<b>839</b>	<b>93.9</b>	838	93.9	841	93.6	8	818	96.2	<b>817</b>	<b>96.3</b>	815	96.6		
470.lbm	8	<b>4313</b>	<b>25.5</b>	4313	25.5	4312	25.5	4	1473	37.3	<b>1472</b>	<b>37.3</b>	1471	37.4		
481.wrf	8	1807	49.5	1815	49.2	<b>1810</b>	<b>49.4</b>	8	<b>1810</b>	<b>49.4</b>	1812	49.3	1808	49.4		
482.sphinx3	8	2324	67.1	2317	67.3	<b>2317</b>	<b>67.3</b>	4	<b>890</b>	<b>87.5</b>	891	87.5	877	88.9		

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

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_STACK\_SIZE set to 64M  
KMP\_AFFINITY set to physical,0

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
'/usr/bin/taskset' used to bind processes to CPUs



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007

## Platform Notes

BIOS Settings:

Adjacent Cache Line Prefetch = Disabled (default Enabled)

Hardware Prefetcher = Disabled (default Enabled)

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007

## Base Optimization Flags (Continued)

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007

## 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

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 66.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 60.2

CPU2006 license: 55

Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007

## Peak Optimization Flags (Continued)

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.20090713.03.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.20090713.03.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 18:34:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 April 2008.