SPEC® CFP2006 Result

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Dell Inc.

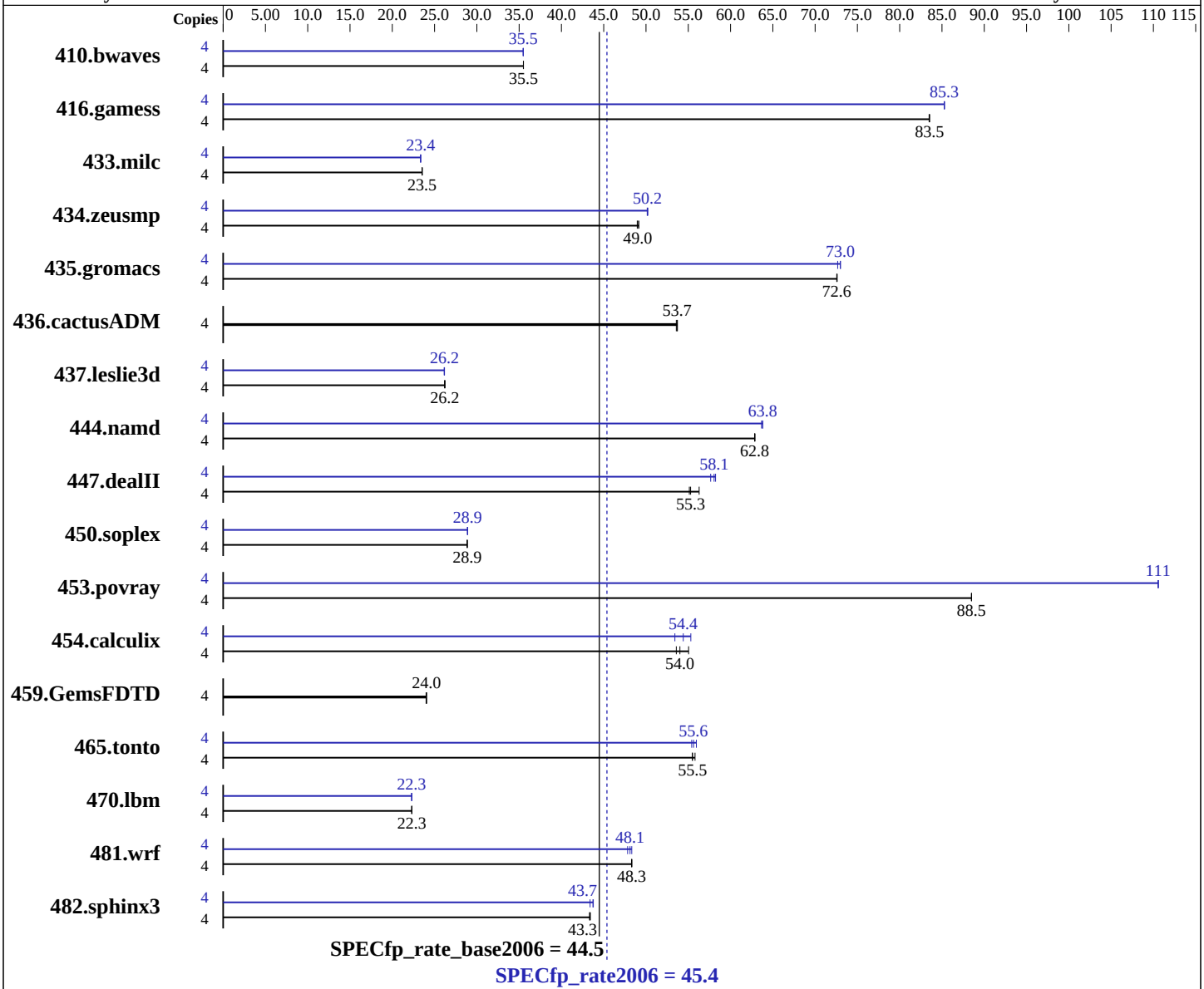
Dell Precision 690 (Intel 5160, 3.00 GHz)

SPECfp®_rate2006 = 45.4

SPECfp_rate_base2006 = 44.5

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

Test date: Aug-2007
Hardware Availability: May-2006
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon 5160
CPU Characteristics:	1333 MHz Bus Speed
CPU MHz:	3000
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:	4 MB I+D on chip per chip

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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 (8x1 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 73GB SAS 10K 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	**1531**	**35.5**	1531	35.5	1531	35.5	4	**1531**	**35.5**	1533	35.5	1531	35.5
416.gamess	4	938	83.5	938	83.5	**938**	**83.5**	4	918	85.3	**918**	**85.3**	918	85.3
433.milc	4	1560	23.5	**1561**	**23.5**	1561	23.5	4	**1573**	**23.4**	1572	23.4	1573	23.3
434.zeusmp	4	740	49.2	**742**	**49.0**	743	49.0	4	725	50.2	**726**	**50.2**	726	50.1
435.gromacs	4	394	72.6	**394**	**72.6**	393	72.6	4	393	72.7	391	73.0	**391**	**73.0**
436.cactusADM	4	892	53.6	**891**	**53.7**	890	53.7	4	892	53.6	**891**	**53.7**	890	53.7
437.leslie3d	4	**1434**	**26.2**	1434	26.2	1436	26.2	4	1437	26.2	**1437**	**26.2**	1439	26.1
444.namd	4	511	62.8	510	62.9	**510**	**62.8**	4	504	63.7	503	63.8	**503**	**63.8**
447.dealII	4	830	55.1	**828**	**55.3**	813	56.3	4	794	57.6	**788**	**58.1**	786	58.2
450.soplex	4	**1156**	**28.9**	1157	28.8	1155	28.9	4	1156	28.9	1154	28.9	**1154**	**28.9**
453.povray	4	**240**	**88.5**	240	88.5	240	88.5	4	192	111	**192**	**111**	192	111
454.calculix	4	616	53.6	600	55.0	**611**	**54.0**	4	618	53.4	597	55.3	**607**	**54.4**
459.GemsFDTD	4	1765	24.0	**1765**	**24.0**	1769	24.0	4	1765	24.0	**1765**	**24.0**	1769	24.0
465.tonto	4	705	55.8	709	55.5	**709**	**55.5**	4	703	56.0	**708**	**55.6**	710	55.4
470.lbm	4	2463	22.3	**2464**	**22.3**	2464	22.3	4	2464	22.3	2466	22.3	**2465**	**22.3**
481.wrf	4	925	48.3	925	48.3	**925**	**48.3**	4	934	47.8	**929**	**48.1**	925	48.3
482.sphinx3	4	**1798**	**43.3**	1795	43.4	1799	43.3	4	1797	43.4	**1783**	**43.7**	1781	43.8

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
  Snoop Filter                 : ON
  Adjacent Cache Line Prefetch : ON
  Hardware Prefetcher          : ON

  Snoop Filter
    Preserves cache coherency while minimizing snoops
    to remote nodes.

  Adjacent Cache Line Prefetch
    Prefetch data in order to shorten execution cycles
    and maximize data processing efficiency.
```

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General Notes (Continued)

```
    Optimization for high-frequency FSB applicatons: ON
```

Base Compiler Invocation

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

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

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: -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
```

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Base Optimization Flags (Continued)

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

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Peak Optimization Flags (Continued)

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

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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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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