SPEC® CFP2006 Result

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Dell Inc.

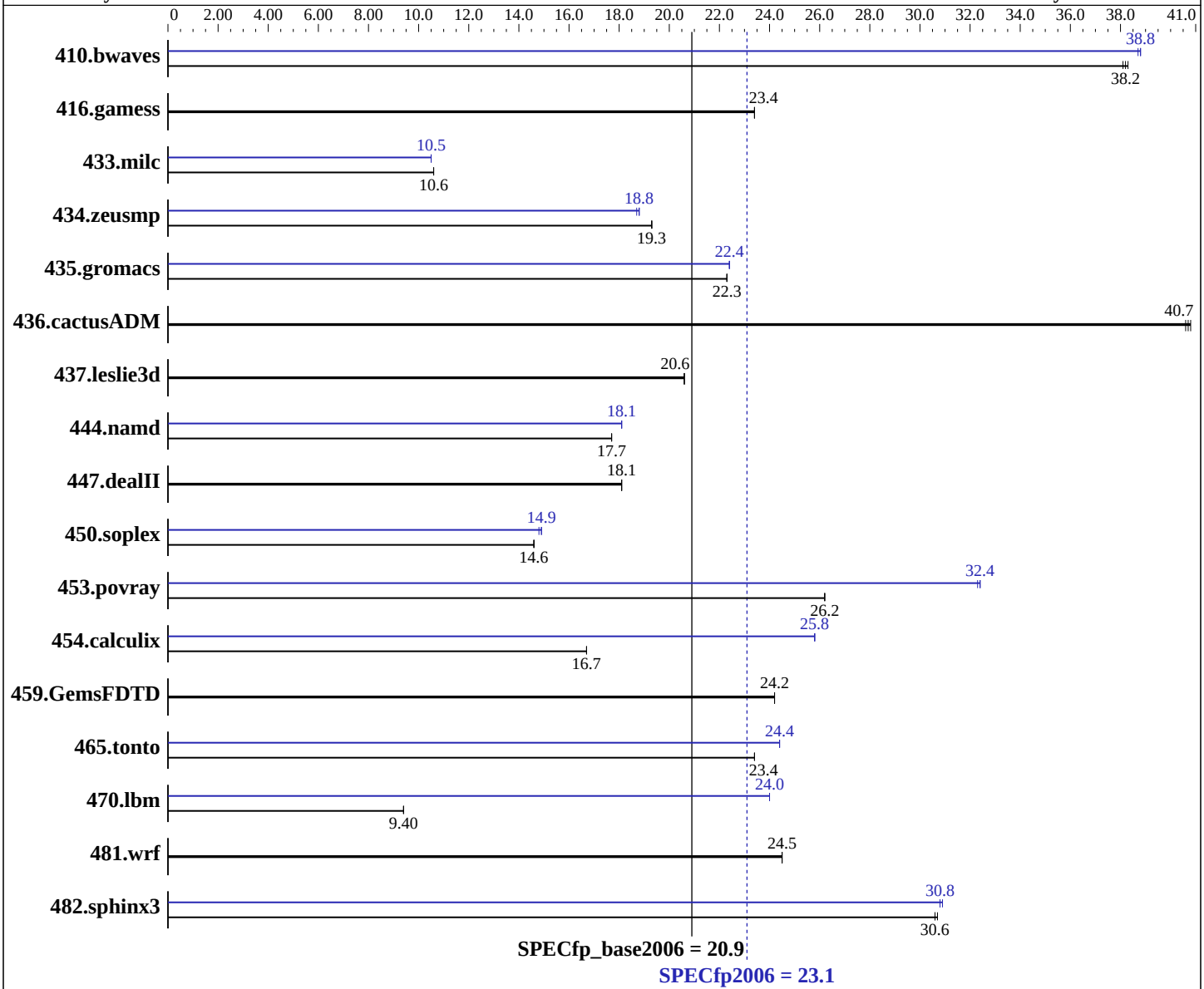
Dell Precision T7400 (Intel Xeon X5492, 3.40 GHz)

SPECfp®2006 = 23.1

SPECfp_base2006 = 20.9

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

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Mar-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 10.1 Build 20080312 Package ID: w_cc_p_10.1.021 Intel Visual Fortran Compiler for Intel 64, Version 10.1 Build 20080312 Package ID: w_fc_p_10.1.021 Microsoft Visual Studio 2005 SP1
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB 800 MHz CL5 FB-DIMM)
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	357	38.1	**356**	**38.2**	355	38.3	**351**	**38.8**	350	38.8	352	38.7
416.gamess	836	23.4	837	23.4	**837**	**23.4**	836	23.4	837	23.4	**837**	**23.4**
433.milc	**866**	**10.6**	863	10.6	867	10.6	**873**	**10.5**	873	10.5	873	10.5
434.zeusmp	**471**	**19.3**	471	19.3	471	19.3	485	18.8	485	18.7	**485**	**18.8**
435.gromacs	320	22.3	**320**	**22.3**	320	22.3	319	22.4	**319**	**22.4**	319	22.4
436.cactusADM	294	40.6	**293**	**40.7**	293	40.8	294	40.6	**293**	**40.7**	293	40.8
437.leslie3d	456	20.6	457	20.6	**456**	**20.6**	456	20.6	457	20.6	**456**	**20.6**
444.namd	453	17.7	453	17.7	**453**	**17.7**	444	18.1	443	18.1	**443**	**18.1**
447.dealII	631	18.1	**631**	**18.1**	631	18.1	631	18.1	**631**	**18.1**	631	18.1
450.soplex	**570**	**14.6**	570	14.6	570	14.6	562	14.8	560	14.9	**561**	**14.9**
453.povray	203	26.2	203	26.2	**203**	**26.2**	165	32.3	164	32.4	**164**	**32.4**
454.calculix	494	16.7	494	16.7	**494**	**16.7**	320	25.8	**320**	**25.8**	320	25.8
459.GemsFDTD	439	24.2	**439**	**24.2**	439	24.2	439	24.2	**439**	**24.2**	439	24.2
465.tonto	**420**	**23.4**	420	23.4	420	23.4	403	24.4	403	24.4	**403**	**24.4**
470.lbm	1466	9.40	1465	9.40	**1466**	**9.40**	573	24.0	574	24.0	**573**	**24.0**
481.wrf	456	24.5	**456**	**24.5**	456	24.5	456	24.5	**456**	**24.5**	456	24.5
482.sphinx3	**637**	**30.6**	635	30.7	638	30.6	633	30.8	**633**	**30.8**	630	30.9

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 -Qstd=c99
```

C++ benchmarks:

```
icl
```

Continued on next page

Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

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

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
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:
-fast -Qauto-ilp32 -Qparallel /F512000000 libguide40.lib
-link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F512000000 shlw64m.lib
libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qauto-ilp32 -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
```
icl -Qstd=c99
```

C++ benchmarks:
```
icl
```

Fortran benchmarks:
```
ifort
```

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

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

433.milc: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Oa /F512000000 libguide40.lib -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qscalar-rep- -Qprefetch /F512000000 libguide40.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F512000000 libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Oa -Qcxx_features /F512000000 shlw64m.lib libguide40.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qparallel -Qcxx_features /F512000000 shlw64m.lib libguide40.lib -link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll4 -Qansi-alias -Qcxx_features /F512000000 shlw64m.lib libguide40.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: `-fast -Qauto-ilp32 -Qparallel -Qprefetch /F1000000000 libguide40.lib -link /FORCE:MULTIPLE`

416.gamess: `basepeak = yes`

434.zeusmp: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000 libguide40.lib -link /FORCE:MULTIPLE`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qauto-ilp32 -Qunroll4 -Qauto /F1000000000 libguide40.lib -link /FORCE:MULTIPLE`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qauto-ilp32 -Oa -Qprefetch /F1000000000 libguide40.lib -link /FORCE:MULTIPLE`

436.cactusADM: `basepeak = yes`

454.calculix: `-fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000 libguide40.lib -link /FORCE:MULTIPLE`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.xml`

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