



# SPEC® CFP2006 Result

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## Intel Corporation

Intel D975BX2 motherboard (Intel Core 2 Quad QX6800)

**SPECfp®2006 = 18.8**

**SPECfp\_base2006 = 18.3**

CPU2006 license: 13

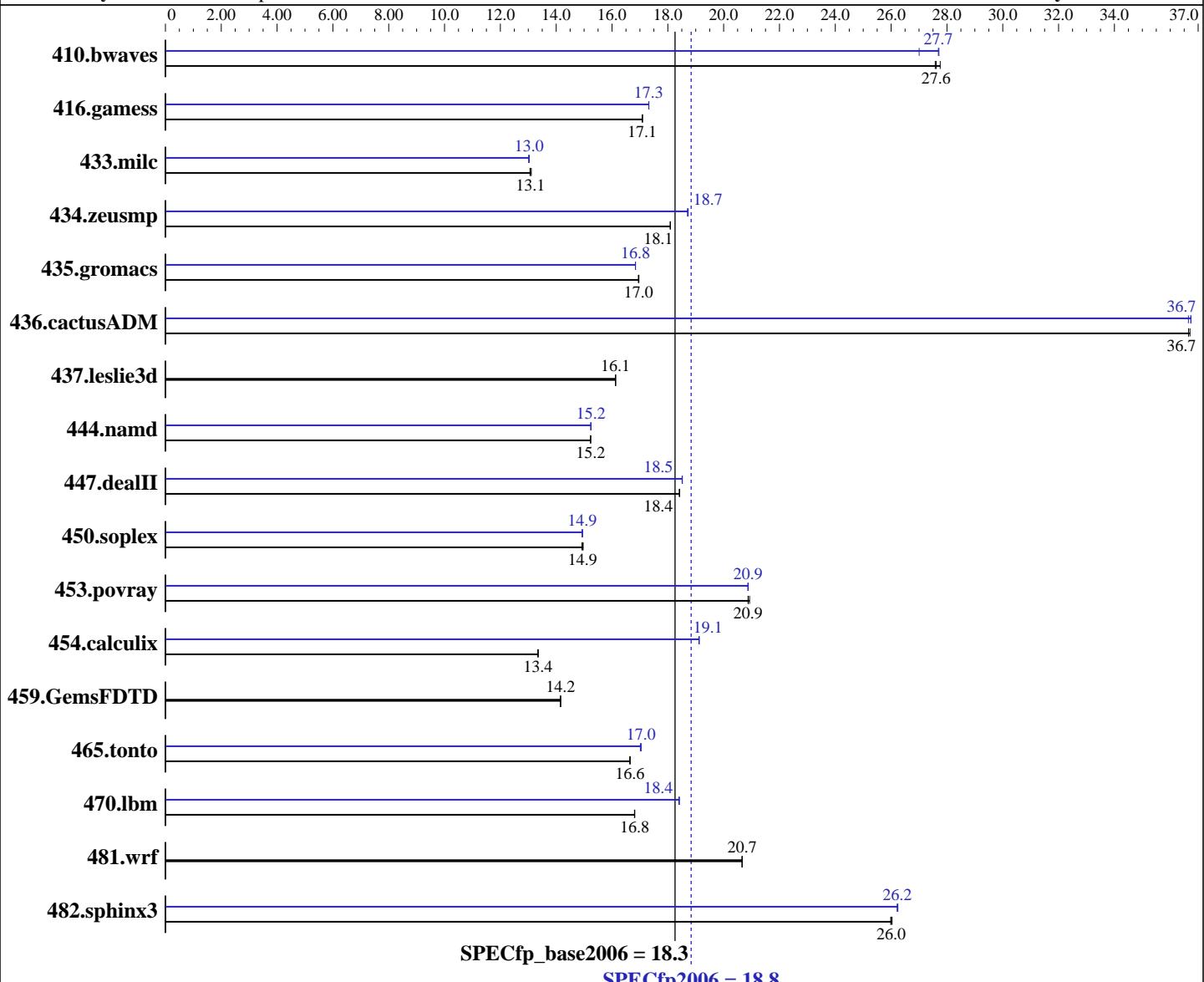
Test sponsor: Intel Corporation

Tested by: Intel Corporation

**Test date:** Nov-2007

**Hardware Availability:** Sep-2007

**Software Availability:** Nov-2007



### Hardware

CPU Name: Intel Core 2 Quad QX6800  
CPU Characteristics: 2.93 GHz 1066 MHz FSB  
CPU MHz: 2933  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
CPU(s) orderable: 1 chip  
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

### Software

Operating System: Windows Vista64 Ultimate  
Compiler: Intel C++ Compiler for IA32 version 10.1  
Build 20070913 Package ID: w\_cc\_p\_10.1.011  
Intel Fortran Compiler for IA32 version 10.1  
Build 20070913 Package ID: w\_fc\_p\_10.1.011  
Microsoft Visual Studio 2005 SP1 (for libraries)  
Auto Parallel: Yes  
File System: NTFS  
System State: Default

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L3 Cache:	None	Base Pointers:	32-bit
Other Cache:	None	Peak Pointers:	32-bit
Memory:	4 GB (4x1GB Micron MT16HTF12864AY-80ED4 DDR2-800 CL5)	Other Software:	SmartHeap Library Version 8.1 from <a href="http://www.microquill.com/">http://www.microquill.com/</a>
Disk Subsystem:	Seagate 320GB NCQ SATA, 16MB cache, 7200 RPM		
Other Hardware:	None		

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	493	27.6	490	27.8	<b>492</b>	<b>27.6</b>	503	27.0	<b>491</b>	<b>27.7</b>	490	27.7
416.gamess	1146	17.1	<b>1146</b>	<b>17.1</b>	1146	17.1	1130	17.3	<b>1131</b>	<b>17.3</b>	1131	17.3
433.milc	700	13.1	<b>702</b>	<b>13.1</b>	703	13.1	<b>705</b>	<b>13.0</b>	704	13.0	<b>705</b>	<b>13.0</b>
434.zeusmp	503	18.1	503	18.1	<b>503</b>	<b>18.1</b>	486	18.7	<b>486</b>	<b>18.7</b>	486	18.7
435.gromacs	421	17.0	<b>421</b>	<b>17.0</b>	421	16.9	424	16.8	<b>424</b>	<b>16.8</b>	424	16.8
436.cactusADM	326	36.7	<b>326</b>	<b>36.7</b>	326	36.7	326	36.7	325	36.7	<b>325</b>	<b>36.7</b>
437.leslie3d	583	16.1	<b>583</b>	<b>16.1</b>	583	16.1	<b>583</b>	<b>16.1</b>	<b>583</b>	<b>16.1</b>	583	16.1
444.namd	526	15.2	<b>527</b>	<b>15.2</b>	527	15.2	<b>526</b>	<b>15.2</b>	526	15.2	<b>526</b>	<b>15.2</b>
447.dealII	621	18.4	621	18.4	<b>621</b>	<b>18.4</b>	618	18.5	618	18.5	<b>618</b>	<b>18.5</b>
450.soplex	557	15.0	<b>558</b>	<b>14.9</b>	559	14.9	<b>559</b>	<b>14.9</b>	558	14.9	<b>558</b>	<b>14.9</b>
453.povray	255	20.9	<b>255</b>	<b>20.9</b>	254	20.9	<b>255</b>	<b>20.9</b>	255	20.9	<b>255</b>	<b>20.9</b>
454.calculix	618	13.4	<b>618</b>	<b>13.4</b>	618	13.3	<b>432</b>	<b>19.1</b>	<b>432</b>	<b>19.1</b>	431	19.1
459.GemsFDTD	<b>749</b>	<b>14.2</b>	750	14.1	749	14.2	<b>749</b>	<b>14.2</b>	750	14.1	749	14.2
465.tonto	<b>591</b>	<b>16.6</b>	591	16.6	591	16.6	<b>578</b>	<b>17.0</b>	<b>578</b>	<b>17.0</b>	577	17.0
470.lbm	817	16.8	<b>817</b>	<b>16.8</b>	818	16.8	<b>746</b>	<b>18.4</b>	<b>747</b>	<b>18.4</b>	747	18.4
481.wrf	541	20.7	<b>541</b>	<b>20.7</b>	540	20.7	<b>541</b>	<b>20.7</b>	<b>541</b>	<b>20.7</b>	540	20.7
482.sphinx3	750	26.0	<b>749</b>	<b>26.0</b>	749	26.0	<b>743</b>	<b>26.2</b>	<b>743</b>	<b>26.2</b>	743	26.2

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

## General Notes

Tested systems can be used with Shin-G ATX case, Antec NeoPower 480W power supply Product description located as of 11/2007:

<http://www.intel.com/products/motherboard/D975BX2/index.htm>

The system bus runs at 1066 MHz

System was configured with Asus EN8800GTX discrete graphics card

Binaries were built on Windows Vista32

The following VS 2005 SP1 updates were applied: KB926601 and KB932232

## Base Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

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<b>Intel Corporation</b> Intel D975XBX2 motherboard (Intel Core 2 Quad QX6800)	<b>SPECfp2006 =</b> 18.8 <b>SPECfp_base2006 =</b> 18.3
<b>CPU2006 license:</b> 13 <b>Test sponsor:</b> Intel Corporation <b>Tested by:</b> Intel Corporation	<b>Test date:</b> Nov-2007 <b>Hardware Availability:</b> Sep-2007 <b>Software Availability:</b> Nov-2007

## Base Compiler Invocation (Continued)

## C++ benchmarks:   *icl -Qvc8*

## Fortran benchmarks: ifort

Benchmarks using both Fortran and C:  
  `icl -Ovc8 -Oc99 ifort`

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:

-fast -Qparallel /F1000000000 libguide40.lib

## C++ benchmarks:

```
-fast -Qparallel -Qcxx_features /F100000000000 shlw32m.lib  
libguide40.lib -link /FORCE:MULTIPLE
```

## Fortran benchmarks:

-fast -Qparallel /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

-fast -Oparallel /F1000000000 libguide40.lib

# Peak Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

## C++ benchmarks:

icl -Ovc8

## Fortran benchmarks: ifort

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## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

icl -Qvc8 -Qc99 ifort

## Peak Portability Flags

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

## Peak Optimization Flags

C benchmarks:

```
433.milc: -fast -Qunroll12 -Oa /F1000000000 libguide40.lib
470.lbm: -fast -Qunroll12 -Qscalar-rep- -Qprefetch /F1000000000
          libguide40.lib
482.sphinx3: -fast -Qunroll12 /F1000000000 libguide40.lib
```

C++ benchmarks:

```
444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
          libguide40.lib           -link /FORCE:MULTIPLE
447.dealII: -fast -Qunroll12 -Qprefetch -Qcxx_features /F1000000000
          shlw32m.lib libguide40.lib           -link /FORCE:MULTIPLE
450.soplex: -fast -Qparallel -Qcxx_features /F1000000000 shlw32m.lib
          libguide40.lib           -link /FORCE:MULTIPLE
453.povray: -fast -Qunroll4 -Qcxx_features /F1000000000 shlw32m.lib
          libguide40.lib           -link /FORCE:MULTIPLE
```

Fortran benchmarks:

```
410.bwaves: -fast -Qparallel -Qprefetch /F1000000000 libguide40.lib
416.gamess: -fast -Qunroll12 -Ob0 -Qansi-alias -Qscalar-rep-
            /F1000000000 libguide40.lib
434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000
            libguide40.lib
```

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## Peak Optimization Flags (Continued)

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -fast -Qunroll14 -Qauto /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

435.gromacs: -fast -Oa -Qprefetch /F1000000000 libguide40.lib

436.cactusADM: -fast -Qunroll12 -Qparallel -Qprefetch /F1000000000 libguide40.lib

454.calculix: -fast -Qunroll-aggressive /F1000000000 libguide40.lib

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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