



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

### SPECfp<sup>®</sup>\_rate2006 = 72.3

### PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

### SPECfp\_rate\_base2006 = 67.2

CPU2006 license: 55

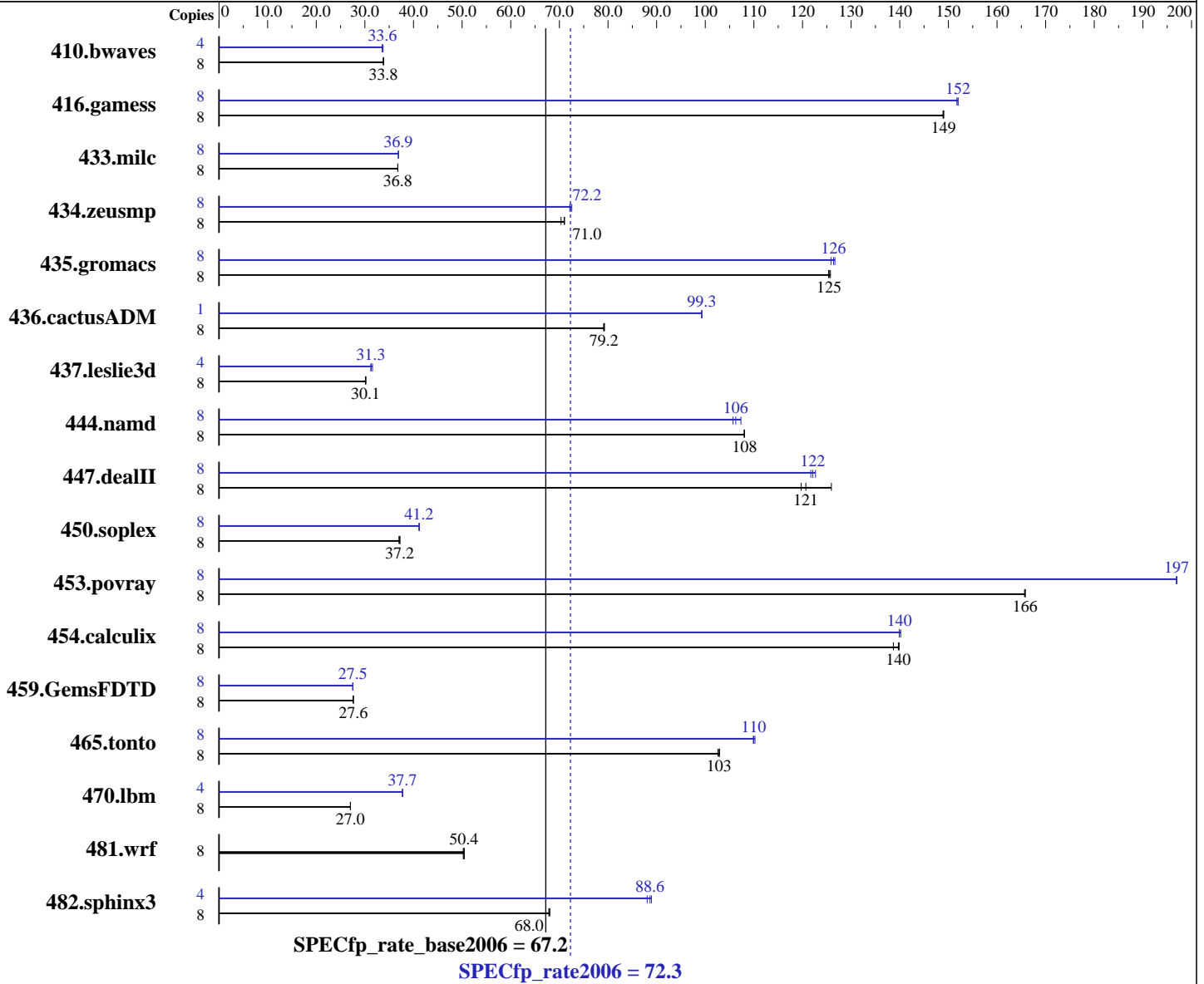
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: 2500  
 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) 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.

SPECfp\_rate2006 = 72.3

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 67.2

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 15000 RPM SAS  
Other Hardware: None

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

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	<u>3215</u>	<u>33.8</u>	3213	33.8	3216	33.8	4	1611	33.7	1620	33.6	<u>1618</u>	<u>33.6</u>
416.gamess	8	1052	149	1051	149	<u>1051</u>	<u>149</u>	8	1032	152	<u>1031</u>	<u>152</u>	1031	152
433.milc	8	<u>1997</u>	<u>36.8</u>	1997	36.8	1997	36.8	8	1991	36.9	1990	36.9	<u>1991</u>	<u>36.9</u>
434.zeusmp	8	1024	71.1	<u>1026</u>	<u>71.0</u>	1035	70.3	8	<u>1008</u>	<u>72.2</u>	1009	72.1	1003	72.6
435.gromacs	8	454	126	456	125	<u>455</u>	<u>125</u>	8	454	126	<u>452</u>	<u>126</u>	451	127
436.cactusADM	8	1209	79.1	1206	79.3	<u>1207</u>	<u>79.2</u>	1	120	99.3	120	99.3	<u>120</u>	<u>99.3</u>
437.leslie3d	8	2488	30.2	<u>2496</u>	<u>30.1</u>	2498	30.1	4	1191	31.6	1203	31.2	<u>1203</u>	<u>31.3</u>
444.namd	8	594	108	<u>594</u>	<u>108</u>	594	108	8	598	107	607	106	<u>604</u>	<u>106</u>
447.dealII	8	<u>758</u>	<u>121</u>	764	120	727	126	8	746	123	<u>749</u>	<u>122</u>	752	122
450.soplex	8	1803	37.0	<u>1795</u>	<u>37.2</u>	1793	37.2	8	<u>1620</u>	<u>41.2</u>	1620	41.2	1622	41.1
453.povray	8	257	166	257	166	<u>257</u>	<u>166</u>	8	216	197	<u>216</u>	<u>197</u>	216	197
454.calculix	8	472	140	476	139	<u>472</u>	<u>140</u>	8	<u>472</u>	<u>140</u>	472	140	471	140
459.GemsFDTD	8	3075	27.6	<u>3073</u>	<u>27.6</u>	3072	27.6	8	3083	27.5	<u>3084</u>	<u>27.5</u>	3085	27.5
465.tonto	8	767	103	<u>765</u>	<u>103</u>	765	103	8	716	110	714	110	<u>716</u>	<u>110</u>
470.lbm	8	4070	27.0	4065	27.0	<u>4066</u>	<u>27.0</u>	4	1457	37.7	<u>1456</u>	<u>37.7</u>	1455	37.8
481.wrf	8	1779	50.2	<u>1774</u>	<u>50.4</u>	1772	50.4	8	1779	50.2	<u>1774</u>	<u>50.4</u>	1772	50.4
482.sphinx3	8	2292	68.0	<u>2294</u>	<u>68.0</u>	2299	67.8	4	<u>880</u>	<u>88.6</u>	877	88.9	885	88.0

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

## Submit Notes

The config file option 'submit' was used.

## Operating System Notes

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

## Platform Notes

BIOS Settings:

Hardware Prefetcher = Disabled (Default = Enabled)

Adjacent Cache Line Prefetch = Disabled (Default = Enabled)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 72.3

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 67.2

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008

## General Notes

taskset was used to bind processes to cores except  
for 436.cactusADM peak  
OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M

## 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.deallI: -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 -opt-prefetch

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 72.3

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 67.2

CPU2006 license: 55

Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

## Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

## 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 (except as noted below):

ifort

437.leslie3d: /opt/intel/Compiler/11.0/042/bin/ia32/ifort  
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib  
-I/opt/intel/Compiler/11.0/042/ipp/ia32/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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 72.3

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 67.2

CPU2006 license: 55

Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

## Peak Portability Flags (Continued)

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  
 470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch  
 -auto-ilp32  
 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-  
 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  
 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: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static  
 437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 72.3

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

SPECfp\_rate\_base2006 = 67.2

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)

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

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

481.wrf: basepeak = yes

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 20:26:57 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 11 November 2008.