



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

SPECfp®2006 = **59.7**

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = **58.8**

CPU2006 license: 13

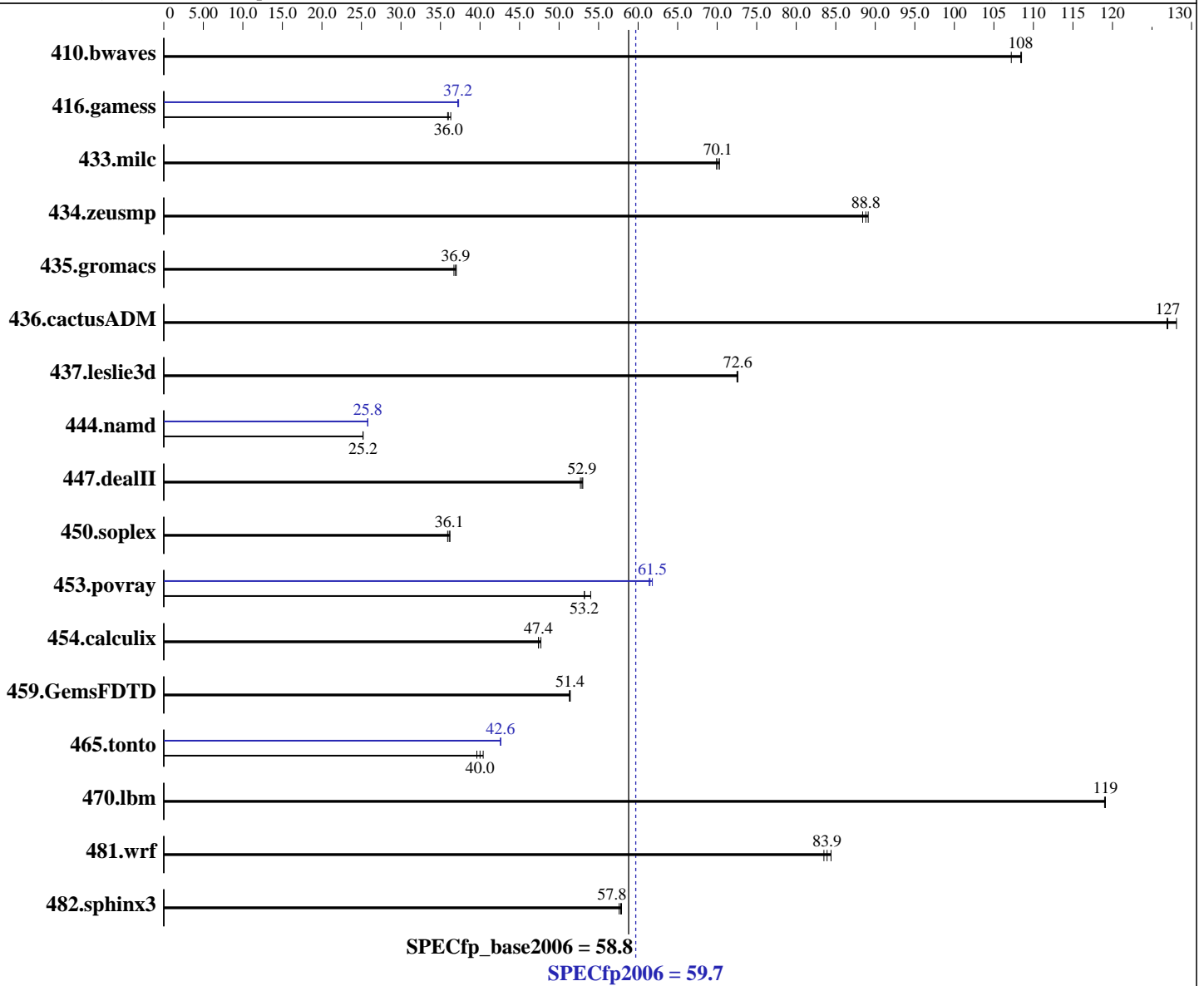
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Jun-2013

Software Availability: Oct-2013



### Hardware

CPU Name: Intel Core i5-4430  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz  
 CPU MHz: 3000  
 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: 256 KB I+D on chip per core

Continued on next page

### Software

Operating System: Microsoft Windows 8.1 Pro  
 6.3.9600 N/A Build 9600  
 Compiler: C/C++: Version 14.0.1.139 of Intel C++ Studio XE for Windows;  
 Fortran: Version 14.0.1.139 of Intel Fortran Studio XE for Windows;  
 Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1  
 Auto Parallel: Yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

SPECfp2006 = **59.7**

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = **58.8**

CPU2006 license: 13

Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013

L3 Cache: 6 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)  
 Disk Subsystem: 1 TB Seagate SATA HDD, 7200 RPM  
 Other Hardware: None

File System: NTFS  
 System State: Default  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 10.0 from <http://www.microquill.com/>

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	127	107	<b><u>125</u></b>	<b><u>108</u></b>	125	109	127	107	<b><u>125</u></b>	<b><u>108</u></b>	125	109
416.gamess	545	35.9	<b><u>545</u></b>	<b><u>36.0</u></b>	540	36.3	526	37.2	<b><u>526</u></b>	<b><u>37.2</u></b>	525	37.3
433.milc	131	70.3	<b><u>131</u></b>	<b><u>70.1</u></b>	131	69.9	131	70.3	<b><u>131</u></b>	<b><u>70.1</u></b>	131	69.9
434.zeusmp	102	89.1	<b><u>103</u></b>	<b><u>88.8</u></b>	103	88.4	102	89.1	<b><u>103</u></b>	<b><u>88.8</u></b>	103	88.4
435.gromacs	193	37.0	<b><u>194</u></b>	<b><u>36.9</u></b>	195	36.7	193	37.0	<b><u>194</u></b>	<b><u>36.9</u></b>	195	36.7
436.cactusADM	93.3	128	94.2	127	<b><u>94.1</u></b>	<b><u>127</u></b>	93.3	128	94.2	127	<b><u>94.1</u></b>	<b><u>127</u></b>
437.leslie3d	129	72.6	130	72.5	<b><u>129</u></b>	<b><u>72.6</u></b>	129	72.6	130	72.5	<b><u>129</u></b>	<b><u>72.6</u></b>
444.namd	319	25.2	319	25.2	<b><u>319</u></b>	<b><u>25.2</u></b>	310	25.8	311	25.8	<b><u>311</u></b>	<b><u>25.8</u></b>
447.dealII	217	52.7	<b><u>216</u></b>	<b><u>52.9</u></b>	216	53.0	217	52.7	<b><u>216</u></b>	<b><u>52.9</u></b>	216	53.0
450.soplex	231	36.2	233	35.9	<b><u>231</u></b>	<b><u>36.1</u></b>	231	36.2	233	35.9	<b><u>231</u></b>	<b><u>36.1</u></b>
453.povray	98.5	54.0	<b><u>100</u></b>	<b><u>53.2</u></b>	100	53.2	<b><u>86.5</u></b>	<b><u>61.5</u></b>	86.1	61.8	86.6	61.4
454.calculix	<b><u>174</u></b>	<b><u>47.4</u></b>	174	47.4	173	47.7	<b><u>174</u></b>	<b><u>47.4</u></b>	174	47.4	173	47.7
459.GemsFDTD	206	51.4	<b><u>206</u></b>	<b><u>51.4</u></b>	207	51.3	206	51.4	<b><u>206</u></b>	<b><u>51.4</u></b>	207	51.3
465.tonto	<b><u>246</u></b>	<b><u>40.0</u></b>	248	39.6	244	40.4	231	42.6	231	42.6	<b><u>231</u></b>	<b><u>42.6</u></b>
470.lbm	116	119	115	119	<b><u>115</u></b>	<b><u>119</u></b>	116	119	115	119	<b><u>115</u></b>	<b><u>119</u></b>
481.wrf	132	84.4	134	83.5	<b><u>133</u></b>	<b><u>83.9</u></b>	132	84.4	134	83.5	<b><u>133</u></b>	<b><u>83.9</u></b>
482.sphinx3	336	57.9	338	57.6	<b><u>337</u></b>	<b><u>57.8</u></b>	336	57.9	338	57.6	<b><u>337</u></b>	<b><u>57.8</u></b>

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

## Compiler Invocation Notes

To compile these binaries, the Intel Compiler 14.0 was set up to generate 64-bit binaries with the command:  
 "ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

## Platform Notes

Sysinfo program C:\SPEC14.0\Docs\sysinfo  
 \$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
 running on Clt7C05070D841B Fri Jun 27 20:58:12 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 59.7

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = 58.8

CPU2006 license: 13

Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013

## Platform Notes (Continued)

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

Trying 'systeminfo'

```

OS Name       : Microsoft Windows 8.1 Pro
OS Version    : 6.3.9600 N/A Build 9600
System Manufacturer: INTEL_
System Model   : DH87MC__
Processor(s)  : 1 Processor(s) Installed.
               [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3001 Mhz
BIOS Version  : Intel Corp. MCH8710H.86A.0047.2013.0606.1508, 6/6/2013
Total Physical Memory: 7,862 MB

```

Trying 'wmic cpu get /value'

```

DeviceID      : CPU0
L2CacheSize   : 1024
L3CacheSize   : 6144
MaxClockSpeed : 3001
Name          : Intel(R) Core(TM) i5-4430 CPU @ 3.00GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 4

```

(End of data from sysinfo program)

## Component Notes

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

## General Notes

OMP\_NUM\_THREADS set to number of processors cores  
 KMP\_AFFINITY set to granularity=fine,scatter  
 Binaries compiled on a system with 1x Intel Core i7-860 CPU  
 + 8GB memory using Windows 7 Enterprise 64-bit

## Base Compiler Invocation

C benchmarks:

```
icl -Qvc10 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc10
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icl -Qvc10 -Qstd=c99 ifort
```



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 59.7

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = 58.8

CPU2006 license: 13

Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013

## Base Portability Flags

```

410.bwaves: -DSPEC_CPU_P64
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.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
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:

```

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

```

C++ benchmarks:

```

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

```

Fortran benchmarks:

```

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

```

Benchmarks using both Fortran and C:

```

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

```

## Peak Compiler Invocation

C benchmarks:

```
icl -Qvc10 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc10
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 59.7

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = 58.8

CPU2006 license: 13

Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013

## Peak Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc10 -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: basepeak = yes

C++ benchmarks:

444.namd: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000  
sh1W64M.lib -link /FORCE:MULTIPLE

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32  
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias  
-Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 59.7

Intel DH87MC Motherboard (Intel Core i5-4430)

SPECfp\_base2006 = 58.8

CPU2006 license: 13

Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

Software Availability: Oct-2013

## Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc  
/F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-ic14.0-official-windows.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.  
Report generated on Tue Sep 9 11:02:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 29 July 2014.