



# SPEC<sup>®</sup> CFP2006 Result

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## Intel Corporation

SPECfp<sup>®</sup>\_rate2006 = 69.7

Intel DH61WW motherboard (Intel Core i3-2120)

SPECfp\_rate\_base2006 = 68.7

CPU2006 license: 13

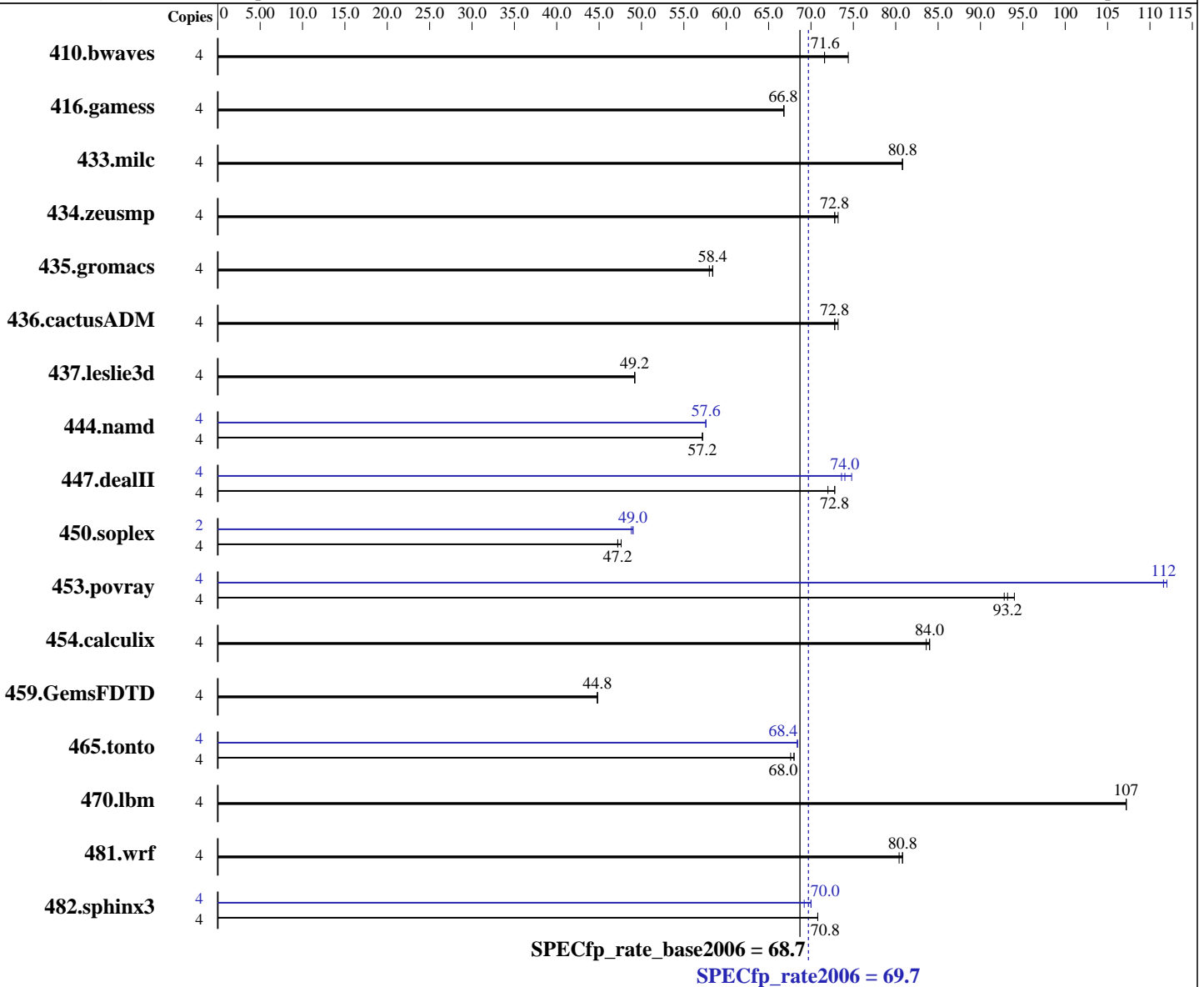
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2011

Hardware Availability: Jan-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Core i3-2120  
 CPU Characteristics:  
 CPU MHz: 3300  
 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

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### Software

Operating System: Windows 7 Ultimate (64-bit)  
 Compiler: C/C++: Version 12.0.3.176 of Intel C++ Studio XE for Windows;  
 Fortran: Version 12.0.3.176 of Intel Fortran Studio XE for Windows;  
 Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1  
 Auto Parallel: No  
 File System: NTFS

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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)  
 Disk Subsystem: 1 TB Seagate 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	730	74.4	<u>759</u>	<u>71.6</u>	760	71.6	4	730	74.4	<u>759</u>	<u>71.6</u>	760	71.6
416.gamess	4	1172	66.8	1172	66.8	<u>1172</u>	<u>66.8</u>	4	1172	66.8	1172	66.8	<u>1172</u>	<u>66.8</u>
433.milc	4	<u>455</u>	<u>80.8</u>	455	80.8	455	80.8	4	<u>455</u>	<u>80.8</u>	455	80.8	455	80.8
434.zeusmp	4	<u>499</u>	<u>72.8</u>	500	72.8	498	73.2	4	<u>499</u>	<u>72.8</u>	500	72.8	498	73.2
435.gromacs	4	490	58.4	491	58.0	<u>491</u>	<u>58.4</u>	4	490	58.4	491	58.0	<u>491</u>	<u>58.4</u>
436.cactusADM	4	656	72.8	<u>655</u>	<u>72.8</u>	655	73.2	4	656	72.8	<u>655</u>	<u>72.8</u>	655	73.2
437.leslie3d	4	<u>766</u>	<u>49.2</u>	761	49.2	767	49.2	4	<u>766</u>	<u>49.2</u>	761	49.2	767	49.2
444.namd	4	<u>561</u>	<u>57.2</u>	561	57.2	561	57.2	4	556	57.6	<u>556</u>	<u>57.6</u>	556	57.6
447.dealII	4	636	72.0	629	72.8	<u>630</u>	<u>72.8</u>	4	623	73.6	612	74.8	<u>618</u>	<u>74.0</u>
450.soplex	4	703	47.6	<u>704</u>	<u>47.2</u>	706	47.2	2	<u>341</u>	<u>49.0</u>	341	49.0	342	48.8
453.povray	4	229	92.8	<u>228</u>	<u>93.2</u>	226	94.0	4	190	112	<u>191</u>	<u>112</u>	191	112
454.calculix	4	394	83.6	<u>393</u>	<u>84.0</u>	393	84.0	4	394	83.6	<u>393</u>	<u>84.0</u>	393	84.0
459.GemsFDTD	4	951	44.8	<u>951</u>	<u>44.8</u>	951	44.8	4	951	44.8	<u>951</u>	<u>44.8</u>	951	44.8
465.tonto	4	580	68.0	<u>580</u>	<u>68.0</u>	583	67.6	4	574	68.4	<u>576</u>	<u>68.4</u>	577	68.4
470.lbm	4	<u>513</u>	<u>107</u>	513	107	513	107	4	<u>513</u>	<u>107</u>	513	107	513	107
481.wrf	4	<u>554</u>	<u>80.8</u>	553	80.8	555	80.4	4	<u>554</u>	<u>80.8</u>	553	80.8	555	80.4
482.sphinx3	4	1104	70.8	<u>1104</u>	<u>70.8</u>	1104	70.8	4	<u>1113</u>	<u>70.0</u>	1111	70.0	1128	69.2

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

## Component Notes

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

## General Notes

Binaries compiled on a system with 1x Intel Core i7-860 CPU + 8GB memory using Windows 7 Enterprise 64-bit



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## Base 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

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_P64 -names:lowercase  
 416.gamess: -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.lelie3d: -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

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

## 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.dealIII: -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
```

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## Peak Optimization Flags (Continued)

450.soplex: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qauto-ilp32 /F1000000000 sh1W64M.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  
sh1W64M.lib -link /FORCE:MULTIPLE

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- -Qunroll4 -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-revC.20111012.html>

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

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

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml>

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



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

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