



# SPEC<sup>®</sup> CFP2006 Result

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Dell Inc.

SPECfp<sup>®</sup>\_rate2006 = 30.2

Dell Precision T3400 (Intel E6850, 3.00 GHz)

SPECfp\_rate\_base2006 = 28.8

CPU2006 license: 55

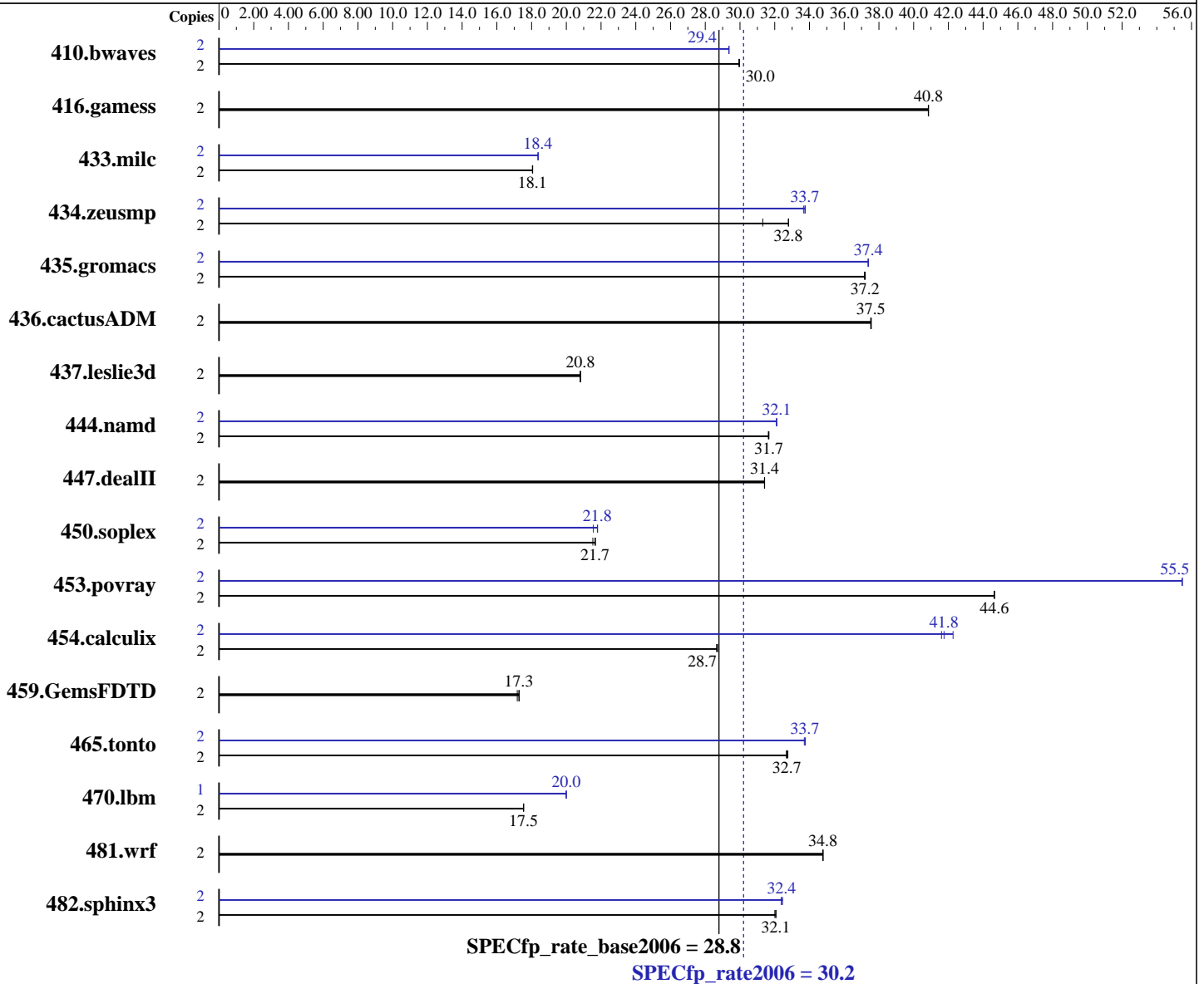
Test date: Dec-2007

Test sponsor: Dell Inc.

Hardware Availability: Oct-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Core 2 Duo E6850  
 CPU Characteristics: 1333 MHz Bus Speed  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip

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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: 4 GB (4x1 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 8.0 for x64

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	908	29.9	<u>907</u>	<u>30.0</u>	907	30.0	2	926	29.4	926	29.4	<u>926</u>	<u>29.4</u>
416.gamess	2	959	40.8	<u>959</u>	<u>40.8</u>	958	40.9	2	959	40.8	<u>959</u>	<u>40.8</u>	958	40.9
433.milc	2	1016	18.1	<u>1017</u>	<u>18.1</u>	1017	18.0	2	1000	18.4	<u>999</u>	<u>18.4</u>	999	18.4
434.zeusmp	2	581	31.3	555	32.8	<u>555</u>	<u>32.8</u>	2	<u>540</u>	<u>33.7</u>	541	33.7	539	33.8
435.gromacs	2	<u>384</u>	<u>37.2</u>	384	37.2	384	37.2	2	382	37.4	<u>382</u>	<u>37.4</u>	382	37.4
436.cactusADM	2	636	37.6	<u>637</u>	<u>37.5</u>	637	37.5	2	636	37.6	<u>637</u>	<u>37.5</u>	637	37.5
437.leslie3d	2	903	20.8	<u>903</u>	<u>20.8</u>	904	20.8	2	903	20.8	<u>903</u>	<u>20.8</u>	904	20.8
444.namd	2	507	31.6	507	31.7	<u>507</u>	<u>31.7</u>	2	500	32.1	499	32.1	<u>499</u>	<u>32.1</u>
447.dealII	2	728	31.4	729	31.4	<u>728</u>	<u>31.4</u>	2	728	31.4	729	31.4	<u>728</u>	<u>31.4</u>
450.soplex	2	775	21.5	<u>770</u>	<u>21.7</u>	769	21.7	2	774	21.6	<u>766</u>	<u>21.8</u>	765	21.8
453.povray	2	238	44.7	238	44.6	<u>238</u>	<u>44.6</u>	2	192	55.5	192	55.5	<u>192</u>	<u>55.5</u>
454.calculix	2	<u>575</u>	<u>28.7</u>	576	28.7	575	28.7	2	<u>395</u>	<u>41.8</u>	390	42.3	397	41.6
459.GemsFDTD	2	1235	17.2	<u>1229</u>	<u>17.3</u>	1227	17.3	2	1235	17.2	<u>1229</u>	<u>17.3</u>	1227	17.3
465.tonto	2	601	32.8	<u>602</u>	<u>32.7</u>	602	32.7	2	583	33.8	584	33.7	<u>583</u>	<u>33.7</u>
470.lbm	2	<u>1567</u>	<u>17.5</u>	1567	17.5	1567	17.5	1	687	20.0	<u>687</u>	<u>20.0</u>	687	20.0
481.wrf	2	<u>642</u>	<u>34.8</u>	642	34.8	643	34.8	2	<u>642</u>	<u>34.8</u>	642	34.8	643	34.8
482.sphinx3	2	1218	32.0	<u>1216</u>	<u>32.1</u>	1215	32.1	2	<u>1203</u>	<u>32.4</u>	1204	32.4	1201	32.5

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: basepeak = yes
```

```
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
```

Fortran benchmarks:

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## Peak Optimization Flags (Continued)

410.bwaves: -fast -Qauto-ilp32 -Qprefetch /F1000000000  
-link /FORCE:MULTIPLE

416.gamess: basepeak = yes

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

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll14 -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: basepeak = yes

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).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 15:06:17 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 26 December 2007.