SPEC® CFP2006 Result

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Dell Inc.

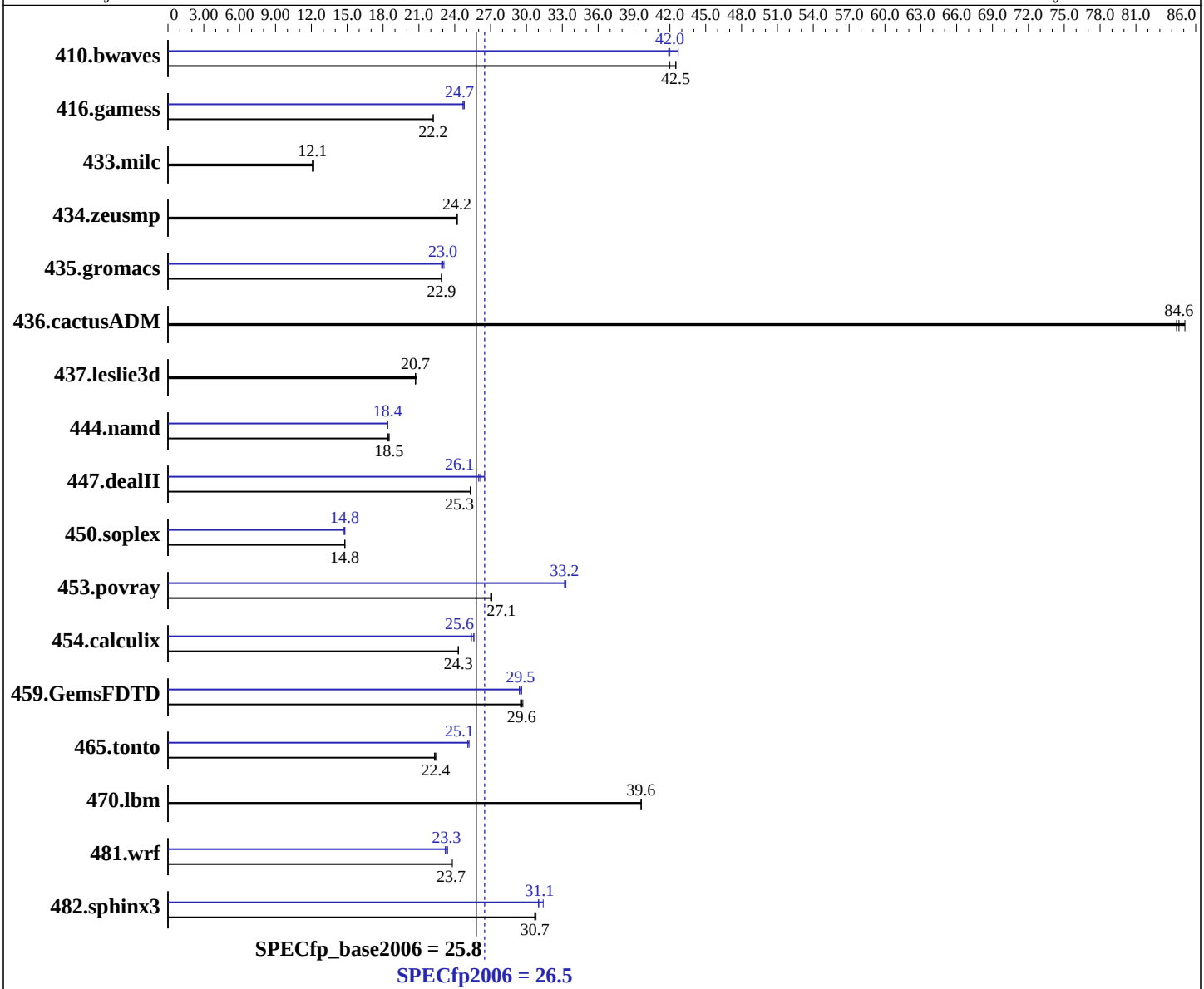
Dell Precision T7400 (Intel Xeon X5492, 3.40 GHz)

SPECfp®2006 = 26.5

SPECfp_base2006 = 25.8

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

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



Hardware

CPU Name:	Intel Xeon X5492
CPU Characteristics:	1600 MHz Bus Speed
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
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 (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: 16 GB (8x2 GB DDR2-800 FB-DIMM, CL5)
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	**320**	**42.5**	319	42.5	323	42.0	318	42.7	**324**	**42.0**	325	41.9
416.gamess	884	22.1	882	22.2	**883**	**22.2**	790	24.8	**793**	**24.7**	794	24.7
433.milc	**758**	**12.1**	758	12.1	755	12.2	**758**	**12.1**	758	12.1	755	12.2
434.zeusmp	**376**	**24.2**	375	24.2	377	24.2	**376**	**24.2**	375	24.2	377	24.2
435.gromacs	311	22.9	311	22.9	**311**	**22.9**	309	23.1	**310**	**23.0**	311	22.9
436.cactusADM	140	85.1	**141**	**84.6**	142	84.4	140	85.1	**141**	**84.6**	142	84.4
437.leslie3d	**453**	**20.7**	453	20.8	454	20.7	**453**	**20.7**	453	20.8	454	20.7
444.namd	435	18.4	434	18.5	**434**	**18.5**	**436**	**18.4**	437	18.4	436	18.4
447.dealII	452	25.3	452	25.3	**452**	**25.3**	432	26.5	**439**	**26.1**	441	26.0
450.soplex	**565**	**14.8**	565	14.8	564	14.8	566	14.7	562	14.8	**563**	**14.8**
453.povray	197	27.1	197	27.0	**197**	**27.1**	**160**	**33.2**	160	33.2	160	33.3
454.calculix	**339**	**24.3**	339	24.3	340	24.3	**323**	**25.6**	325	25.4	322	25.6
459.GemsFDTD	**358**	**29.6**	360	29.5	358	29.7	**360**	**29.5**	359	29.6	361	29.4
465.tonto	442	22.3	440	22.4	**440**	**22.4**	391	25.2	**392**	**25.1**	392	25.1
470.lbm	347	39.6	347	39.6	**347**	**39.6**	347	39.6	347	39.6	**347**	**39.6**
481.wrf	470	23.8	472	23.7	**471**	**23.7**	478	23.4	**479**	**23.3**	481	23.2
482.sphinx3	**635**	**30.7**	635	30.7	633	30.8	**627**	**31.1**	622	31.4	629	31.0

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)

BIOS Settings
  Adjacent Cache Line Prefetch set to ON
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

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Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

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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