



# SPEC® CFP2006 Result

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Dell Inc.

SPECfp®\_rate2006 = 47.2

Dell Precision T3400 (Intel QX9650, 3.00 GHz)

SPECfp\_rate\_base2006 = 44.9

CPU2006 license: 55

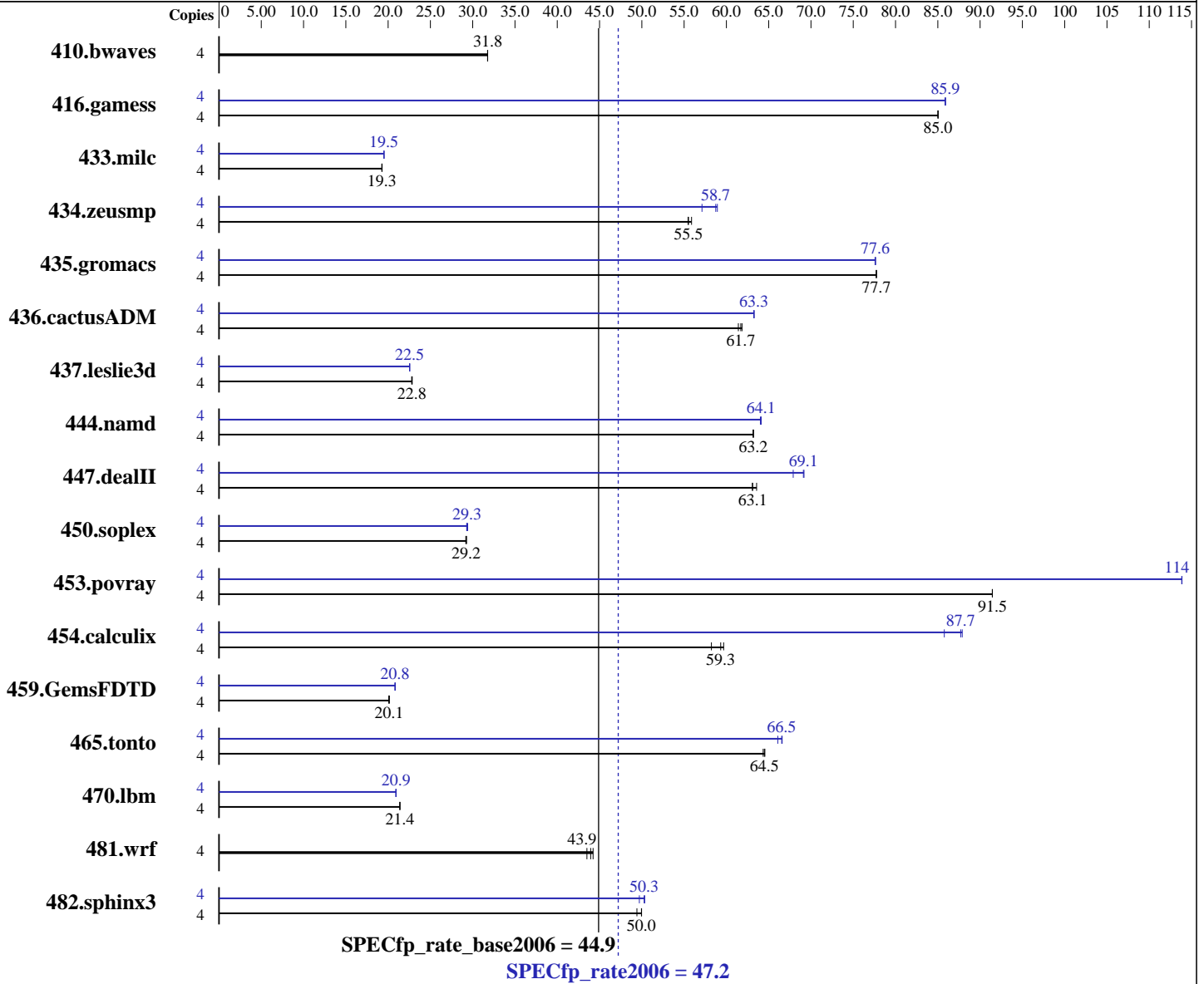
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Core 2 Extreme QX9650  
 CPU Characteristics: 1333 MHz Bus Speed  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 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

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### Software

Operating System: Windows XP Professional x64 Edition SP2  
 Compiler: Intel C++ Compiler for Intel 64, Version 10.1  
 Build 20070809 Package ID: w\_cc\_p\_10.1.011  
 Intel Visual Fortran Compiler for Intel 64,  
 Version 10.0  
 Build 20070809 Package ID: w\_fc\_p\_10.1.011  
 Microsoft Visual Studio 2005 SP1

Auto Parallel: No  
 File System: NTFS

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB 800 MHz ECC CL6 DDR2)  
Disk Subsystem: 1 x 80 GB SATA 7200 RPM  
Other Hardware: None

System State: Default  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: MicroQuill SmartHeap Library 8.1 for x64

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1712	31.8	<u>1711</u>	<u>31.8</u>	1711	31.8	4	1712	31.8	<u>1711</u>	<u>31.8</u>	1711	31.8
416.gamess	4	921	85.0	921	85.0	<u>921</u>	<u>85.0</u>	4	912	85.9	912	85.9	<u>912</u>	<u>85.9</u>
433.milc	4	1904	19.3	<u>1906</u>	<u>19.3</u>	1906	19.3	4	<u>1882</u>	<u>19.5</u>	1881	19.5	1883	19.5
434.zeusmp	4	<u>656</u>	<u>55.5</u>	651	55.9	656	55.5	4	637	57.1	<u>620</u>	<u>58.7</u>	618	58.9
435.gromacs	4	368	77.7	367	77.7	<u>367</u>	<u>77.7</u>	4	368	77.6	<u>368</u>	<u>77.6</u>	368	77.6
436.cactusADM	4	<u>775</u>	<u>61.7</u>	778	61.4	773	61.8	4	755	63.3	756	63.2	<u>756</u>	<u>63.3</u>
437.leslie3d	4	1650	22.8	1645	22.9	<u>1648</u>	<u>22.8</u>	4	1669	22.5	<u>1668</u>	<u>22.5</u>	1666	22.6
444.namd	4	508	63.2	<u>508</u>	<u>63.2</u>	508	63.2	4	501	64.0	500	64.1	<u>500</u>	<u>64.1</u>
447.dealII	4	<u>725</u>	<u>63.1</u>	726	63.1	720	63.6	4	<u>662</u>	<u>69.1</u>	661	69.2	674	67.9
450.soplex	4	<u>1141</u>	<u>29.2</u>	1143	29.2	1140	29.3	4	1134	29.4	1139	29.3	<u>1138</u>	<u>29.3</u>
453.povray	4	233	91.4	<u>233</u>	<u>91.5</u>	233	91.5	4	187	114	<u>187</u>	<u>114</u>	187	114
454.calculix	4	<u>556</u>	<u>59.3</u>	567	58.2	553	59.7	4	<u>376</u>	<u>87.7</u>	385	85.8	375	87.9
459.GemsFDTD	4	<u>2108</u>	<u>20.1</u>	2108	20.1	2115	20.1	4	<u>2038</u>	<u>20.8</u>	2039	20.8	2037	20.8
465.tonto	4	612	64.3	<u>610</u>	<u>64.5</u>	610	64.5	4	591	66.6	<u>592</u>	<u>66.5</u>	596	66.1
470.lbm	4	<u>2570</u>	<u>21.4</u>	2570	21.4	2570	21.4	4	2626	20.9	2626	20.9	<u>2626</u>	<u>20.9</u>
481.wrf	4	1027	43.5	<u>1017</u>	<u>43.9</u>	1010	44.2	4	1027	43.5	<u>1017</u>	<u>43.9</u>	1010	44.2
482.sphinx3	4	1578	49.4	1560	50.0	<u>1561</u>	<u>50.0</u>	4	1568	49.7	1548	50.3	<u>1551</u>	<u>50.3</u>

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

## General Notes

Binaries were built on Windows Vista Ultimate (64-bit)

## Base Compiler Invocation

C benchmarks:  
icl -Qstd=c99

C++ benchmarks:  
icl

Fortran benchmarks:  
ifort

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## Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:  
icl -Qstd=c99 ifort

## Base Portability Flags

```

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

```

## Base Optimization Flags

```

C benchmarks:
-fast -Qauto-ilp32 /F1000000000 shlw64m.lib
-link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qcxx_features /F1000000000 shlw64m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

```

## Peak Compiler Invocation

C benchmarks:  
icl -Qstd=c99

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## Peak Compiler Invocation (Continued)

C++ benchmarks:  
icl

Fortran benchmarks:  
ifort

Benchmarks using both Fortran and C:  
icl -Qstd=c99 ifort

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Oa /F1000000000 shlw64m.lib  
-link /FORCE:MULTIPLE

470.lbm: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000  
shlw64m.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 shlw64m.lib  
-link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Oa -Qcxx\_features /F1000000000 shlw64m.lib  
-link /FORCE:MULTIPLE

447.dealII: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Qprefetch -Qcxx\_features /F1000000000  
shlw64m.lib -link /FORCE:MULTIPLE

450.soplex: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qcxx\_features /F1000000000 shlw64m.lib  
-link /FORCE:MULTIPLE

453.povray: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll4 -Qansi-alias -Qcxx\_features /F1000000000  
shlw64m.lib -link /FORCE:MULTIPLE

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## Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000  
-link /FORCE:MULTIPLE

434.zeusmp: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -QxT -O2 -Qprec-div-  
-Qunroll10 -Qscalar-rep- /F1000000000  
-link /FORCE:MULTIPLE

437.leslie3d: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qprefetch /F1000000000 -link /FORCE:MULTIPLE

459.GemsFDTD: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Ob0 -Qprefetch /F1000000000  
-link /FORCE:MULTIPLE

465.tonto: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll4 -Qauto /F1000000000  
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Oa -Qprefetch /F1000000000  
-link /FORCE:MULTIPLE

436.cactusADM: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Qprefetch /F1000000000  
-link /FORCE:MULTIPLE

454.calculix: -fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000  
-link /FORCE:MULTIPLE

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090714.01.html>

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090714.01.xml>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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