



# SPEC<sup>®</sup> CFP2006 Result

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Dell Inc.

SPECfp<sup>®</sup>2006 = 22.1

Dell Precision T3400 (Intel E8500, 3.16 GHz)

SPECfp\_base2006 = 21.1

CPU2006 license: 55

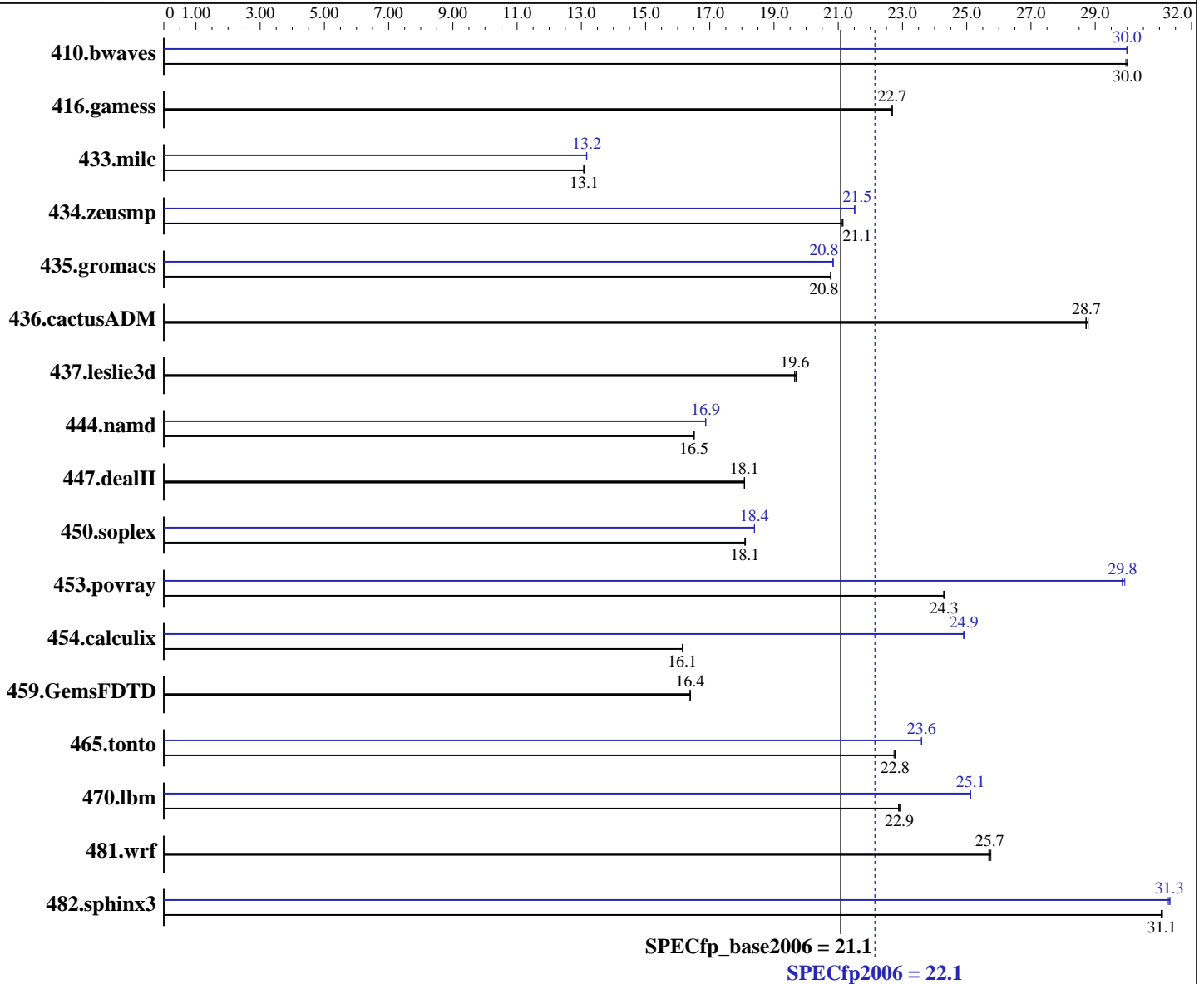
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Apr-2008

Hardware Availability: Jan-2008

Software Availability: Mar-2008



### Hardware

CPU Name: Intel Core 2 Duo E8500  
 CPU Characteristics: 1333 MHz Bus Speed  
 CPU MHz: 3166  
 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: 6 MB I+D on chip per chip

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### Software

Operating System: Windows Vista Ultimate (64-bit)  
 Compiler: Intel C++ Compiler for Intel 64, Version 10.1  
 Build 20080312 Package ID: w\_cc\_p\_10.1.021  
 Intel Visual Fortran Compiler for Intel 64,  
 Version 10.0  
 Build 20080312 Package ID: w\_fc\_p\_10.1.021  
 Microsoft Visual Studio 2005 SP1

Auto Parallel: Yes  
 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 160 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>453</u>	<u>30.0</u>	454	30.0	453	30.0	<u>453</u>	<u>30.0</u>	453	30.0	453	30.0
416.gamess	864	22.7	<u>863</u>	<u>22.7</u>	863	22.7	864	22.7	<u>863</u>	<u>22.7</u>	863	22.7
433.milc	702	13.1	701	13.1	<u>701</u>	<u>13.1</u>	697	13.2	<u>697</u>	<u>13.2</u>	698	13.2
434.zeusmp	431	21.1	<u>431</u>	<u>21.1</u>	430	21.1	<u>423</u>	<u>21.5</u>	423	21.5	423	21.5
435.gromacs	344	20.8	<u>344</u>	<u>20.8</u>	344	20.8	<u>343</u>	<u>20.8</u>	343	20.8	343	20.8
436.cactusADM	<u>416</u>	<u>28.7</u>	415	28.8	416	28.7	<u>416</u>	<u>28.7</u>	415	28.8	416	28.7
437.leslie3d	478	19.6	<u>478</u>	<u>19.6</u>	477	19.7	478	19.6	<u>478</u>	<u>19.6</u>	477	19.7
444.namd	486	16.5	486	16.5	<u>486</u>	<u>16.5</u>	<u>475</u>	<u>16.9</u>	475	16.9	475	16.9
447.dealII	633	18.1	<u>633</u>	<u>18.1</u>	633	18.1	633	18.1	<u>633</u>	<u>18.1</u>	633	18.1
450.soplex	461	18.1	460	18.1	<u>461</u>	<u>18.1</u>	453	18.4	453	18.4	<u>453</u>	<u>18.4</u>
453.povray	219	24.3	219	24.3	<u>219</u>	<u>24.3</u>	178	29.9	<u>178</u>	<u>29.8</u>	178	29.8
454.calculix	511	16.1	<u>511</u>	<u>16.1</u>	511	16.1	331	24.9	331	24.9	<u>331</u>	<u>24.9</u>
459.GemsFDTD	<u>647</u>	<u>16.4</u>	647	16.4	647	16.4	<u>647</u>	<u>16.4</u>	647	16.4	647	16.4
465.tonto	433	22.7	432	22.8	<u>432</u>	<u>22.8</u>	417	23.6	417	23.6	<u>417</u>	<u>23.6</u>
470.lbm	599	22.9	601	22.9	<u>600</u>	<u>22.9</u>	547	25.1	547	25.1	<u>547</u>	<u>25.1</u>
481.wrf	434	25.8	435	25.7	<u>434</u>	<u>25.7</u>	434	25.8	435	25.7	<u>434</u>	<u>25.7</u>
482.sphinx3	628	31.1	627	31.1	<u>627</u>	<u>31.1</u>	623	31.3	<u>623</u>	<u>31.3</u>	622	31.3

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

## Base Compiler Invocation

C benchmarks:  
 icl -Qstd=c99

C++ benchmarks:  
 icl

Fortran benchmarks:  
 ifort

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



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## 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 -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

```

C++ benchmarks:

```

-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F1000000000
shlw64m.lib libguide40.lib -link /FORCE:MULTIPLE

```

Fortran benchmarks:

```

-fast -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

```

Benchmarks using both Fortran and C:

```

-fast -Qauto-ilp32 -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

```

## Peak Compiler Invocation

C benchmarks:

icl -Qstd=c99

C++ benchmarks:

icl

Fortran benchmarks:

ifort

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## Peak Compiler Invocation (Continued)

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 libguide40.lib  
-link /FORCE:MULTIPLE

470.lbm: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000  
libguide40.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 libguide40.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 libguide40.lib  
-link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qauto-ilp32  
-Qparallel -Qcxx\_features /F1000000000 shlw64m.lib  
libguide40.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 libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -fast -Qauto-ilp32 -Qparallel -Qprefetch /F1000000000  
libguide40.lib -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

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## Peak Optimization Flags (Continued)

434.zeusmp: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -QxT -O2 -Qprec-div-  
-Qunroll10 -Qscalar-rep- /F1000000000 libguide40.lib  
-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 libguide40.lib  
-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 libguide40.lib  
-link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000  
libguide40.lib -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.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.xml>

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

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