



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

SPECfp<sup>®</sup>2006 = **61.0**

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = **59.8**

CPU2006 license: 13

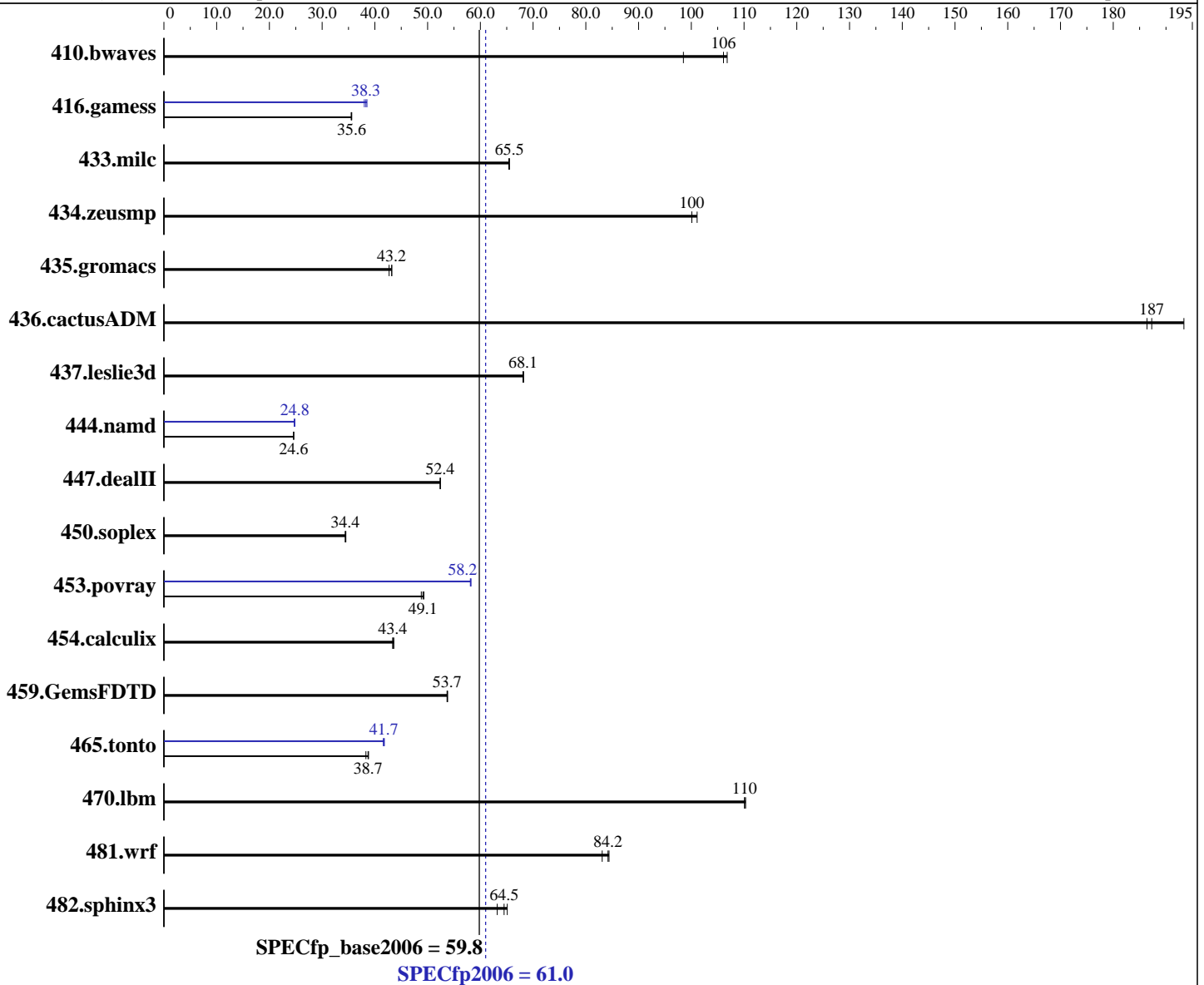
Test date: Sep-2013

Test sponsor: Intel Corporation

Hardware Availability: Sep-2013

Tested by: Intel Corporation

Software Availability: Apr-2013



### Hardware

CPU Name: Intel Core i5-4440  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 3100  
 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 7 Enterprise 6.1.7601 Service Pack 1 Build 7601  
 Compiler: C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows;  
 Fortran: Version 13.1.1.171 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 = **61.0**

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = **59.8**

CPU2006 license: 13

Test date: Sep-2013

Test sponsor: Intel Corporation

Hardware Availability: Sep-2013

Tested by: Intel Corporation

Software Availability: Apr-2013

L3 Cache: 6 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)  
 Disk Subsystem: 250 GB 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>128</b>	<b>106</b>	138	98.5	127	107	<b>128</b>	<b>106</b>	138	98.5
416.gamess	552	35.5	<b>550</b>	<b>35.6</b>	550	35.6	<b>511</b>	<b>38.3</b>	509	38.5	515	38.0
433.milc	140	65.5	<b>140</b>	<b>65.5</b>	140	65.4	140	65.5	<b>140</b>	<b>65.5</b>	140	65.4
434.zeusmp	<b>90.9</b>	<b>100</b>	90.9	100	90.0	101	<b>90.9</b>	<b>100</b>	90.9	100	90.0	101
435.gromacs	165	43.2	<b>165</b>	<b>43.2</b>	167	42.7	165	43.2	<b>165</b>	<b>43.2</b>	167	42.7
436.cactusADM	61.8	193	<b>63.8</b>	<b>187</b>	64.1	186	61.8	193	<b>63.8</b>	<b>187</b>	64.1	186
437.leslie3d	<b>138</b>	<b>68.1</b>	138	68.1	138	68.2	<b>138</b>	<b>68.1</b>	138	68.1	138	68.2
444.namd	326	24.6	<b>326</b>	<b>24.6</b>	326	24.6	324	24.8	<b>324</b>	<b>24.8</b>	324	24.7
447.dealII	<b>218</b>	<b>52.4</b>	218	52.4	219	52.4	<b>218</b>	<b>52.4</b>	218	52.4	219	52.4
450.soplex	242	34.5	<b>242</b>	<b>34.4</b>	243	34.4	242	34.5	<b>242</b>	<b>34.4</b>	243	34.4
453.povray	109	48.8	<b>108</b>	<b>49.1</b>	108	49.3	91.4	58.2	91.6	58.1	<b>91.4</b>	<b>58.2</b>
454.calculix	<b>190</b>	<b>43.4</b>	189	43.6	190	43.4	<b>190</b>	<b>43.4</b>	189	43.6	190	43.4
459.GemsFDTD	198	53.7	197	53.8	<b>198</b>	<b>53.7</b>	198	53.7	197	53.8	<b>198</b>	<b>53.7</b>
465.tonto	257	38.3	254	38.8	<b>254</b>	<b>38.7</b>	236	41.6	<b>236</b>	<b>41.7</b>	236	41.8
470.lbm	125	110	<b>125</b>	<b>110</b>	125	110	125	110	<b>125</b>	<b>110</b>	125	110
481.wrf	132	84.4	<b>133</b>	<b>84.2</b>	134	83.1	132	84.4	<b>133</b>	<b>84.2</b>	134	83.1
482.sphinx3	309	63.2	299	65.1	<b>302</b>	<b>64.5</b>	309	63.2	299	65.1	<b>302</b>	<b>64.5</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 13.1 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:\SPEC13.1\Docs\sysinfo  
 \$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
 running on Clt7C05070FB2B7 Sat Sep 21 16:25:02 2013

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 = 61.0

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = 59.8

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2013

Hardware Availability: Sep-2013

Software Availability: Apr-2013

## Platform Notes (Continued)

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

Trying 'systeminfo'

OS Name : Microsoft Windows 7 Enterprise

OS Version : 6.1.7601 Service Pack 1 Build 7601

System Manufacturer: INTEL\_

System Model : DQ87PG\_\_

Processor(s) : 1 Processor(s) Installed.

[01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3101 Mhz

BIOS Version : Intel(R) Corp. PGQ8710H.86A.0036.2013.0702.1908, 7/2/2013

Total Physical Memory: 3,749 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 1024

L3CacheSize : 6144

MaxClockSpeed : 3101

Name : Intel(R) Core(TM) i5-4440 CPU @ 3.10GHz

NumberOfCores : 4

NumberOfLogicalProcessors: 4

(End of data from sysinfo program)

BIOS: SATA mode set to RAID

Windows Disk Driver: Intel Rapid Storage Technology 12.5.0.1066

Windows Chipset Driver: Intel Chipset Driver 9.4.0.1027

## Component Notes

Tested systems can be used with Shin-G ATX case,

PC Power and Cooling 1200W power supply

Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

## 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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 3



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 61.0

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = 59.8

CPU2006 license: 13

Test date: Sep-2013

Test sponsor: Intel Corporation

Hardware Availability: Sep-2013

Tested by: Intel Corporation

Software Availability: Apr-2013

## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc10 -Qstd=c99 ifort

## 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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 61.0

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = 59.8

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2013

Hardware Availability: Sep-2013

Software Availability: Apr-2013

## Peak 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

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

SPECfp2006 = 61.0

Intel DQ87PG motherboard (Intel Core i5-4440)

SPECfp\_base2006 = 59.8

CPU2006 license: 13

Test date: Sep-2013

Test sponsor: Intel Corporation

Hardware Availability: Sep-2013

Tested by: Intel Corporation

Software Availability: Apr-2013

## Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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-ic13.1-official-windows.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13.1-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 10:56:22 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 July 2014.