SPEC® CFP2006 Result

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Dell Inc.

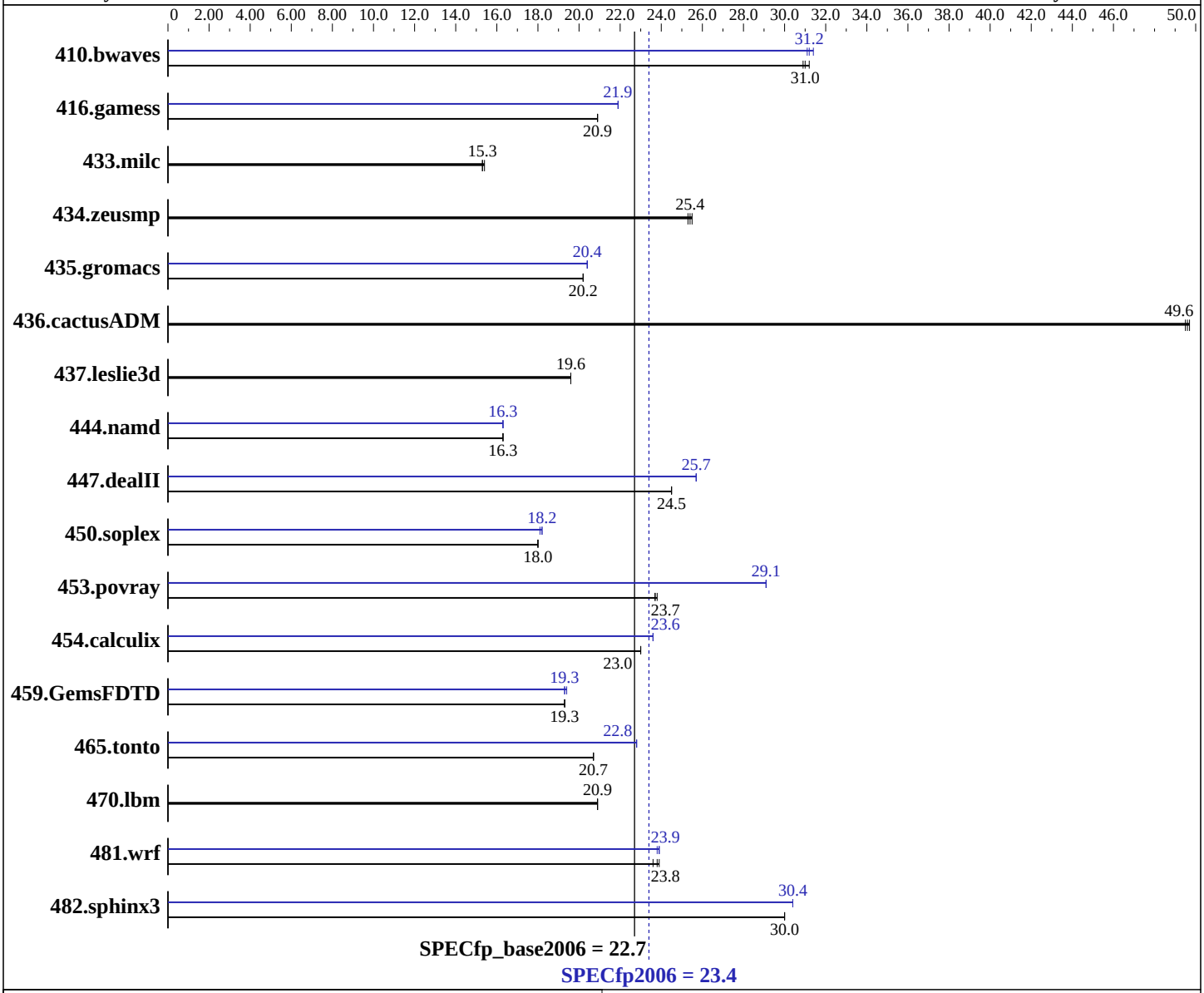
Dell Precision T3400 (Intel QX9650, 3.00 GHz)

SPECfp®2006 = 23.4

SPECfp_base2006 = 22.7

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

Test date: Nov-2008
Hardware Availability: Jun-2008
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Core 2 Extreme QX9650
CPU Characteristics:	1333 MHz Bus Speed
CPU MHz:	3000
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 Ultimate (64-bit)
Compiler:	Intel C++ Compiler for Intel 64, Version 11.0 Build 20080930 Package ID: w_cproc_p_11.0.061 Intel Visual Fortran Compiler for Intel 64, Version 11.0 Build 20080930 Package ID: w_cprof_p_11.0.061 Microsoft Visual Studio 2008 SP1
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 GB DDR2-800 ECC, CL6)
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	440	30.9	**438**	**31.0**	436	31.2	**436**	**31.2**	436	31.1	432	31.4
416.gamess	937	20.9	**939**	**20.9**	939	20.9	**894**	**21.9**	894	21.9	895	21.9
433.milc	600	15.3	598	15.4	**598**	**15.3**	600	15.3	598	15.4	**598**	**15.3**
434.zeusmp	**358**	**25.4**	359	25.3	357	25.5	**358**	**25.4**	359	25.3	357	25.5
435.gromacs	353	20.2	**353**	**20.2**	353	20.2	350	20.4	**350**	**20.4**	350	20.4
436.cactusADM	**241**	**49.6**	242	49.5	240	49.7	**241**	**49.6**	242	49.5	240	49.7
437.leslie3d	**479**	**19.6**	480	19.6	479	19.6	**479**	**19.6**	480	19.6	479	19.6
444.namd	491	16.3	491	16.3	**491**	**16.3**	**493**	**16.3**	493	16.3	493	16.3
447.dealII	468	24.5	468	24.5	**468**	**24.5**	446	25.7	**446**	**25.7**	446	25.7
450.soplex	464	18.0	464	18.0	**464**	**18.0**	460	18.1	459	18.2	**459**	**18.2**
453.povray	**224**	**23.7**	224	23.8	224	23.7	**183**	**29.1**	183	29.1	183	29.1
454.calculix	**359**	**23.0**	358	23.0	359	23.0	**350**	**23.6**	350	23.6	350	23.6
459.GemsFDTD	**550**	**19.3**	550	19.3	549	19.3	548	19.4	**549**	**19.3**	549	19.3
465.tonto	475	20.7	**475**	**20.7**	476	20.7	432	22.8	**432**	**22.8**	432	22.8
470.lbm	658	20.9	**658**	**20.9**	658	20.9	658	20.9	**658**	**20.9**	658	20.9
481.wrf	473	23.6	**469**	**23.8**	468	23.9	468	23.9	**468**	**23.9**	469	23.8
482.sphinx3	650	30.0	**650**	**30.0**	649	30.0	640	30.4	641	30.4	**641**	**30.4**

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 -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

Fortran benchmarks:

```
ifort
```

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Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /assume:underscore
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:
-QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch /F512000000

C++ benchmarks:
-QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch -Qcxx_features /F512000000 shlw64m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:
-QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: -QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qunroll2 /F512000000

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

447.dealII: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qansi-alias -Qscalar-rep- /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

450.soplex: -Qprof_gen(pass 1) -QxSSE4.1 -Qauto-ilp32 -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: -QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000

416.gamess: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -QxSSE4.1(pass 2) -Qauto-ilp32(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- /F1000000000

481.wrf: -QxSSE4.1 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/dell.ic11.0.windows.flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/dell.ic11.0.windows.flags.xml

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