SPEC® CFP2006 Result

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Dell Inc.

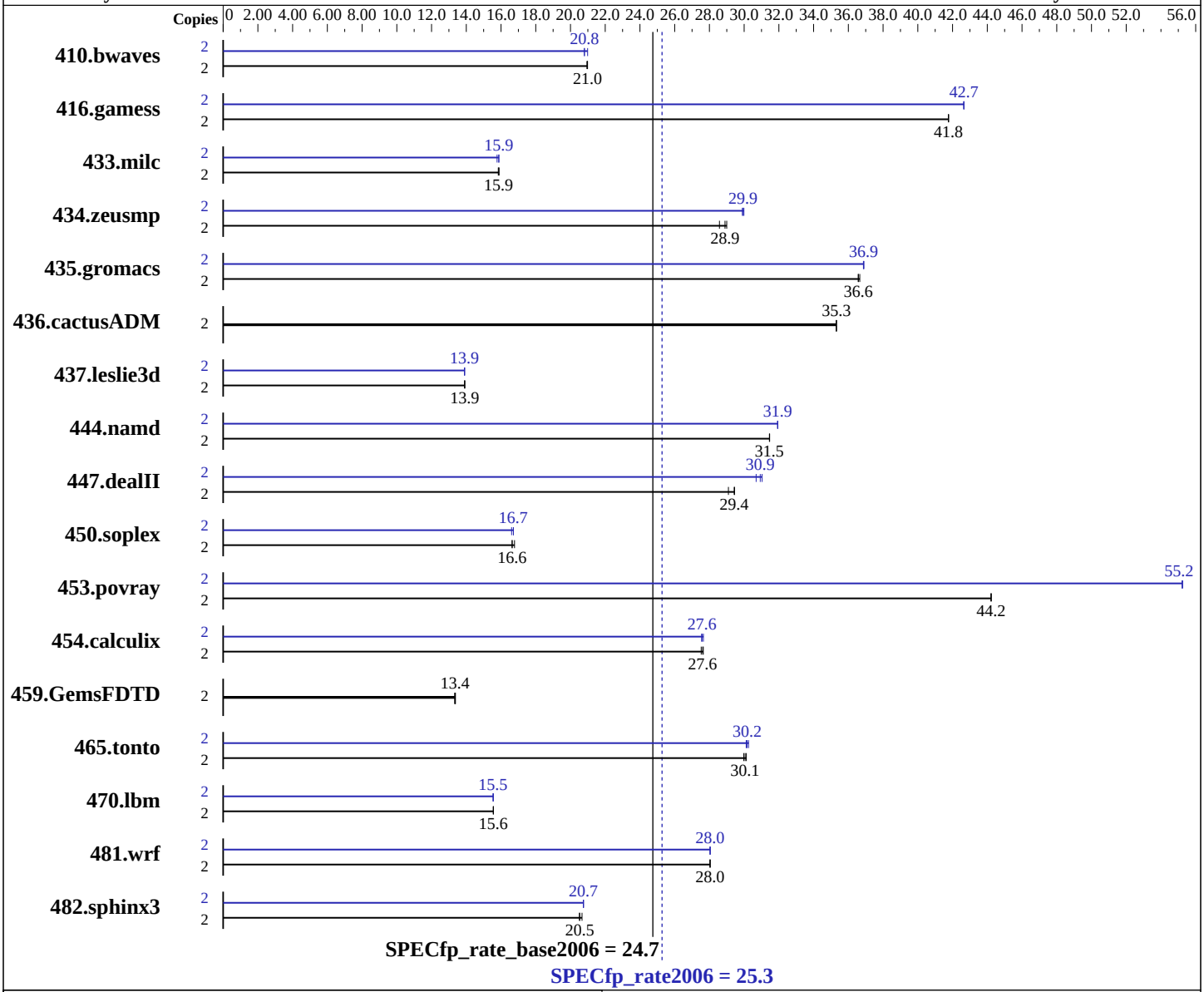
Dell Precision 690 (Intel 5160, 3.00 GHz)

SPECfp®_rate2006 = 25.3

SPECfp_rate_base2006 = 24.7

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:	2 cores, 1 chip, 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	2	1295	21.0	1298	20.9	**1296**	**21.0**	2	1295	21.0	**1306**	**20.8**	1307	20.8
416.gamess	2	937	41.8	**938**	**41.8**	938	41.8	2	918	42.7	**918**	**42.7**	918	42.6
433.milc	2	**1157**	**15.9**	1156	15.9	1159	15.8	2	1156	15.9	**1157**	**15.9**	1164	15.8
434.zeusmp	2	628	29.0	637	28.6	**630**	**28.9**	2	609	29.9	607	30.0	**608**	**29.9**
435.gromacs	2	390	36.7	**390**	**36.6**	390	36.6	2	387	36.9	387	36.9	**387**	**36.9**
436.cactusADM	2	**677**	**35.3**	677	35.3	677	35.3	2	**677**	**35.3**	677	35.3	677	35.3
437.leslie3d	2	1352	13.9	**1352**	**13.9**	1351	13.9	2	1352	13.9	1353	13.9	**1352**	**13.9**
444.namd	2	510	31.5	**510**	**31.5**	510	31.5	2	502	31.9	502	31.9	**502**	**31.9**
447.dealII	2	786	29.1	777	29.4	**778**	**29.4**	2	746	30.7	**740**	**30.9**	737	31.0
450.soplex	2	994	16.8	**1002**	**16.6**	1003	16.6	2	998	16.7	**998**	**16.7**	1004	16.6
453.povray	2	241	44.2	**241**	**44.2**	241	44.2	2	**193**	**55.2**	193	55.2	193	55.2
454.calculix	2	597	27.6	599	27.5	**598**	**27.6**	2	599	27.6	597	27.7	**598**	**27.6**
459.GemsFDTD	2	**1588**	**13.4**	1586	13.4	1592	13.3	2	**1588**	**13.4**	1586	13.4	1592	13.3
465.tonto	2	653	30.1	656	30.0	**655**	**30.1**	2	**652**	**30.2**	650	30.3	653	30.1
470.lbm	2	**1766**	**15.6**	1766	15.6	1766	15.6	2	1767	15.6	**1767**	**15.5**	1767	15.5
481.wrf	2	**797**	**28.0**	797	28.0	797	28.0	2	**797**	**28.0**	797	28.0	797	28.0
482.sphinx3	2	1886	20.7	**1898**	**20.5**	1900	20.5	2	1880	20.7	**1879**	**20.7**	1879	20.7

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                 : OFF
  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.
```

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
```

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

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

Continued on next page

Base Optimization Flags (Continued)

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`

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Peak Optimization Flags (Continued)

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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