



# SPEC® CFP2006 Result

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## Intel Corporation

**SPECfp®\_rate2006 = 69.6**

Intel DH67BLB3 Motherboard (Intel Core i5-2390T)

**SPECfp\_rate\_base2006 = 69.2**

CPU2006 license: 13

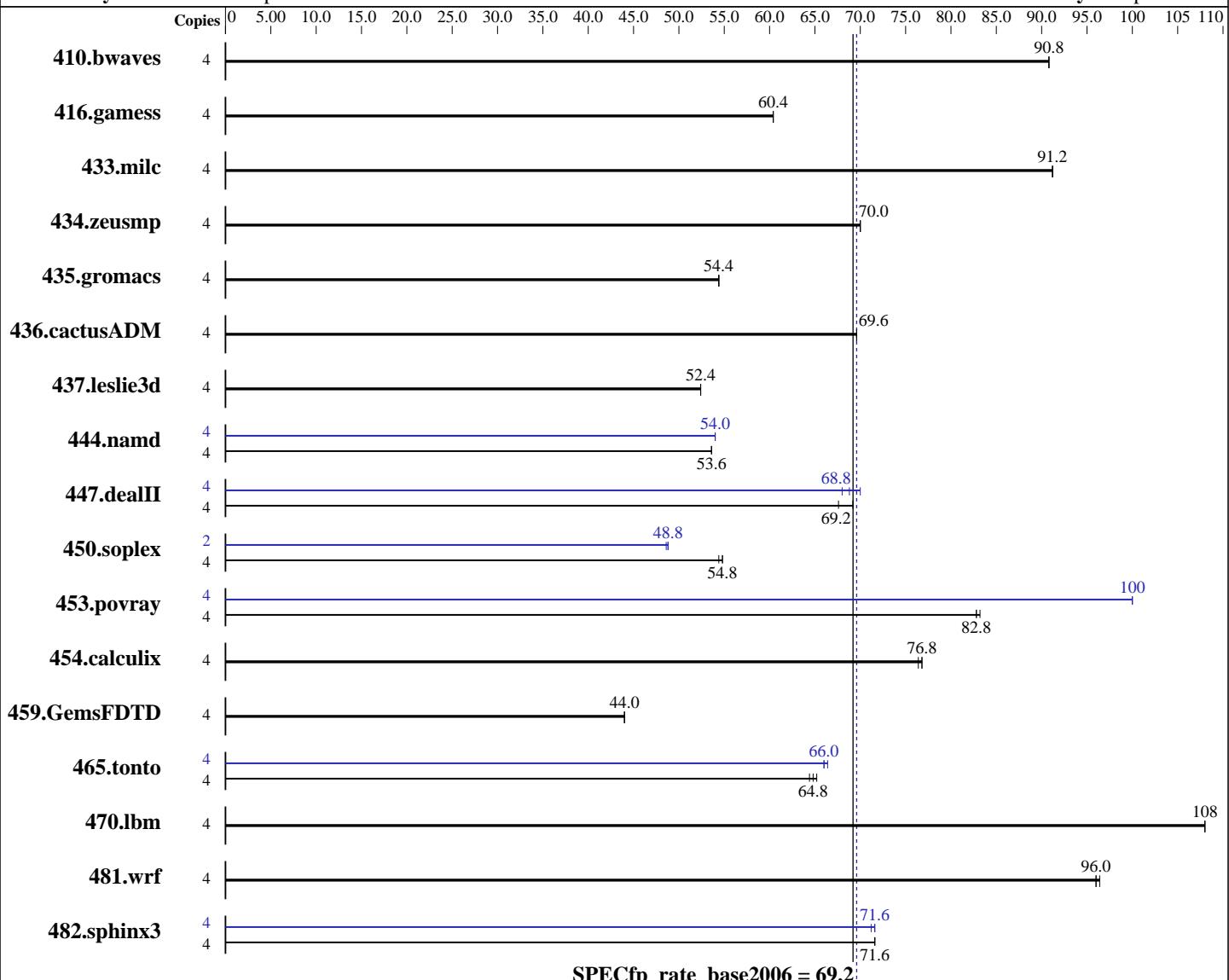
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Apr-2011

Hardware Availability: Mar-2011

Software Availability: Apr-2011



**SPECfp\_rate\_base2006 = 69.2**

**SPECfp\_rate2006 = 69.6**

### Hardware

CPU Name: Intel Core i5-2390T  
CPU Characteristics: Intel Turbo Boost Technology up to 3.5 GHz  
CPU MHz: 2700  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
CPU(s) orderable: 1 chip  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 256 KB I+D on chip per core

Operating System:  
Compiler:

Windows 7 Ultimate (64-bit)  
Intel C++ Compiler XE for Intel64 Version 12.0.3.163 Build 20110217  
Intel Visual Fortran Compiler XE for Intel64 Version 12.0.3.163 Build 20110217  
Microsoft Visual Studio 2008 Professional SP1 (for libraries)

Auto Parallel:  
File System:

No  
NTFS

### Software

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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)  
 Disk Subsystem: Seagate 1 TB SATA, 7200 RPM  
 Other Hardware: None

System State: Default  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 9.01 from  
<http://www.microquill.com/>

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	599	90.8	600	90.8	<b>600</b>	<b>90.8</b>	4	599	90.8	600	90.8	<b>600</b>	<b>90.8</b>
416.gamess	4	1296	60.4	<u>1295</u>	<b>60.4</b>	1294	60.4	4	1296	60.4	<u>1295</u>	<b>60.4</b>	1294	60.4
433.milc	4	<b>402</b>	<b>91.2</b>	403	91.2	402	91.2	4	<b>402</b>	<b>91.2</b>	403	91.2	402	91.2
434.zeusmp	4	<b>520</b>	<b>70.0</b>	520	70.0	519	70.0	4	<b>520</b>	<b>70.0</b>	520	70.0	519	70.0
435.gromacs	4	524	54.4	<u>524</u>	<b>54.4</b>	523	54.4	4	524	54.4	<u>524</u>	<b>54.4</b>	523	54.4
436.cactusADM	4	686	69.6	<b>687</b>	<b>69.6</b>	687	69.6	4	686	69.6	<b>687</b>	<b>69.6</b>	687	69.6
437.leslie3d	4	719	52.4	716	52.4	<b>716</b>	<b>52.4</b>	4	719	52.4	716	52.4	<b>716</b>	<b>52.4</b>
444.namd	4	597	53.6	597	53.6	<b>597</b>	<b>53.6</b>	4	<u>592</u>	<b>54.0</b>	592	54.0	592	54.0
447.dealII	4	<b>663</b>	<b>69.2</b>	659	69.2	677	67.6	4	654	70.0	<b>665</b>	<b>68.8</b>	671	68.0
450.soplex	4	<b>610</b>	<b>54.8</b>	611	54.4	610	54.8	2	343	48.6	342	48.8	<b>342</b>	<b>48.8</b>
453.povray	4	257	82.8	256	83.2	<b>256</b>	<b>82.8</b>	4	213	100	<b>213</b>	<b>100</b>	212	100
454.calculix	4	430	76.8	431	76.4	<b>430</b>	<b>76.8</b>	4	430	76.8	431	76.4	<b>430</b>	<b>76.8</b>
459.GemsFDTD	4	<b>965</b>	<b>44.0</b>	965	44.0	964	44.0	4	<b>965</b>	<b>44.0</b>	965	44.0	964	44.0
465.tonto	4	611	64.4	605	65.2	<b>607</b>	<b>64.8</b>	4	<b>595</b>	<b>66.0</b>	596	66.0	594	66.4
470.lbm	4	509	108	<u>509</u>	<b>108</b>	509	108	4	509	108	<b>509</b>	<b>108</b>	509	108
481.wrf	4	463	96.4	466	96.0	<b>466</b>	<b>96.0</b>	4	463	96.4	466	96.0	<b>466</b>	<b>96.0</b>
482.sphinx3	4	1088	71.6	1087	71.6	<b>1087</b>	<b>71.6</b>	4	1093	71.2	<b>1092</b>	<b>71.6</b>	1092	71.6

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

## Submit Notes

The config file option 'submit' was used.

The start command with the /affinity switch was used to bind processes to cores

## General Notes

Tested systems can be used with Shin-G ATX case,  
 PC Power and Cooling 1200W power supply

## Base Compiler Invocation

C benchmarks:

icl -Qvc9 -Qstd=c99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

  icl -Qvc9

Fortran benchmarks:

  ifort

Benchmarks using both Fortran and C:

  icl -Qvc9 -Qstd=c99 ifort

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_P64 -names:lowercase  
416.games: -DSPEC\_CPU\_P64  
  433.milc: -DSPEC\_CPU\_P64  
434.zeusmp: -DSPEC\_CPU\_P64  
435.gromacs: -DSPEC\_CPU\_P64  
436.cactusADM: -DSPEC\_CPU\_P64 /names:lowercase /assume:underscore  
437.leslie3d: -DSPEC\_CPU\_P64  
  444.namd: -DSPEC\_CPU\_P64 /TP  
447.dealII: -DSPEC\_CPU\_P64 -DDEAL\_II\_MEMBER\_VAR\_SPECIALIZATION\_BUG  
450.soplex: -DSPEC\_CPU\_P64  
453.povray: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WINDOWS\_ICL  
454.calculix: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_NOZMODIFIER /names:lowercase  
459.GemsFDTD: -DSPEC\_CPU\_P64  
  465.tonto: -DSPEC\_CPU\_P64  
  470.lbm: -DSPEC\_CPU\_P64  
  481.wrf: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WINDOWS\_ICL  
482.sphinx3: -DSPEC\_CPU\_P64

## Base Optimization Flags

C benchmarks:

  -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F1000000000  
    -link /FORCE:MULTIPLE

C++ benchmarks:

  -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qcxx-features  
  -Qauto-ilp32 /F1000000000 shlw64M.lib                   -link /FORCE:MULTIPLE

Fortran benchmarks:

  -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000  
    -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

  -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F1000000000  
    -link /FORCE:MULTIPLE



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## Peak Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icl -Qvc9 -Qstd=c99 ifort
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
433.milc: basepeak = yes
```

```
470.lbm: basepeak = yes
```

```
482.sphinx3: -QxAVX -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias  
              -Qauto-ilp32 /F1000000000          -link /FORCE:MULTIPLE
```

C++ benchmarks:

```
444.namd: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
           -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 shlw64M.lib  
           -link /FORCE:MULTIPLE
```

```
447.dealII: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
             -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qscalar-rep-  
             -Qauto-ilp32 /F1000000000 shlw64M.lib  
             -link /FORCE:MULTIPLE
```

```
450.soplex: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
             -O3 -Qauto-ilp32 /F1000000000 shlw64M.lib  
             -link /FORCE:MULTIPLE
```

```
453.povray: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
            -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000  
            shlw64M.lib          -link /FORCE:MULTIPLE
```

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## Peak Optimization Flags (Continued)

Fortran benchmarks:

```
410.bwaves: basepeak = yes  
416.gamess: basepeak = yes  
434.zeusmp: basepeak = yes  
437.leslie3d: basepeak = yes  
459.GemsFDTD: basepeak = yes  
  
465.tonto: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
           -O3 -Qprec-div- -Qunroll14 -Qauto /F1000000000  
           -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:

```
435.gromacs: basepeak = yes  
436.cactusADM: basepeak = yes  
454.calculix: basepeak = yes  
481.wrf: basepeak = yes
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.html>  
<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.xml>  
<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.xml>

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

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