



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

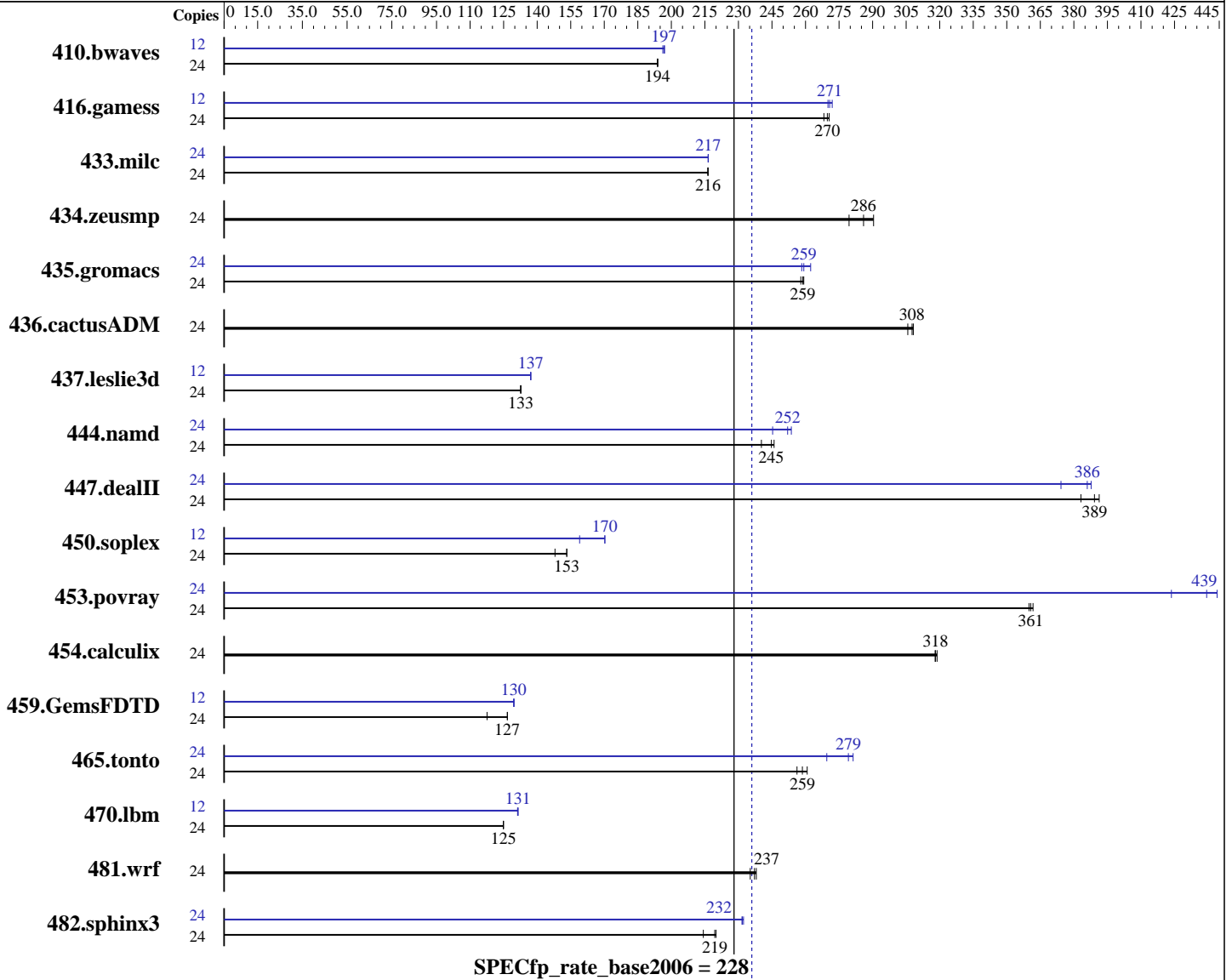
Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009



### Hardware

CPU Name: Intel Xeon X5650  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.06 GHz  
 CPU MHz: 2667  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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 (x86\_64), Kernel 2.6.27.19-5-smp  
 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: No  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12 x 4 GB DDR3-1333 DR RDIMM)  
Disk Subsystem: 1 x 146 GB 15000 RPM SAS  
Other Hardware: None

Base Pointers: 64-bit  
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	24	1684	194	1681	194	<b>1683</b>	<b>194</b>	12	831	196	828	197	<b>829</b>	<b>197</b>		
416.gamess	24	1737	271	<b>1742</b>	<b>270</b>	1752	268	12	<b>868</b>	<b>271</b>	870	270	864	272		
433.milc	24	1019	216	1018	216	<b>1018</b>	<b>216</b>	24	1018	216	<b>1018</b>	<b>217</b>	1018	217		
434.zeusmp	24	<b>764</b>	<b>286</b>	752	290	781	279	24	<b>764</b>	<b>286</b>	752	290	781	279		
435.gromacs	24	664	258	<b>662</b>	<b>259</b>	661	259	24	<b>661</b>	<b>259</b>	663	258	653	262		
436.cactusADM	24	938	306	931	308	<b>932</b>	<b>308</b>	24	938	306	931	308	<b>932</b>	<b>308</b>		
437.leslie3d	24	1701	133	<b>1701</b>	<b>133</b>	1700	133	12	<b>823</b>	<b>137</b>	822	137	823	137		
444.namd	24	801	240	783	246	<b>786</b>	<b>245</b>	24	785	245	<b>764</b>	<b>252</b>	759	254		
447.dealII	24	<b>705</b>	<b>389</b>	702	391	717	383	24	708	388	734	374	<b>711</b>	<b>386</b>		
450.soplex	24	1353	148	1306	153	<b>1306</b>	<b>153</b>	12	629	159	<b>588</b>	<b>170</b>	588	170		
453.povray	24	<b>354</b>	<b>361</b>	355	360	353	362	24	301	424	288	444	<b>291</b>	<b>439</b>		
454.calculix	24	<b>622</b>	<b>318</b>	623	318	621	319	24	<b>622</b>	<b>318</b>	623	318	621	319		
459.GemsFDTD	24	2165	118	<b>2010</b>	<b>127</b>	2010	127	12	982	130	<b>983</b>	<b>130</b>	983	130		
465.tonto	24	906	261	922	256	<b>913</b>	<b>259</b>	24	840	281	876	270	<b>846</b>	<b>279</b>		
470.lbm	24	2640	125	2640	125	<b>2640</b>	<b>125</b>	12	1256	131	1254	131	<b>1255</b>	<b>131</b>		
481.wrf	24	1139	235	1126	238	<b>1130</b>	<b>237</b>	24	1139	235	1126	238	<b>1130</b>	<b>237</b>		
482.sphinx3	24	2183	214	2126	220	<b>2132</b>	<b>219</b>	24	2014	232	2019	232	<b>2019</b>	<b>232</b>		

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.  
numactl was used to bind copies to the cores

## Operating System Notes

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

## Platform Notes

BIOS Settings:  
Power Management = Maximum Performance (Default = Active Power Controller)  
Data Reuse = Disabled (Default = Enabled)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Apr-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

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

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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: -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)  
 -fno-alias -opt-prefetch

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)  
 -opt-malloc-options=3 -ansi-alias -auto-ilp32

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

## Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -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)  
-fno-alias -auto-ilp32

447.dealII: -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 -ansi-alias -scalar-rep-

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

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

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: -xSSE4.2 -ipo -O3 -no-prec-div -static

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

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)  
-unroll4 -auto -inline-calloc -opt-malloc-options=3

### 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: basepeak = yes

454.calculix: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 236

PowerEdge M610 (Intel Xeon X5650, 2.66 GHz)

SPECfp\_rate\_base2006 = 228

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

## Peak Optimization Flags (Continued)

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.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 Wed Jul 23 07:39:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 27 April 2010.