



# 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

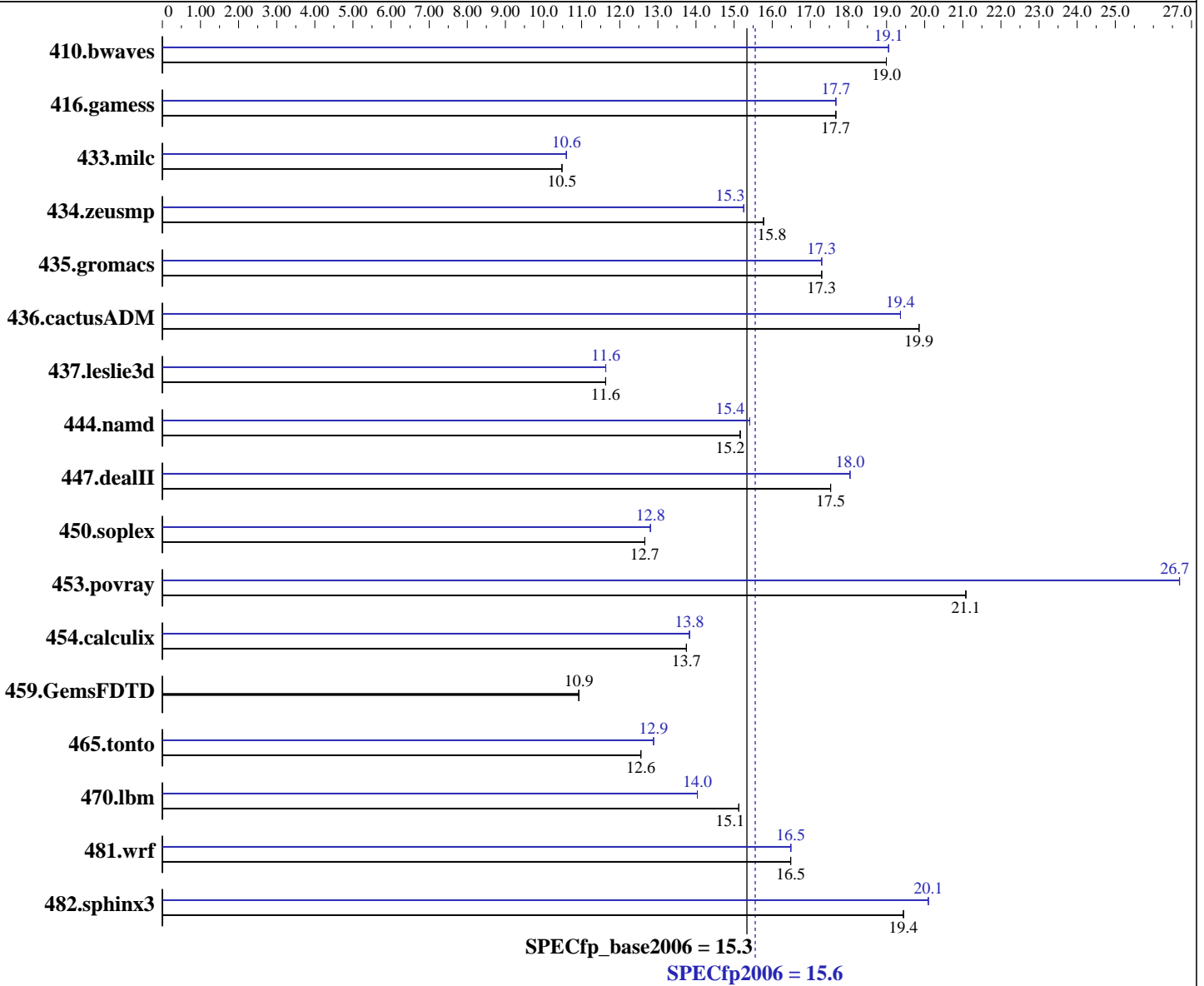
Test sponsor: Dell Inc.

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

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



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## 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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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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