SPEC® CFP2006 Result

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Dell Inc.

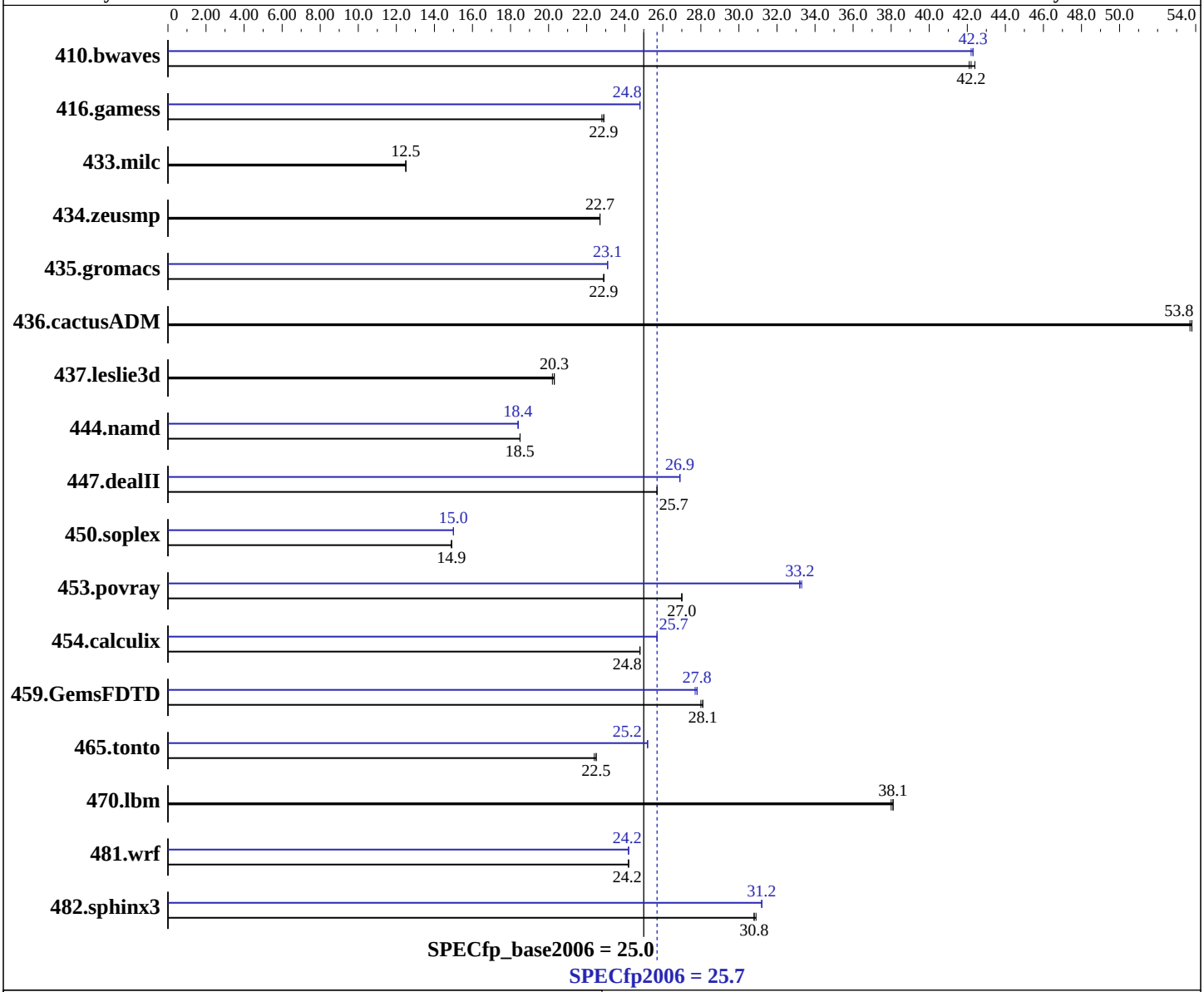
Dell Precision T7400 (Intel Xeon X5272, 3.40 GHz)

SPECfp®2006 = 25.7

SPECfp_base2006 = 25.0

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

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



Hardware

CPU Name:	Intel Xeon X5272
CPU Characteristics:	1600 MHz Bus Speed
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
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 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	323	42.1	**322**	**42.2**	320	42.4	321	42.3	322	42.2	**322**	**42.3**
416.gamess	859	22.8	855	22.9	**855**	**22.9**	**791**	**24.8**	791	24.8	790	24.8
433.milc	**734**	**12.5**	734	12.5	734	12.5	**734**	**12.5**	734	12.5	734	12.5
434.zeusmp	**400**	**22.7**	401	22.7	400	22.7	**400**	**22.7**	401	22.7	400	22.7
435.gromacs	**312**	**22.9**	311	22.9	312	22.9	**310**	**23.1**	310	23.1	310	23.1
436.cactusADM	222	53.8	**222**	**53.8**	223	53.7	222	53.8	**222**	**53.8**	223	53.7
437.leslie3d	**464**	**20.3**	464	20.2	463	20.3	**464**	**20.3**	464	20.2	463	20.3
444.namd	434	18.5	**434**	**18.5**	434	18.5	436	18.4	436	18.4	**436**	**18.4**
447.dealII	**446**	**25.7**	446	25.7	446	25.7	**426**	**26.9**	426	26.9	426	26.9
450.soplex	560	14.9	**560**	**14.9**	559	14.9	556	15.0	556	15.0	**556**	**15.0**
453.povray	197	27.0	197	27.0	**197**	**27.0**	160	33.2	**160**	**33.2**	160	33.3
454.calculix	333	24.8	**333**	**24.8**	333	24.8	321	25.7	321	25.7	**321**	**25.7**
459.GemsFDTD	**378**	**28.1**	379	28.0	377	28.1	**382**	**27.8**	382	27.8	383	27.7
465.tonto	438	22.5	438	22.4	**438**	**22.5**	391	25.2	390	25.2	**390**	**25.2**
470.lbm	361	38.1	**361**	**38.1**	362	38.0	361	38.1	**361**	**38.1**	362	38.0
481.wrf	**462**	**24.2**	462	24.2	462	24.2	**462**	**24.2**	461	24.2	462	24.2
482.sphinx3	631	30.9	633	30.8	**633**	**30.8**	**626**	**31.2**	624	31.2	626	31.2

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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