SPEC® CFP2006 Result

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Dell Inc.

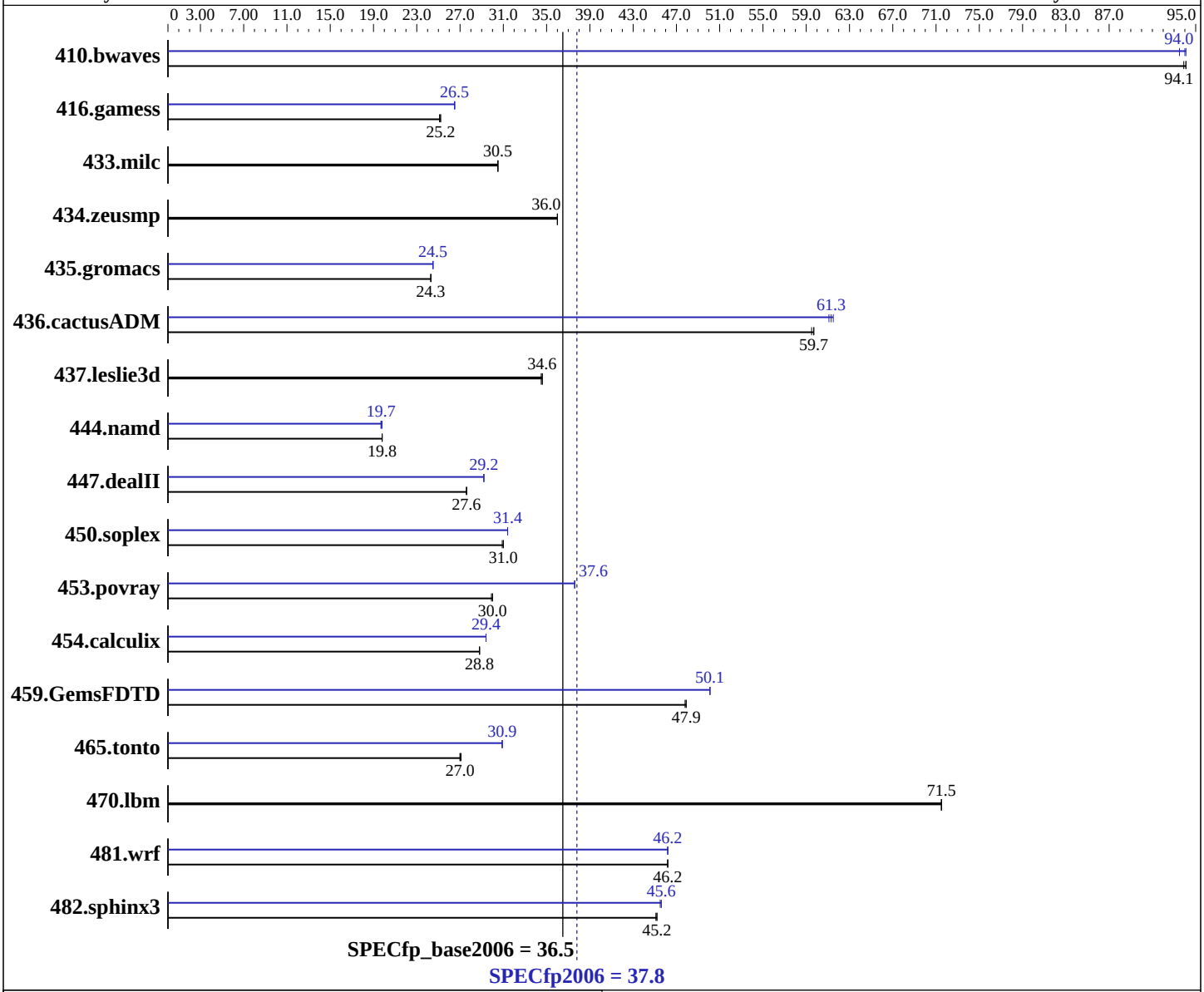
Dell Precision T3500 (Intel Xeon X5570, 2.93 GHz)

SPECfp®2006 = 37.8

SPECfp_base2006 = 36.5

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
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:	256 KB I+D on chip per core

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Software

Operating System:	Windows Vista Ultimate SP1 (64-bit)
Compiler:	Intel C++ Compiler for Intel 64, Version 11.0 Build 20090131 Package ID: w_cproc_p_11.0.072 Intel Visual Fortran Compiler for Intel 64, Version 11.0 Build 20090131 Package ID: w_cprof_p_11.0.072 Microsoft Visual Studio 2008 SP1
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	12 GB (3x4 GB, DDR3_1333R, ECC, CL9)
Disk Subsystem:	1 x 80GB 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	144	94.1	**144**	**94.1**	145	93.9	**145**	**94.0**	145	93.5	144	94.1
416.gamess	**778**	**25.2**	778	25.2	779	25.1	738	26.5	**738**	**26.5**	738	26.5
433.milc	**301**	**30.5**	301	30.5	301	30.5	**301**	**30.5**	301	30.5	301	30.5
434.zeusmp	**253**	**36.0**	253	36.0	253	36.0	**253**	**36.0**	253	36.0	253	36.0
435.gromacs	294	24.3	294	24.3	**294**	**24.3**	**292**	**24.5**	292	24.5	291	24.5
436.cactusADM	200	59.7	201	59.5	**200**	**59.7**	194	61.5	196	61.1	**195**	**61.3**
437.leslie3d	**272**	**34.6**	272	34.6	272	34.5	**272**	**34.6**	272	34.6	272	34.5
444.namd	405	19.8	**405**	**19.8**	405	19.8	**406**	**19.7**	406	19.8	406	19.7
447.dealII	415	27.6	**415**	**27.6**	415	27.6	391	29.2	**391**	**29.2**	391	29.2
450.soplex	269	31.0	270	30.9	**269**	**31.0**	**266**	**31.4**	265	31.4	266	31.4
453.povray	177	30.0	178	29.9	**177**	**30.0**	141	37.6	**141**	**37.6**	142	37.6
454.calculix	287	28.8	287	28.8	**287**	**28.8**	281	29.4	**281**	**29.4**	281	29.4
459.GemsFDTD	221	47.9	**221**	**47.9**	222	47.8	212	50.1	**212**	**50.1**	212	50.1
465.tonto	363	27.1	**364**	**27.0**	364	27.0	319	30.9	**319**	**30.9**	319	30.9
470.lbm	**192**	**71.5**	192	71.5	192	71.5	**192**	**71.5**	192	71.5	192	71.5
481.wrf	**242**	**46.2**	242	46.2	242	46.2	**242**	**46.2**	242	46.2	242	46.2
482.sphinx3	**432**	**45.2**	431	45.2	433	45.1	428	45.6	428	45.5	**428**	**45.6**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
BIOS Settings
  Hyper-Threading Technology set to OFF.
```

General Notes

```
Binaries were built on Windows Vista Business (64-bit)
```

Base Compiler Invocation

C benchmarks:

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

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Base Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc9

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:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch /F512000000

C++ benchmarks:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch -Qcxx_features /F512000000 shlw64mt.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:
-QxSSE4.2 -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: `-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qunroll2 /F512000000`

C++ benchmarks:

444.namd: `-Qprof_gen`(pass 1) `-QxSSE4.2`(pass 2) `-Qauto-ilp32`(pass 2) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Oa /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

447.dealII: `-Qprof_gen`(pass 1) `-QxSSE4.2`(pass 2) `-Qauto-ilp32`(pass 2) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qansi-alias -Qscalar-rep- /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

450.soplex: `-Qprof_gen`(pass 1) `-QxSSE4.2 -Qauto-ilp32` `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

453.povray: `-Qprof_gen`(pass 1) `-QxSSE4.2`(pass 2) `-Qauto-ilp32`(pass 2) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000

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

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

454.calculix: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- /F1000000000

481.wrf: -QxSSE4.2 -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.20090710.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.20090710.xml

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