SPEC® CFP2006 Result

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Dell Inc.

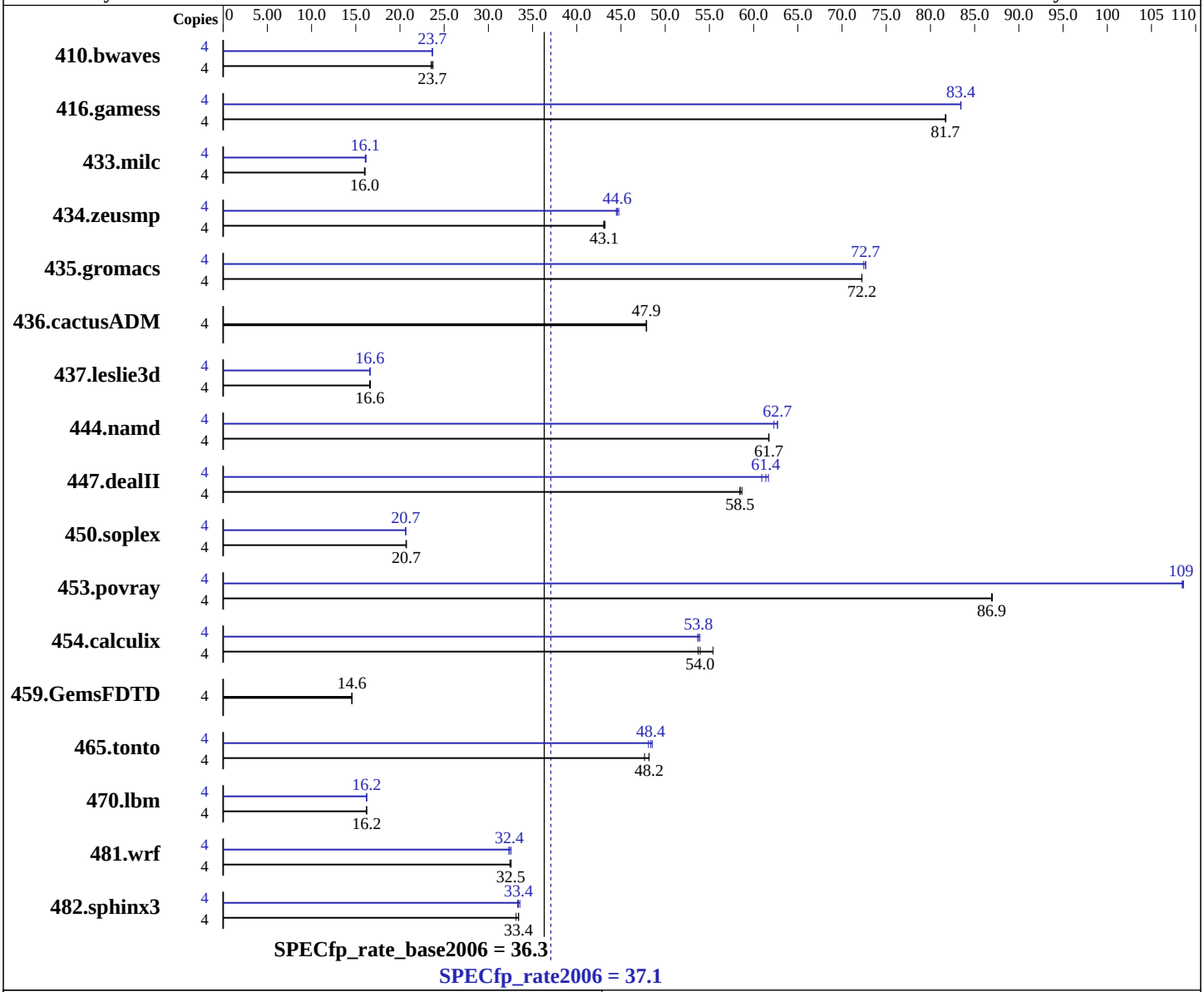
Dell Precision 390 (Intel QX6800, 2.93 GHz)

SPECfp®_rate2006 = 37.1

SPECfp_rate_base2006 = 36.3

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

Test date: Aug-2007
Hardware Availability: Sep-2007
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Core 2 Extreme QX6800
CPU Characteristics:	1066 MHz Bus Speed
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:	8 MB I+D on chip per chip, 4 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 10.0 Build 20070426 Package ID: W_CC_P_10.0.025 Intel Visual Fortran Compiler for Intel 64, Version 10.0 Build 20070426 Package ID: W_FC_P_10.0.025 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 667 MHz ECC CL5 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 8.0 for x64

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	2312	23.5	**2298**	**23.7**	2290	23.7	4	**2297**	**23.7**	2299	23.6	2297	23.7
416.gamess	4	**959**	**81.7**	958	81.8	959	81.7	4	939	83.4	938	83.5	**939**	**83.4**
433.milc	4	**2294**	**16.0**	2287	16.1	2297	16.0	4	**2282**	**16.1**	2284	16.1	2271	16.2
434.zeusmp	4	846	43.0	**845**	**43.1**	843	43.2	4	819	44.5	**816**	**44.6**	813	44.8
435.gromacs	4	395	72.2	**395**	**72.2**	395	72.3	4	394	72.4	393	72.7	**393**	**72.7**
436.cactusADM	4	998	47.9	999	47.8	**998**	**47.9**	4	998	47.9	999	47.8	**998**	**47.9**
437.leslie3d	4	2268	16.6	**2263**	**16.6**	2257	16.7	4	2263	16.6	2263	16.6	**2263**	**16.6**
444.namd	4	520	61.7	520	61.7	**520**	**61.7**	4	515	62.3	**512**	**62.7**	512	62.7
447.dealII	4	783	58.5	780	58.7	**783**	**58.5**	4	751	60.9	**746**	**61.4**	742	61.7
450.soplex	4	1613	20.7	1609	20.7	**1611**	**20.7**	4	1617	20.6	1615	20.7	**1615**	**20.7**
453.povray	4	245	87.0	245	86.9	**245**	**86.9**	4	**196**	**109**	196	108	196	109
454.calculix	4	**612**	**54.0**	614	53.7	595	55.4	4	615	53.7	**614**	**53.8**	612	53.9
459.GemsFDTD	4	2913	14.6	2914	14.6	**2914**	**14.6**	4	2913	14.6	2914	14.6	**2914**	**14.6**
465.tonto	4	826	47.7	**817**	**48.2**	817	48.2	4	**814**	**48.4**	811	48.5	818	48.1
470.lbm	4	**3388**	**16.2**	3386	16.2	3389	16.2	4	**3387**	**16.2**	3386	16.2	3388	16.2
481.wrf	4	1378	32.4	**1373**	**32.5**	1372	32.6	4	**1379**	**32.4**	1383	32.3	1372	32.6
482.sphinx3	4	2353	33.1	**2333**	**33.4**	2333	33.4	4	2341	33.3	2323	33.6	**2334**	**33.4**

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: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qauto_ilp32 /F950000000 shlW64M.lib
-link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qcxx_features -Qauto_ilp32 /F950000000 shlW64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-fast /F950000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qauto_ilp32 /F950000000 -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: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Oa -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

470.lbm: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Qscalar-rep- -Qprefetch -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

482.sphinx3: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Oa -Qcxx_features -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

447.dealII: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qprefetch -Qcxx_features -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

450.soplex: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

453.povray: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qansi-alias -Qcxx_features -Qauto_ilp32 /F950000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: ONESTEP -fast /F950000000 -link /FORCE:MULTIPLE

416.gamess: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F950000000 -link /FORCE:MULTIPLE

434.zeusmp: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F950000000 -link /FORCE:MULTIPLE

437.leslie3d: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F950000000 -link /FORCE:MULTIPLE

459.GemsFDTD: basepeak = yes

465.tonto: Same as 437.leslie3d

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Oa -Qauto_ilp32 /F950000000 -link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -fast -Qauto_ilp32 /F950000000 -link /FORCE:MULTIPLE

481.wrf: Same as 454.calculix

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

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

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