SPEC® CFP2006 Result

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Dell Inc.

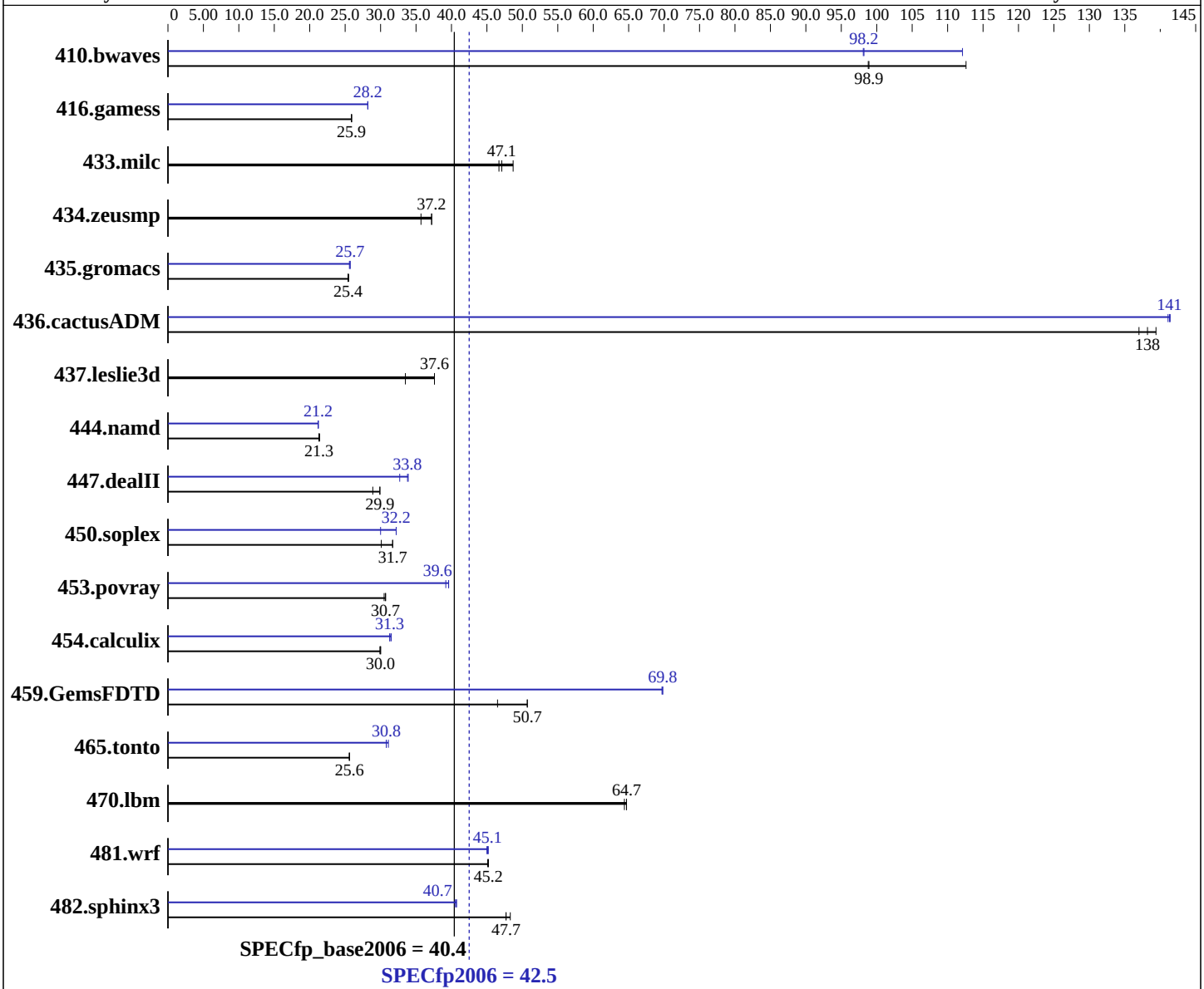
Dell Precision T7500 (Intel Xeon X5680, 3.33 GHz)

SPECfp®2006 = 42.5

SPECfp_base2006 = 40.4

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

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Dec-2009



Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
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 7 Professional (64-bit)
Compiler:	Intel C++ Compiler Professional for Intel 64, Version 11.1 Build 20091130 Package ID: w_cproc_p_11.1.054 Intel Visual Fortran Compiler Professional for Intel 64, Version 11.1 Build 20091130 Package ID: w_cprof_p_11.1.054 Microsoft Visual Studio 2008 SP1
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12x4 GB PC3-10600R)
Disk Subsystem:	1 x 300 GB SATA 10000 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	121	113	138	98.8	**137**	**98.9**	139	98.1	121	112	**138**	**98.2**
416.gamess	**755**	**25.9**	755	25.9	756	25.9	693	28.2	695	28.2	**693**	**28.2**
433.milc	197	46.7	**195**	**47.1**	188	48.7	197	46.7	**195**	**47.1**	188	48.7
434.zeusmp	245	37.2	**245**	**37.2**	255	35.7	245	37.2	**245**	**37.2**	255	35.7
435.gromacs	**281**	**25.4**	281	25.4	280	25.5	278	25.7	279	25.6	**278**	**25.7**
436.cactusADM	**86.5**	**138**	87.2	137	85.7	139	**84.6**	**141**	84.5	141	84.7	141
437.leslie3d	**250**	**37.6**	250	37.6	281	33.5	**250**	**37.6**	250	37.6	281	33.5
444.namd	**376**	**21.3**	376	21.3	376	21.4	379	21.2	379	21.2	**379**	**21.2**
447.dealII	396	28.9	383	29.9	**383**	**29.9**	338	33.9	350	32.7	**338**	**33.8**
450.soplex	263	31.7	**263**	**31.7**	277	30.1	278	30.0	259	32.2	**259**	**32.2**
453.povray	173	30.7	174	30.5	**173**	**30.7**	134	39.6	136	39.2	**135**	**39.6**
454.calculix	**275**	**30.0**	275	30.0	276	29.9	262	31.5	264	31.3	**264**	**31.3**
459.GemsFDTD	228	46.5	**209**	**50.7**	209	50.7	152	69.8	152	69.7	**152**	**69.8**
465.tonto	**384**	**25.6**	384	25.6	384	25.6	320	30.8	**319**	**30.8**	316	31.1
470.lbm	213	64.4	**212**	**64.7**	212	64.7	213	64.4	**212**	**64.7**	212	64.7
481.wrf	248	45.1	**247**	**45.2**	247	45.2	**248**	**45.1**	247	45.2	248	45.0
482.sphinx3	404	48.3	409	47.7	**408**	**47.7**	479	40.7	481	40.5	**479**	**40.7**

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

Operating System Notes

```
OMP_NUM_THREADS=12 (number of cores)
KMP_AFFINITY=granularity=fine,scatter
```

Platform Notes

```
BIOS Settings
     Memory Node Interleaving: NUMA
               Hyper-Threading: ENABLE
```

General Notes

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

Base 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
```

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
```

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Base Optimization Flags (Continued)

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

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Peak Optimization Flags (Continued)

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

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.flags.ic11.0.win.20100330.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/dell.flags.ic11.0.win.20100330.xml

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

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