SPEC® CFP2006 Result

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Dell Inc.

Dell Precision M6300 (Intel X9000, 2.80 GHz)

$SPECfp^{®}2006 =$ 18.5

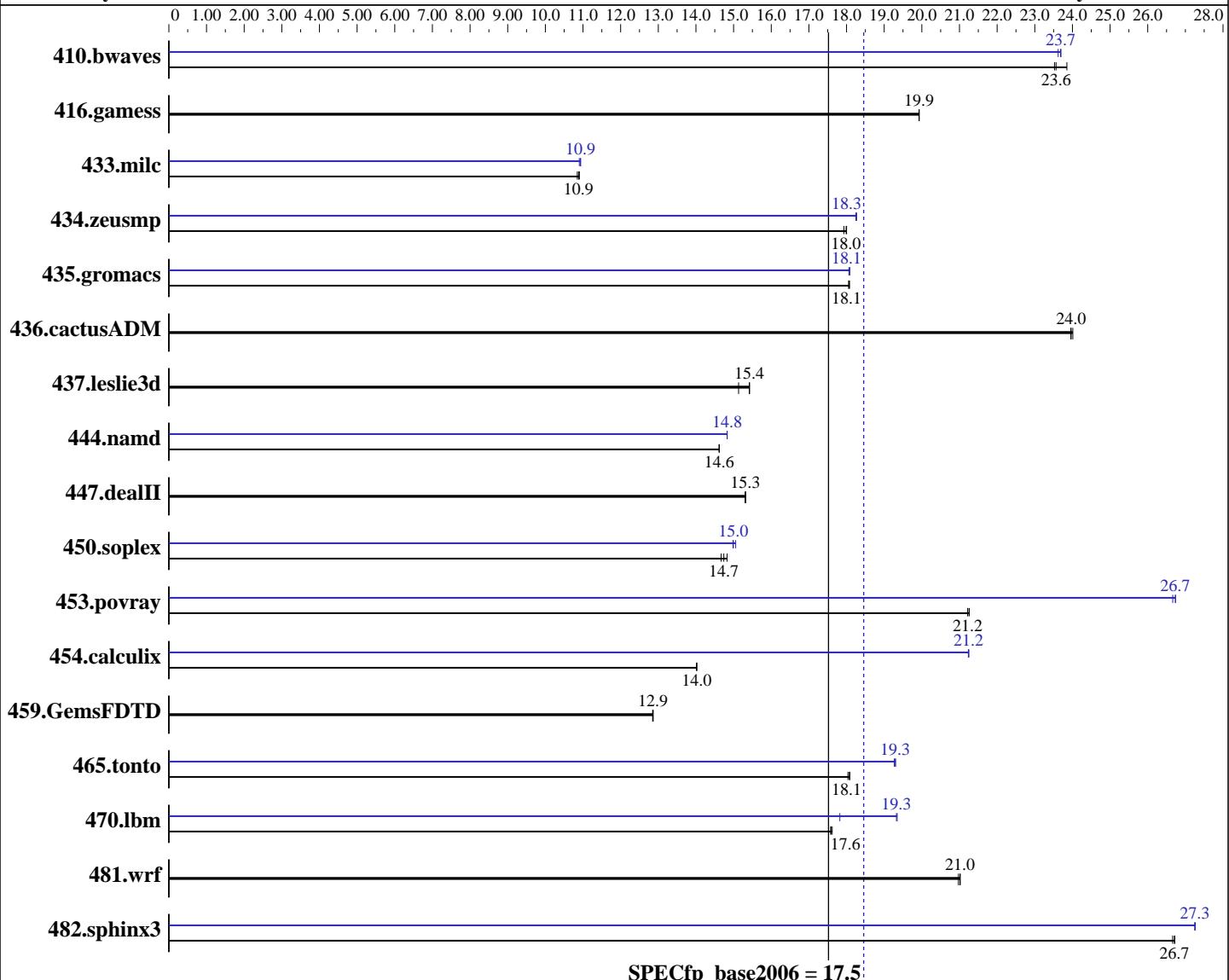$SPECfp\_base2006 =$ 17.5

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Dec-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007

Benchmark	Result
410.bwaves	23.7 / 23.6
416.gamess	19.9
433.milc	10.9 / 10.9
434.zeusmp	18.3 / 18.0
435.gromacs	18.1 / 18.1
436.cactusADM	24.0
437.leslie3d	15.4
444.namd	14.8 / 14.6
447.dealII	15.3
450.soplex	15.0 / 14.7
453.povray	26.7 / 21.2
454.calculix	21.2 / 14.0
459.GemsFDTD	12.9
465.tonto	19.3 / 18.1
470.lbm	19.3 / 17.6
481.wrf	21.0
482.sphinx3	27.3 / 26.7

SPECfp_base2006 = 17.5
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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

Continued on next page

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: Yes
File System: NTFS

Continued on next page

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L3 Cache:	None	System State:	Default
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	4 GB (2x2 GB 667 MHz CL5 DDR2)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 120GB SATA 7200 RPM	Other Software:	MicroQuill SmartHeap Library 8.1 for x64
Other Hardware:	None		

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
```

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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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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