



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®\_rate2006 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

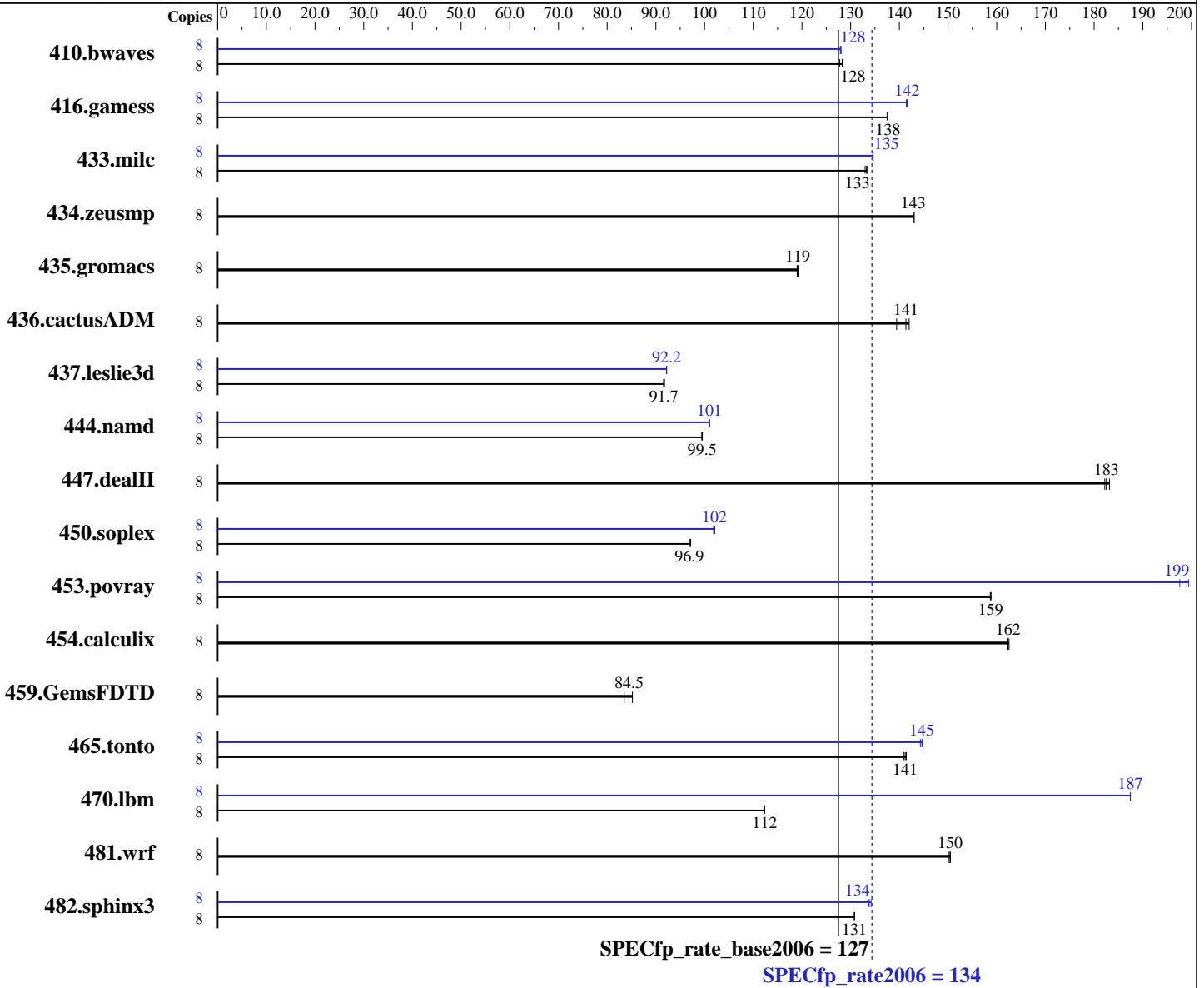
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5606  
 CPU Characteristics:  
 CPU MHz: 2133  
 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: 256 KB I+D on chip per core

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 11 SP1 (x86\_64), Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext3  
 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 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

Test date: Jun-2011

Test sponsor: Dell Inc.

Hardware Availability: Feb-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1066 MHz)  
Disk Subsystem: 2 x 146 GB 15000 RPM SAS  
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	847	128	851	128	<b>848</b>	<b>128</b>	8	850	128	<b>850</b>	<b>128</b>	849	128		
416.gamess	8	<b>1138</b>	<b>138</b>	1139	137	1138	138	8	<b>1106</b>	<b>142</b>	1105	142	1108	141		
433.milc	8	551	133	<b>551</b>	<b>133</b>	552	133	8	<b>546</b>	<b>135</b>	546	135	546	135		
434.zeusmp	8	509	143	510	143	<b>509</b>	<b>143</b>	8	509	143	510	143	<b>509</b>	<b>143</b>		
435.gromacs	8	480	119	479	119	<b>479</b>	<b>119</b>	8	480	119	479	119	<b>479</b>	<b>119</b>		
436.cactusADM	8	686	139	<b>676</b>	<b>141</b>	673	142	8	686	139	<b>676</b>	<b>141</b>	673	142		
437.leslie3d	8	819	91.8	821	91.6	<b>820</b>	<b>91.7</b>	8	816	92.2	815	92.2	<b>816</b>	<b>92.2</b>		
444.namd	8	644	99.6	<b>645</b>	<b>99.5</b>	645	99.4	8	635	101	<b>635</b>	<b>101</b>	635	101		
447.dealII	8	<b>501</b>	<b>183</b>	500	183	502	182	8	<b>501</b>	<b>183</b>	500	183	502	182		
450.soplex	8	687	97.1	689	96.9	<b>688</b>	<b>96.9</b>	8	653	102	<b>654</b>	<b>102</b>	655	102		
453.povray	8	268	159	268	159	<b>268</b>	<b>159</b>	8	<b>214</b>	<b>199</b>	213	199	215	198		
454.calculix	8	406	163	407	162	<b>407</b>	<b>162</b>	8	406	163	407	162	<b>407</b>	<b>162</b>		
459.GemsFDTD	8	<b>1005</b>	<b>84.5</b>	996	85.2	1017	83.5	8	<b>1005</b>	<b>84.5</b>	996	85.2	1017	83.5		
465.tonto	8	<b>557</b>	<b>141</b>	557	141	558	141	8	546	144	<b>544</b>	<b>145</b>	544	145		
470.lbm	8	979	112	<b>978</b>	<b>112</b>	978	112	8	586	187	<b>586</b>	<b>187</b>	586	187		
481.wrf	8	595	150	594	150	<b>594</b>	<b>150</b>	8	595	150	594	150	<b>594</b>	<b>150</b>		
482.sphinx3	8	<b>1192</b>	<b>131</b>	1194	131	1192	131	8	1162	134	1166	134	<b>1165</b>	<b>134</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

'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages  
echo 3600 > /proc/sys/vm/nr\_hugepages  
export HUGETLB\_MORECORE=yes  
export LD\_PRELOAD=/usr/lib64/libhugetlbfs.so



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

Test date: Jun-2011

Test sponsor: Dell Inc.

Hardware Availability: Feb-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

## Platform Notes

BIOS Settings:

Power Management = Maximum Performance (Default = Active Power Controller)

Data Reuse = Disabled (Default = Enabled)

## General Notes

The Dell PowerEdge T610 and the Bull NovaScale T840 F2 models are electronically equivalent. The results have been measured on a Dell PowerEdge T610 model. Binaries were compiled on RHEL5.5

## 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.lelie3d: -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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

Test date: Jun-2011

Test sponsor: Dell Inc.

Hardware Availability: Feb-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

## Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

Test date: Jun-2011

Test sponsor: Dell Inc.

Hardware Availability: Feb-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

## Peak Portability Flags (Continued)

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) -prof-use(pass 2) -static -auto-ilp32

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

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

C++ benchmarks:

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

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 134

PowerEdge T610 (Intel Xeon E5606, 2.13 GHz)

SPECfp\_rate\_base2006 = 127

CPU2006 license: 55

Test date: Jun-2011

Test sponsor: Dell Inc.

Hardware Availability: Feb-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

## Peak Optimization Flags (Continued)

```
465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.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 22:55:16 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 16 August 2011.