SPEC® CFP2006 Result

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Dell Inc.

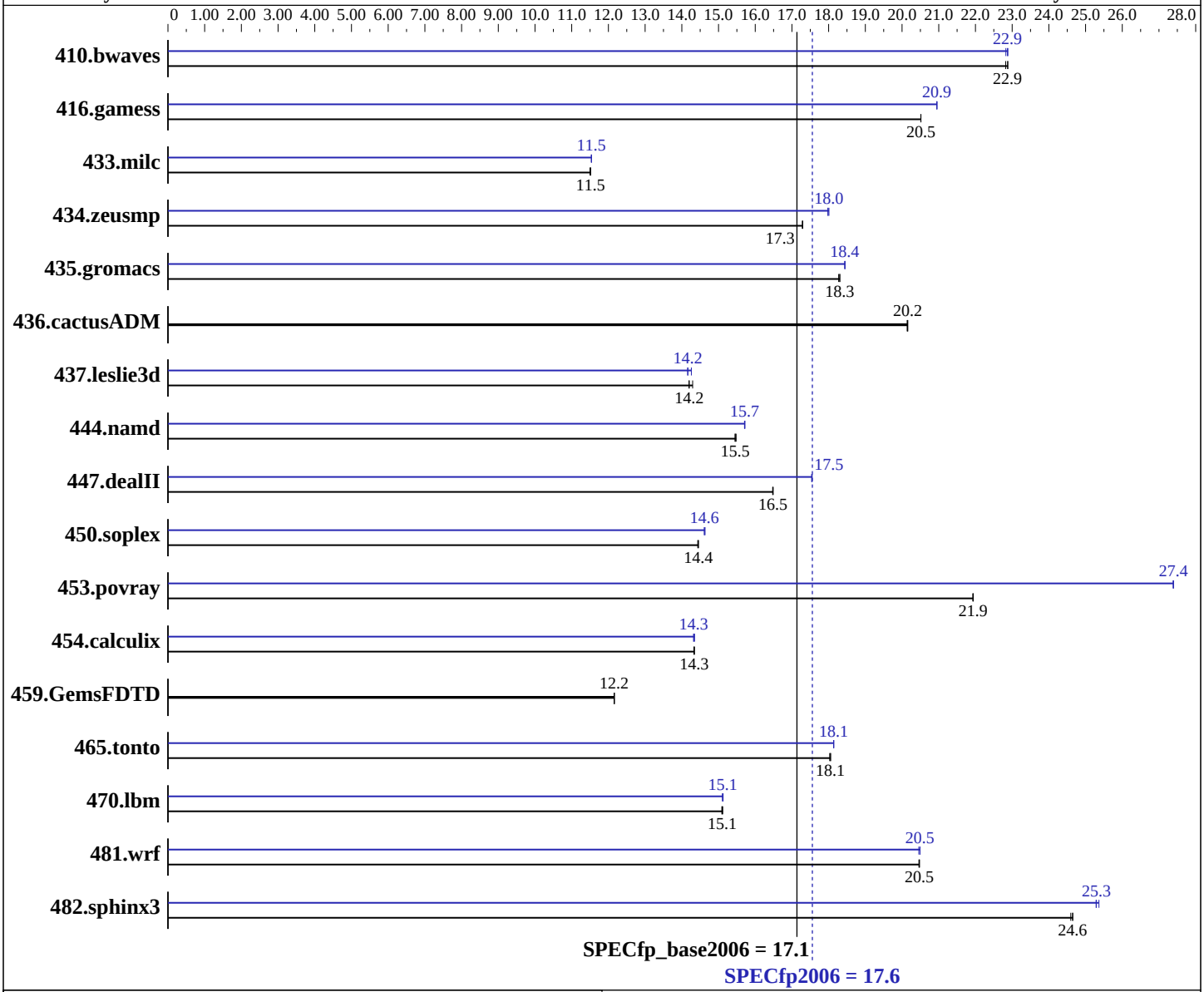
Dell Precision 390 (Intel QX6800, 2.93 GHz)

SPECfp®2006 = 17.6

SPECfp_base2006 = 17.1

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	System State:	Default
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	8 GB (4x2 GB 667 MHz ECC CL5 DDR2)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 80 GB SATA 7200 RPM	Other Software:	MicroQuill SmartHeap Library 8.0 for x64
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**594**	**22.9**	595	22.8	594	22.9	**594**	**22.9**	595	22.8	594	22.9
416.gamess	954	20.5	955	20.5	**954**	**20.5**	**935**	**20.9**	935	21.0	935	20.9
433.milc	798	11.5	**797**	**11.5**	797	11.5	796	11.5	**796**	**11.5**	796	11.5
434.zeusmp	526	17.3	526	17.3	**526**	**17.3**	506	18.0	505	18.0	**506**	**18.0**
435.gromacs	391	18.3	390	18.3	**390**	**18.3**	387	18.4	387	18.4	**387**	**18.4**
436.cactusADM	**593**	**20.2**	593	20.2	593	20.1	**593**	**20.2**	593	20.2	593	20.1
437.leslie3d	662	14.2	658	14.3	**662**	**14.2**	664	14.2	659	14.3	**663**	**14.2**
444.namd	**519**	**15.5**	518	15.5	519	15.5	511	15.7	510	15.7	**510**	**15.7**
447.dealII	694	16.5	694	16.5	**694**	**16.5**	652	17.5	**652**	**17.5**	652	17.6
450.soplex	578	14.4	577	14.5	**577**	**14.4**	571	14.6	**571**	**14.6**	570	14.6
453.povray	243	21.9	**243**	**21.9**	242	21.9	194	27.4	194	27.4	**194**	**27.4**
454.calculix	**575**	**14.3**	576	14.3	575	14.3	576	14.3	575	14.3	**576**	**14.3**
459.GemsFDTD	873	12.2	873	12.2	**873**	**12.2**	873	12.2	873	12.2	**873**	**12.2**
465.tonto	**545**	**18.1**	546	18.0	545	18.1	543	18.1	**543**	**18.1**	542	18.1
470.lbm	911	15.1	**910**	**15.1**	909	15.1	908	15.1	910	15.1	**909**	**15.1**
481.wrf	**546**	**20.5**	546	20.5	546	20.5	546	20.5	545	20.5	**545**	**20.5**
482.sphinx3	792	24.6	791	24.7	**791**	**24.6**	771	25.3	768	25.4	**771**	**25.3**

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: -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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