



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®2006 = 21.0

Dell Precision M6400 (Intel QX9300, 2.53 GHz)

SPECfp_base2006 = 19.8

CPU2006 license: 55

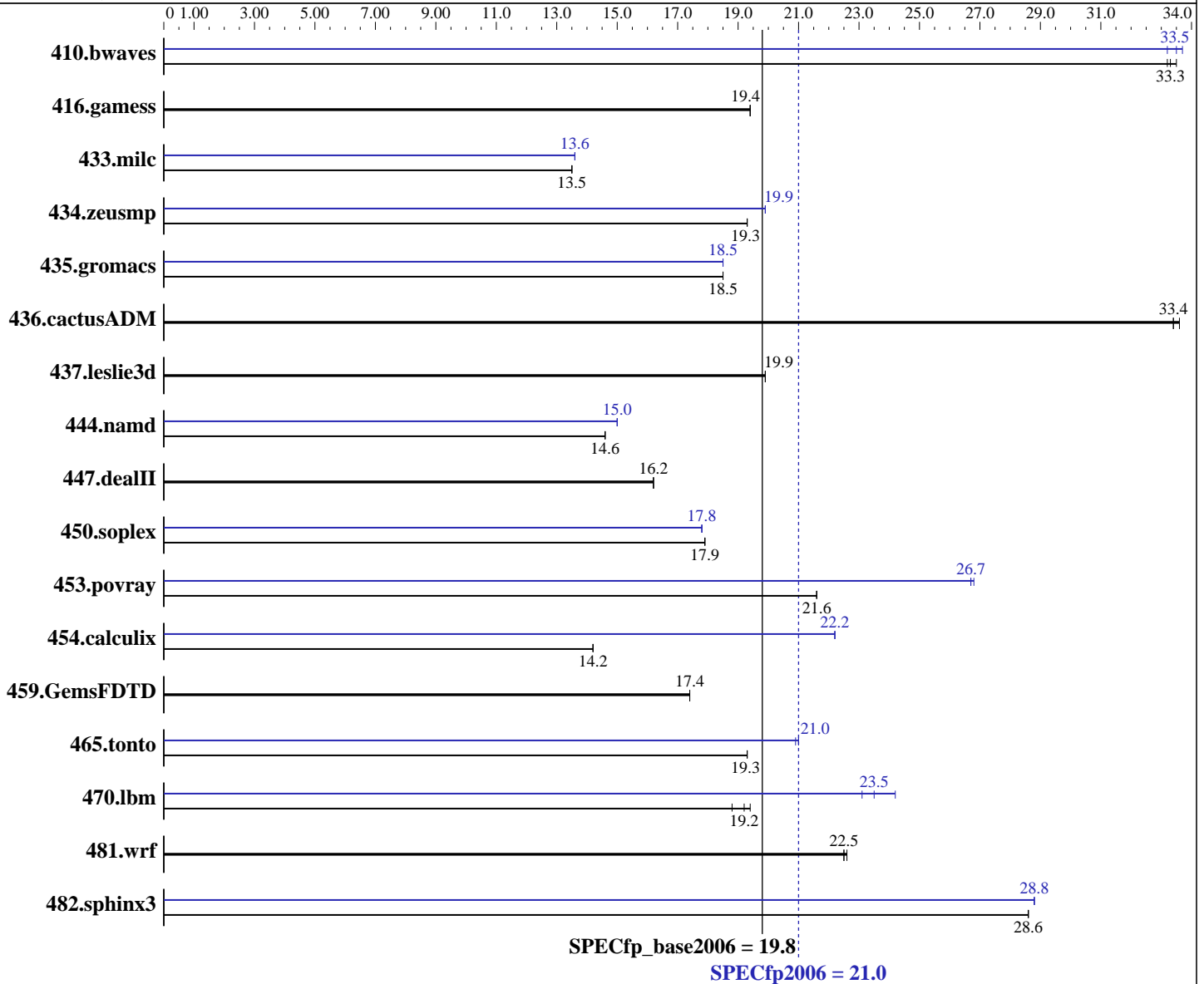
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Mar-2008



Hardware

CPU Name: Intel Core 2 Extreme QX9300
 CPU Characteristics: 1067 MHz Bus Speed
 CPU MHz: 2530
 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 Vista Business SP1 (64bit)
 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 10.1
 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 1067 MHz CL7 DDR3)
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	409	33.2	405	33.5	408	33.3	404	33.7	406	33.5	409	33.2
416.gamess	1010	19.4	1010	19.4	1010	19.4	1010	19.4	1010	19.4	1010	19.4
433.milc	682	13.5	682	13.5	681	13.5	676	13.6	677	13.6	676	13.6
434.zeusmp	472	19.3	472	19.3	472	19.3	456	19.9	456	19.9	456	19.9
435.gromacs	386	18.5	385	18.5	385	18.5	385	18.5	386	18.5	385	18.5
436.cactusADM	356	33.6	357	33.4	358	33.4	356	33.6	357	33.4	358	33.4
437.leslie3d	473	19.9	473	19.9	473	19.9	473	19.9	473	19.9	473	19.9
444.namd	548	14.6	548	14.6	548	14.6	536	15.0	536	15.0	536	15.0
447.dealII	707	16.2	707	16.2	707	16.2	707	16.2	707	16.2	707	16.2
450.soplex	465	17.9	465	17.9	466	17.9	469	17.8	469	17.8	469	17.8
453.povray	246	21.6	246	21.6	246	21.6	199	26.8	199	26.7	199	26.7
454.calculix	579	14.2	579	14.2	579	14.2	371	22.2	371	22.2	371	22.2
459.GemsFDTD	610	17.4	609	17.4	611	17.4	610	17.4	609	17.4	611	17.4
465.tonto	510	19.3	510	19.3	510	19.3	470	20.9	470	21.0	470	21.0
470.lbm	716	19.2	708	19.4	732	18.8	595	23.1	569	24.2	586	23.5
481.wrf	495	22.6	496	22.5	497	22.5	495	22.6	496	22.5	497	22.5
482.sphinx3	681	28.6	683	28.6	682	28.6	676	28.8	676	28.8	676	28.8

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 /F512000000 libguide40.lib
-link /FORCE:MULTIPLE
```

C++ benchmarks:

```
-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F512000000 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
```



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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 /F512000000 libguide40.lib
         -link /FORCE:MULTIPLE
```

```
470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
         -Qunroll2 -Qscalar-rep- -Qprefetch /F512000000
         libguide40.lib -link /FORCE:MULTIPLE
```

```
482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F512000000 libguide40.lib
             -link /FORCE:MULTIPLE
```

C++ benchmarks:

```
444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
         -Oa -Qcxx_features /F512000000 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 /F512000000 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 /F512000000
         shlw64m.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-
-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.20090713.00.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.20090713.00.xml>

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For other inquiries, please contact webmaster@spec.org.

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