SPEC® CFP2006 Result

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Dell Inc.

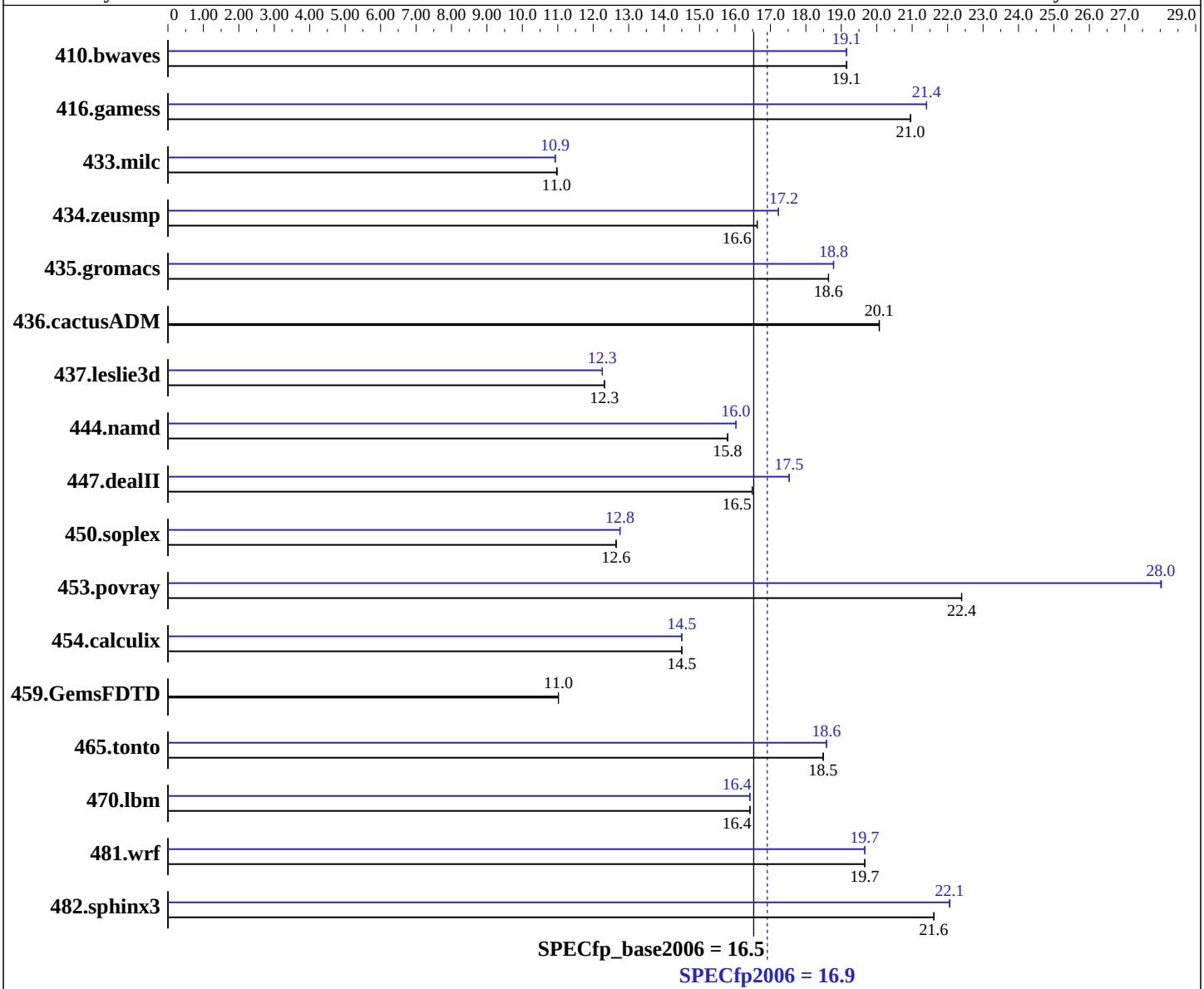
Dell Precision 690 (Intel Xeon X5365, 3.00 GHz)

SPECfp®2006 = 16.9

SPECfp_base2006 = 16.5

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

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



Hardware

CPU Name:	Intel Xeon X5365
CPU Characteristics:	1333 MHz Bus Speed
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1,2 chips
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:	16 GB (8x2 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**710**	**19.1**	710	19.2	710	19.1	710	19.1	710	19.2	**710**	**19.1**
416.gamess	**934**	**21.0**	935	21.0	934	21.0	**915**	**21.4**	915	21.4	915	21.4
433.milc	836	11.0	**837**	**11.0**	837	11.0	**840**	**10.9**	839	10.9	841	10.9
434.zeusmp	**547**	**16.6**	547	16.6	548	16.6	**528**	**17.2**	528	17.2	528	17.2
435.gromacs	**383**	**18.6**	383	18.6	383	18.6	**380**	**18.8**	380	18.8	380	18.8
436.cactusADM	595	20.1	**595**	**20.1**	596	20.1	595	20.1	**595**	**20.1**	596	20.1
437.leslie3d	**763**	**12.3**	763	12.3	763	12.3	**767**	**12.3**	767	12.3	767	12.3
444.namd	508	15.8	508	15.8	**508**	**15.8**	500	16.0	**500**	**16.0**	500	16.0
447.dealII	**694**	**16.5**	694	16.5	694	16.5	**653**	**17.5**	652	17.5	653	17.5
450.soplex	660	12.6	659	12.6	**660**	**12.6**	**654**	**12.8**	654	12.8	654	12.8
453.povray	237	22.4	**238**	**22.4**	238	22.4	190	28.0	**190**	**28.0**	190	28.0
454.calculix	**569**	**14.5**	569	14.5	569	14.5	569	14.5	569	14.5	**569**	**14.5**
459.GemsFDTD	**963**	**11.0**	963	11.0	963	11.0	**963**	**11.0**	963	11.0	963	11.0
465.tonto	532	18.5	532	18.5	**532**	**18.5**	529	18.6	530	18.6	**529**	**18.6**
470.lbm	**837**	**16.4**	837	16.4	837	16.4	**837**	**16.4**	837	16.4	837	16.4
481.wrf	568	19.7	568	19.7	**568**	**19.7**	**568**	**19.7**	568	19.7	568	19.7
482.sphinx3	902	21.6	**902**	**21.6**	902	21.6	**884**	**22.1**	883	22.1	884	22.0

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
```

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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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