SPEC® CFP2006 Result

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Dell Inc.

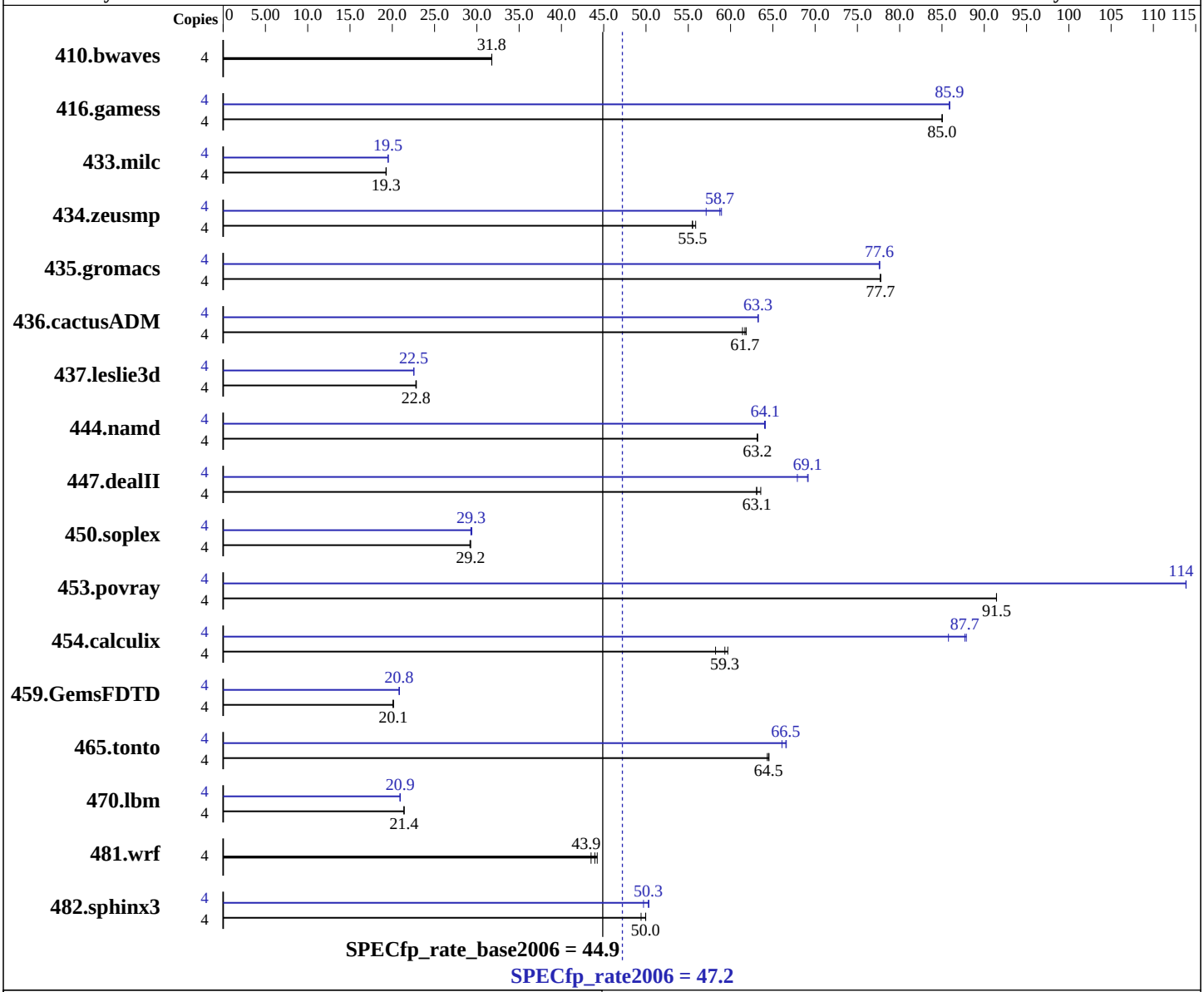
Dell Precision T3400 (Intel QX9650, 3.00 GHz)

SPECfp®_rate2006 = 47.2

SPECfp_rate_base2006 = 44.9

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

Test date: Dec-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Extreme QX9650
CPU Characteristics:	1333 MHz Bus Speed
CPU MHz:	3000
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System:	Windows XP Professional x64 Edition SP2
Compiler:	Intel C++ Compiler for Intel 64, Version 10.1 Build 20070809 Package ID: w_cc_p_10.1.011 Intel Visual Fortran Compiler for Intel 64, Version 10.0 Build 20070809 Package ID: w_fc_p_10.1.011 Microsoft Visual Studio 2005 SP1
Auto Parallel:	No
File System:	NTFS

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB 800 MHz ECC CL6 DDR2)
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1712	31.8	**1711**	**31.8**	1711	31.8	4	1712	31.8	**1711**	**31.8**	1711	31.8
416.gamess	4	921	85.0	921	85.0	**921**	**85.0**	4	912	85.9	912	85.9	**912**	**85.9**
433.milc	4	1904	19.3	**1906**	**19.3**	1906	19.3	4	**1882**	**19.5**	1881	19.5	1883	19.5
434.zeusmp	4	**656**	**55.5**	651	55.9	656	55.5	4	637	57.1	**620**	**58.7**	618	58.9
435.gromacs	4	368	77.7	367	77.7	**367**	**77.7**	4	368	77.6	**368**	**77.6**	368	77.6
436.cactusADM	4	**775**	**61.7**	778	61.4	773	61.8	4	755	63.3	756	63.2	**756**	**63.3**
437.leslie3d	4	1650	22.8	1645	22.9	**1648**	**22.8**	4	1669	22.5	**1668**	**22.5**	1666	22.6
444.namd	4	508	63.2	**508**	**63.2**	508	63.2	4	501	64.0	500	64.1	**500**	**64.1**
447.dealII	4	**725**	**63.1**	726	63.1	720	63.6	4	**662**	**69.1**	661	69.2	674	67.9
450.soplex	4	**1141**	**29.2**	1143	29.2	1140	29.3	4	1134	29.4	1139	29.3	**1138**	**29.3**
453.povray	4	233	91.4	**233**	**91.5**	233	91.5	4	187	114	**187**	**114**	187	114
454.calculix	4	**556**	**59.3**	567	58.2	553	59.7	4	**376**	**87.7**	385	85.8	375	87.9
459.GemsFDTD	4	**2108**	**20.1**	2108	20.1	2115	20.1	4	**2038**	**20.8**	2039	20.8	2037	20.8
465.tonto	4	612	64.3	**610**	**64.5**	610	64.5	4	591	66.6	**592**	**66.5**	596	66.1
470.lbm	4	**2570**	**21.4**	2570	21.4	2570	21.4	4	2626	20.9	2626	20.9	**2626**	**20.9**
481.wrf	4	1027	43.5	**1017**	**43.9**	1010	44.2	4	1027	43.5	**1017**	**43.9**	1010	44.2
482.sphinx3	4	1578	49.4	1560	50.0	**1561**	**50.0**	4	1568	49.7	1548	50.3	**1551**	**50.3**

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)
```

Base Compiler Invocation

C benchmarks:

```
icl -Qstd=c99
```

C++ benchmarks:

```
icl
```

Fortran benchmarks:

```
ifort
```

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Base Compiler Invocation (Continued)

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 /F1000000000 shlw64m.lib
-link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qcxx_features /F1000000000 shlw64m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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

Peak Compiler Invocation

C benchmarks:
icl -Qstd=c99

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Peak Compiler Invocation (Continued)

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 shlw64m.lib -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000 shlw64m.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 shlw64m.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 -link /FORCE:MULTIPLE

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qprefetch -Qcxx_features /F1000000000 shlw64m.lib -link /FORCE:MULTIPLE

450.soplex: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qcxx_features /F1000000000 shlw64m.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 -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000 -link /FORCE:MULTIPLE

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

437.leslie3d: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qprefetch /F1000000000 -link /FORCE:MULTIPLE

459.GemsFDTD: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Ob0 -Qprefetch /F1000000000 -link /FORCE:MULTIPLE

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

436.cactusADM: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32 -Qunroll2 -Qprefetch /F1000000000 -link /FORCE:MULTIPLE

454.calculix: -fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000 -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.20090714.01.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.20090714.01.xml

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