SPEC® CFP2006 Result

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Dell Inc.

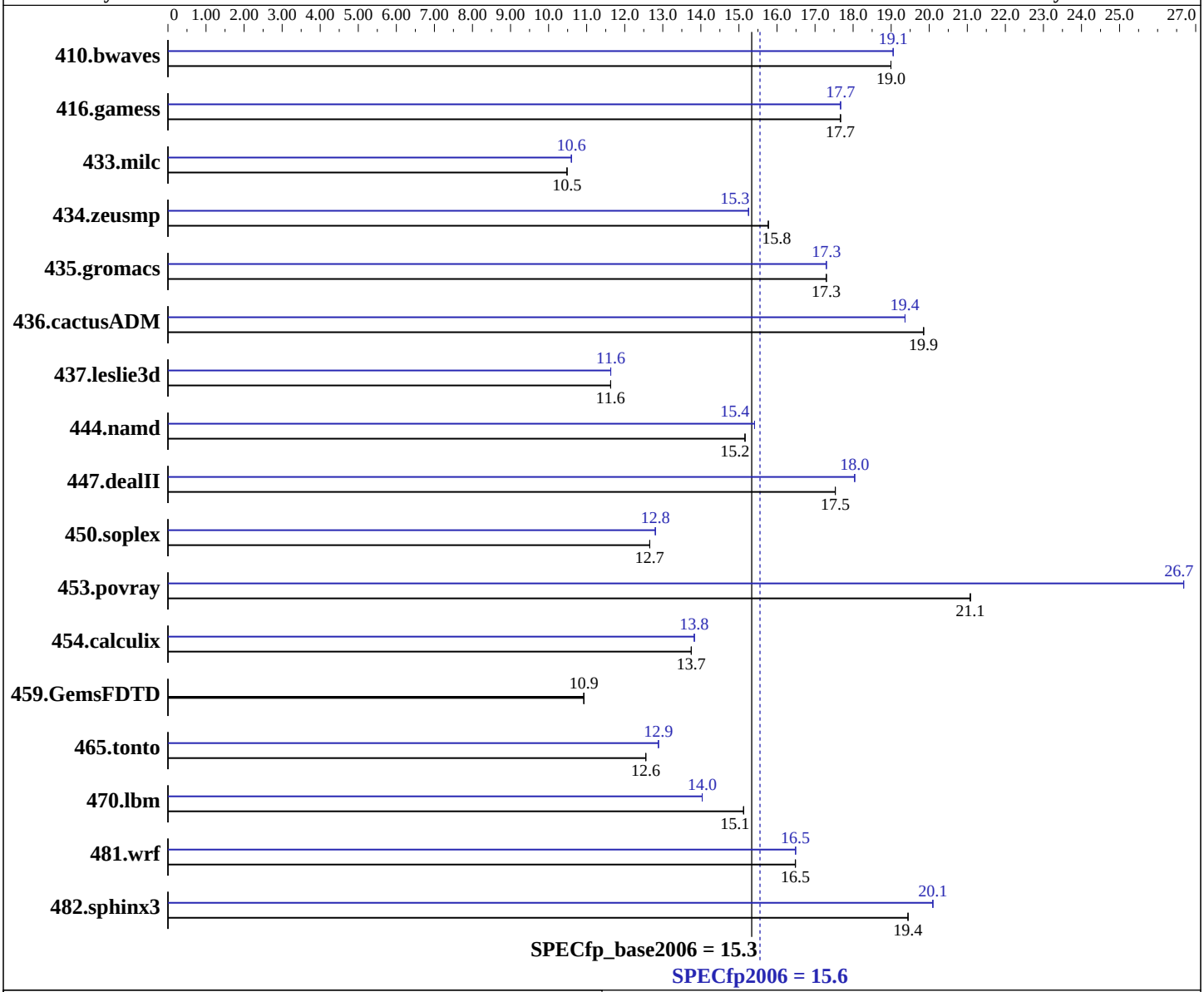
Dell Precision 690 (Intel Xeon 5160, 3.00 GHz)

SPECfp®2006 = 15.6

SPECfp_base2006 = 15.3

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

Test date: Jan-2007
Hardware Availability: May-2006
Software Availability: Jan-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
Compiler:	Intel C++ Compiler 9.1 for IA32 (20061103Z) Intel FORTRAN Compiler 9.1 for IA32 (20061103Z) Microsoft Visual Studio 2005
Auto Parallel:	No
File System:	NTFS
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB 667 MHz ECC CL5 DDR2 FB-DIMM)
Disk Subsystem: 1 x 72 GB SAS 10K RPM
Other Hardware: None

Other Software: MicroQuill SmartHeap Library 8.0

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	715	19.0	**715**	**19.0**	716	19.0	**713**	**19.1**	713	19.1	713	19.1
416.gamess	**1108**	**17.7**	1108	17.7	1108	17.7	1108	17.7	1108	17.7	**1108**	**17.7**
433.milc	876	10.5	**876**	**10.5**	876	10.5	**866**	**10.6**	866	10.6	866	10.6
434.zeusmp	577	15.8	**577**	**15.8**	577	15.8	597	15.3	**597**	**15.3**	597	15.3
435.gromacs	413	17.3	**413**	**17.3**	413	17.3	413	17.3	413	17.3	**413**	**17.3**
436.cactusADM	602	19.9	602	19.9	**602**	**19.9**	617	19.4	**617**	**19.4**	617	19.4
437.leslie3d	**808**	**11.6**	808	11.6	808	11.6	808	11.6	808	11.6	**808**	**11.6**
444.namd	529	15.2	**529**	**15.2**	529	15.2	**520**	**15.4**	520	15.4	520	15.4
447.dealII	**653**	**17.5**	653	17.5	652	17.5	**634**	**18.0**	634	18.0	634	18.0
450.soplex	**659**	**12.7**	659	12.7	659	12.7	651	12.8	**651**	**12.8**	651	12.8
453.povray	252	21.1	252	21.1	**252**	**21.1**	199	26.7	199	26.7	**199**	**26.7**
454.calculix	600	13.7	600	13.7	**600**	**13.7**	**597**	**13.8**	597	13.8	597	13.8
459.GemsFDTD	**971**	**10.9**	971	10.9	971	10.9	**971**	**10.9**	971	10.9	971	10.9
465.tonto	784	12.6	**784**	**12.6**	784	12.6	**764**	**12.9**	764	12.9	764	12.9
470.lbm	909	15.1	**909**	**15.1**	909	15.1	979	14.0	**979**	**14.0**	979	14.0
481.wrf	678	16.5	**678**	**16.5**	677	16.5	**677**	**16.5**	677	16.5	677	16.5
482.sphinx3	**1002**	**19.4**	1002	19.4	1002	19.4	970	20.1	970	20.1	**970**	**20.1**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
BIOS Settings
  Adjacent Cache Line Prefetch set to ON:
   Prefetch data in order to shorten execution
   cycles and maximize data processing efficiency.

  Snoop Filter set to OFF
   Snoop Filter preserves cache coherency while minimizing
   snoops to remote nodes.

32-bit binaries were built on Windows XP Professional x64 Edition
```

Base Compiler Invocation

C benchmarks:
```
icl -Qc99
```

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

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qc99 ifort
```

Base Portability Flags

436.cactusADM: `-Qlowercase /assume:underscore`
444.namd: `-TP`
447.dealII: `-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DBOOST_NO_INTRINSIC_WCHAR_T`
453.povray: `-DSPEC_CPU_WINDOWS_ICL`
454.calculix: `-DSPEC_CPU_NOZMODIFIER -Qlowercase`
481.wrf: `-DSPEC_CPU_WINDOWS_ICL`

Base Optimization Flags

C benchmarks:
```
-fast /F512000000 shlW32M.lib            -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
-fast -Qcxx_features /F512000000 shlW32M.lib
            -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-fast /F1000000000           -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:
```
-fast /F1000000000           -link /FORCE:MULTIPLE
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qc99
```

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

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:
ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F512000000 shlW32M.lib -link /FORCE:MULTIPLE

C++ benchmarks:
ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features /F512000000 shlW32M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F1000000000 -link /FORCE:MULTIPLE

416.gamess: ONESTEP -fast /F1000000000 -link /FORCE:MULTIPLE

434.zeusmp: Same as 410.bwaves

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

435.gromacs: -fast /F1000000000 -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

436.cactusADM: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast /F1000000000 -link /FORCE:MULTIPLE`

454.calculix: `Same as 436.cactusADM`

481.wrf: `Same as 435.gromacs`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.xml`

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