SPEC® CFP2006 Result

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Dell Inc.

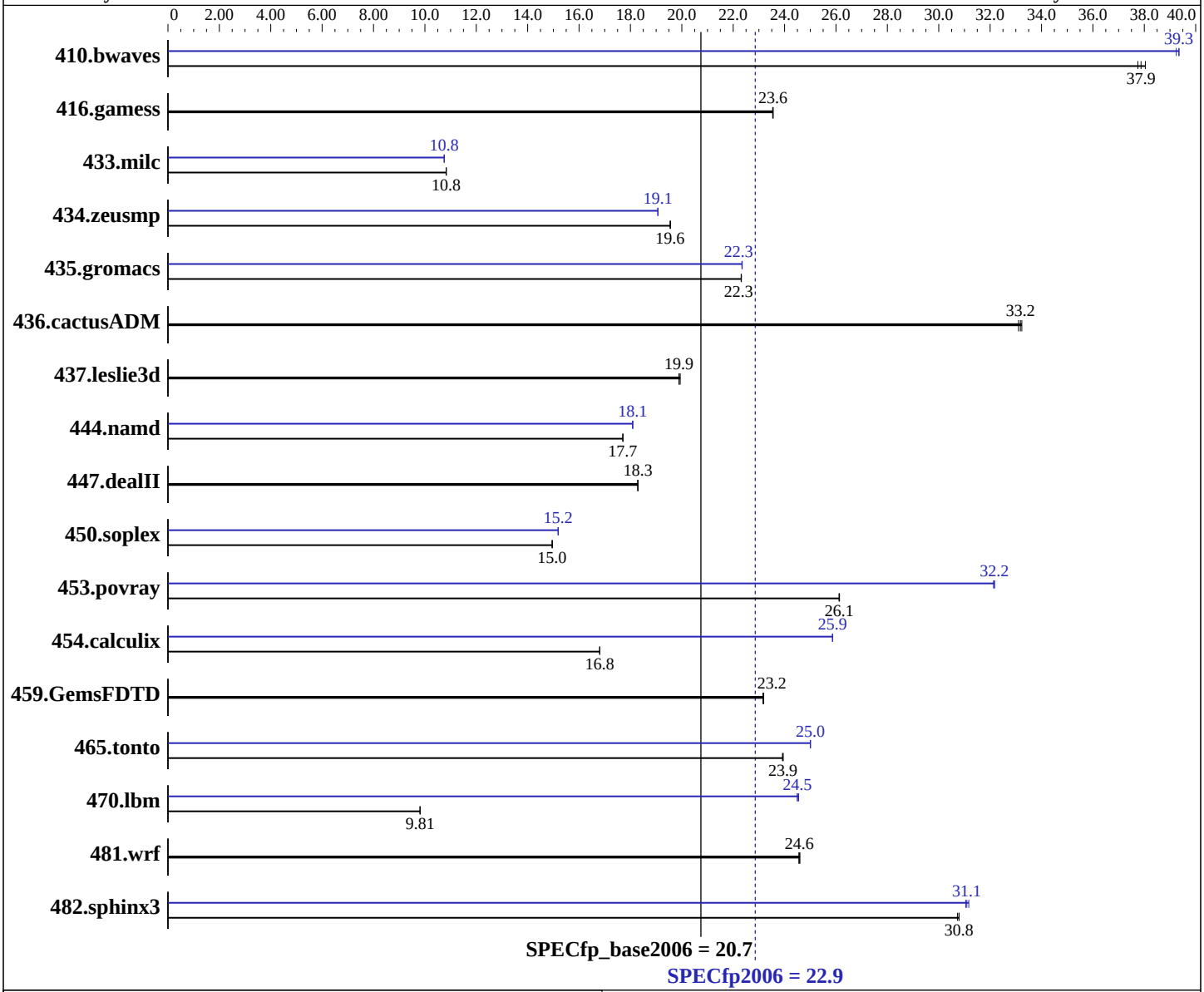
Dell Precision T7400 (Intel Xeon X5272, 3.40 GHz)

SPECfp®2006 = 22.9

SPECfp_base2006 = 20.7

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

Test date: Apr-2008
Hardware Availability: Jan-2008
Software Availability: Mar-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

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Software

Operating System:	Windows Vista Ultimate (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 10.0 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 160 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	360	37.8	357	38.0	**359**	**37.9**	**345**	**39.3**	345	39.4	346	39.2
416.gamess	831	23.6	**831**	**23.6**	832	23.5	831	23.6	**831**	**23.6**	832	23.5
433.milc	847	10.8	848	10.8	**848**	**10.8**	**854**	**10.8**	854	10.8	854	10.8
434.zeusmp	465	19.6	**465**	**19.6**	466	19.5	477	19.1	477	19.1	**477**	**19.1**
435.gromacs	320	22.3	**320**	**22.3**	320	22.3	319	22.3	**319**	**22.3**	320	22.3
436.cactusADM	361	33.1	**360**	**33.2**	360	33.2	361	33.1	**360**	**33.2**	360	33.2
437.leslie3d	473	19.9	**472**	**19.9**	471	19.9	473	19.9	**472**	**19.9**	471	19.9
444.namd	**453**	**17.7**	453	17.7	453	17.7	443	18.1	**443**	**18.1**	443	18.1
447.dealII	625	18.3	626	18.3	**625**	**18.3**	625	18.3	626	18.3	**625**	**18.3**
450.soplex	**558**	**15.0**	558	15.0	557	15.0	**549**	**15.2**	549	15.2	549	15.2
453.povray	**204**	**26.1**	204	26.1	204	26.1	166	32.1	165	32.2	**165**	**32.2**
454.calculix	**491**	**16.8**	491	16.8	491	16.8	319	25.9	**319**	**25.9**	319	25.9
459.GemsFDTD	**458**	**23.2**	458	23.2	458	23.2	**458**	**23.2**	458	23.2	458	23.2
465.tonto	411	23.9	411	23.9	**411**	**23.9**	394	25.0	**394**	**25.0**	393	25.0
470.lbm	**1400**	**9.81**	1401	9.81	1400	9.82	**561**	**24.5**	560	24.5	561	24.5
481.wrf	454	24.6	**455**	**24.6**	455	24.6	454	24.6	**455**	**24.6**	455	24.6
482.sphinx3	**633**	**30.8**	633	30.8	634	30.7	625	31.2	628	31.0	**627**	**31.1**

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

General Notes

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

Base Compiler Invocation

C benchmarks:

```
icl -Qstd=c99
```

C++ benchmarks:

```
icl
```

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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 /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F1000000000
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 /F1000000000 libguide40.lib -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000 libguide40.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Oa -Qcxx_features /F1000000000 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 /F1000000000 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 /F1000000000 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.20090714.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.20090714.xml`

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