# SPEC® CFP2006 Result

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## Dell Inc.

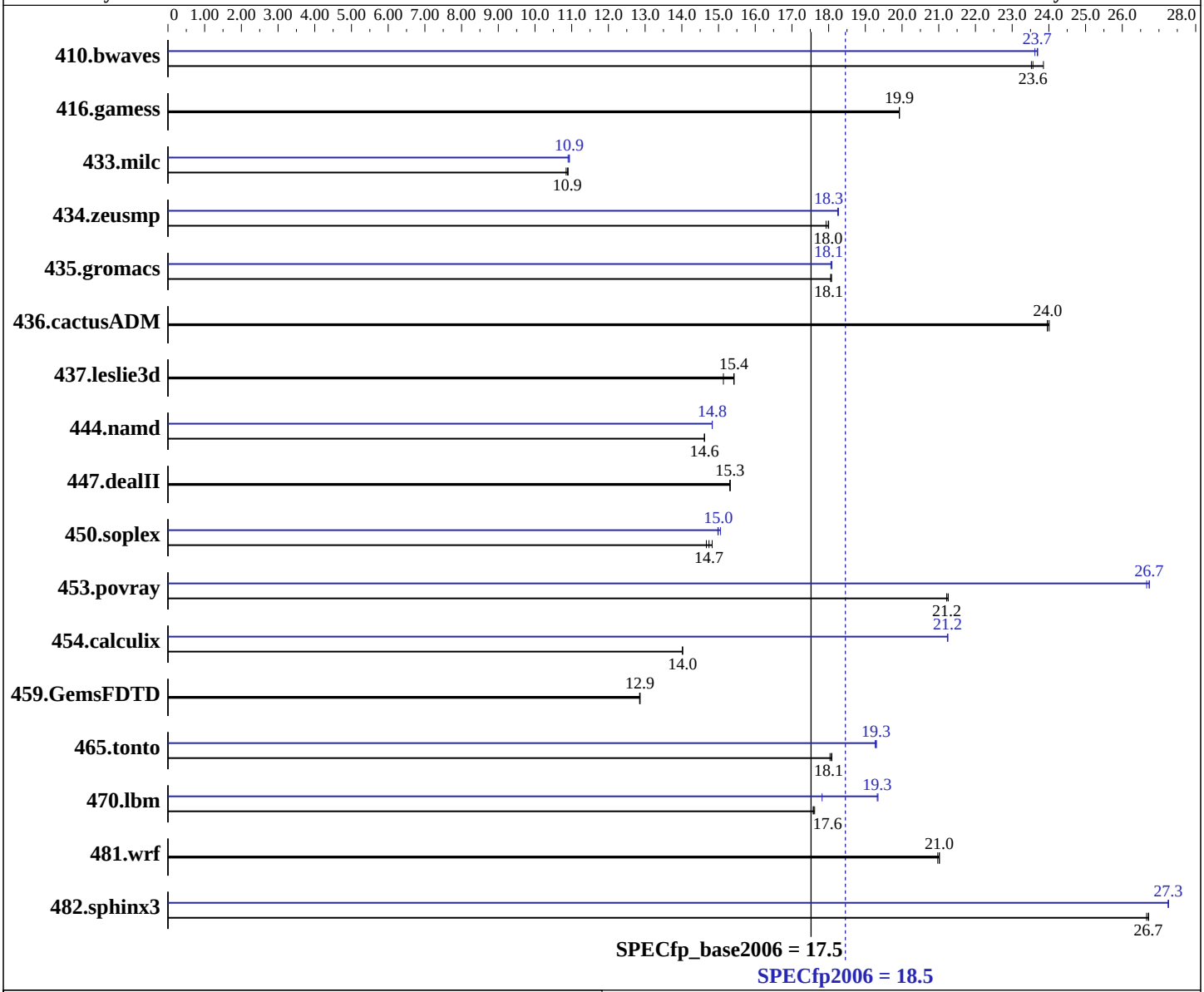
## Dell Precision M6300 (Intel X9000, 2.80 GHz)

SPECfp®2006 = 18.5

SPECfp_base2006 = 17.5

**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 X9000 |
| CPU Characteristics: | 800 MHz Bus Speed |
| CPU MHz: | 2800 |
| 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 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<br>Intel Visual Fortran Compiler for Intel 64, Version 10.0 Build 20070809 Package ID: w_fc_p_10.1.011<br>Microsoft Visual Studio 2005 SP1 |
| Auto Parallel: | Yes |
| File System: | NTFS |

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L3 Cache: None
Other Cache: None
Memory: 4 GB (2x2 GB 667 MHz CL5 DDR2)
Disk Subsystem: 1 x 120GB 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 | 570 | 23.9 | **577** | **23.6** | 578 | 23.5 | 575 | 23.6 | 574 | 23.7 | **574** | **23.7** |
| 416.gamess | 983 | 19.9 | 983 | 19.9 | **983** | **19.9** | 983 | 19.9 | 983 | 19.9 | **983** | **19.9** |
| 433.milc | 846 | 10.8 | 842 | 10.9 | **844** | **10.9** | 842 | 10.9 | **840** | **10.9** | 839 | 10.9 |
| 434.zeusmp | 508 | 17.9 | **506** | **18.0** | 506 | 18.0 | 499 | 18.2 | 498 | 18.3 | **498** | **18.3** |
| 435.gromacs | 395 | 18.1 | 395 | 18.1 | **395** | **18.1** | **395** | **18.1** | 395 | 18.1 | 395 | 18.1 |
| 436.cactusADM | 498 | 24.0 | **499** | **24.0** | 499 | 24.0 | 498 | 24.0 | **499** | **24.0** | 499 | 24.0 |
| 437.leslie3d | 621 | 15.1 | 609 | 15.4 | **610** | **15.4** | 621 | 15.1 | 609 | 15.4 | **610** | **15.4** |
| 444.namd | 549 | 14.6 | **549** | **14.6** | 549 | 14.6 | **541** | **14.8** | 541 | 14.8 | 541 | 14.8 |
| 447.dealII | 747 | 15.3 | 747 | 15.3 | **747** | **15.3** | 747 | 15.3 | 747 | 15.3 | **747** | **15.3** |
| 450.soplex | 569 | 14.7 | 562 | 14.8 | **566** | **14.7** | 557 | 15.0 | 554 | 15.1 | **556** | **15.0** |
| 453.povray | 250 | 21.3 | 251 | 21.2 | **251** | **21.2** | **199** | **26.7** | 199 | 26.7 | 200 | 26.7 |
| 454.calculix | 589 | 14.0 | 588 | 14.0 | **588** | **14.0** | 389 | 21.2 | 388 | 21.2 | **388** | **21.2** |
| 459.GemsFDTD | 825 | 12.9 | **825** | **12.9** | 826 | 12.8 | 825 | 12.9 | **825** | **12.9** | 826 | 12.8 |
| 465.tonto | **544** | **18.1** | 544 | 18.1 | 546 | 18.0 | **510** | **19.3** | 510 | 19.3 | 511 | 19.3 |
| 470.lbm | 780 | 17.6 | 782 | 17.6 | **781** | **17.6** | 710 | 19.3 | **711** | **19.3** | 771 | 17.8 |
| 481.wrf | **532** | **21.0** | 531 | 21.0 | 533 | 21.0 | **532** | **21.0** | 531 | 21.0 | 533 | 21.0 |
| 482.sphinx3 | 731 | 26.7 | 729 | 26.7 | **730** | **26.7** | 715 | 27.3 | **715** | **27.3** | 715 | 27.3 |

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 -Qparallel /F1000000000 shlw64mt.lib
libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F1000000000
shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qauto-ilp32 -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

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 shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000 shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Oa -Qcxx_features /F1000000000 shlw64mt.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 shlw64mt.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 shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

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# Peak Optimization Flags (Continued)

Fortran benchmarks:

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

416.gamess: basepeak = yes

434.zeusmp: -Qprof_gen(pass 1) -Qprof_use(pass 2) -QxT -O2 -Qprec-div- -Qunroll0 -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 -Qunroll4 -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.20090714.01.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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