



# SPEC® CFP2006 Result

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## Intel Corporation

SPECfp®\_rate2006 = 96.8

Intel DH87MC Motherboard (Intel Core i3-4340)

SPECfp\_rate\_base2006 = 95.8

CPU2006 license: 13

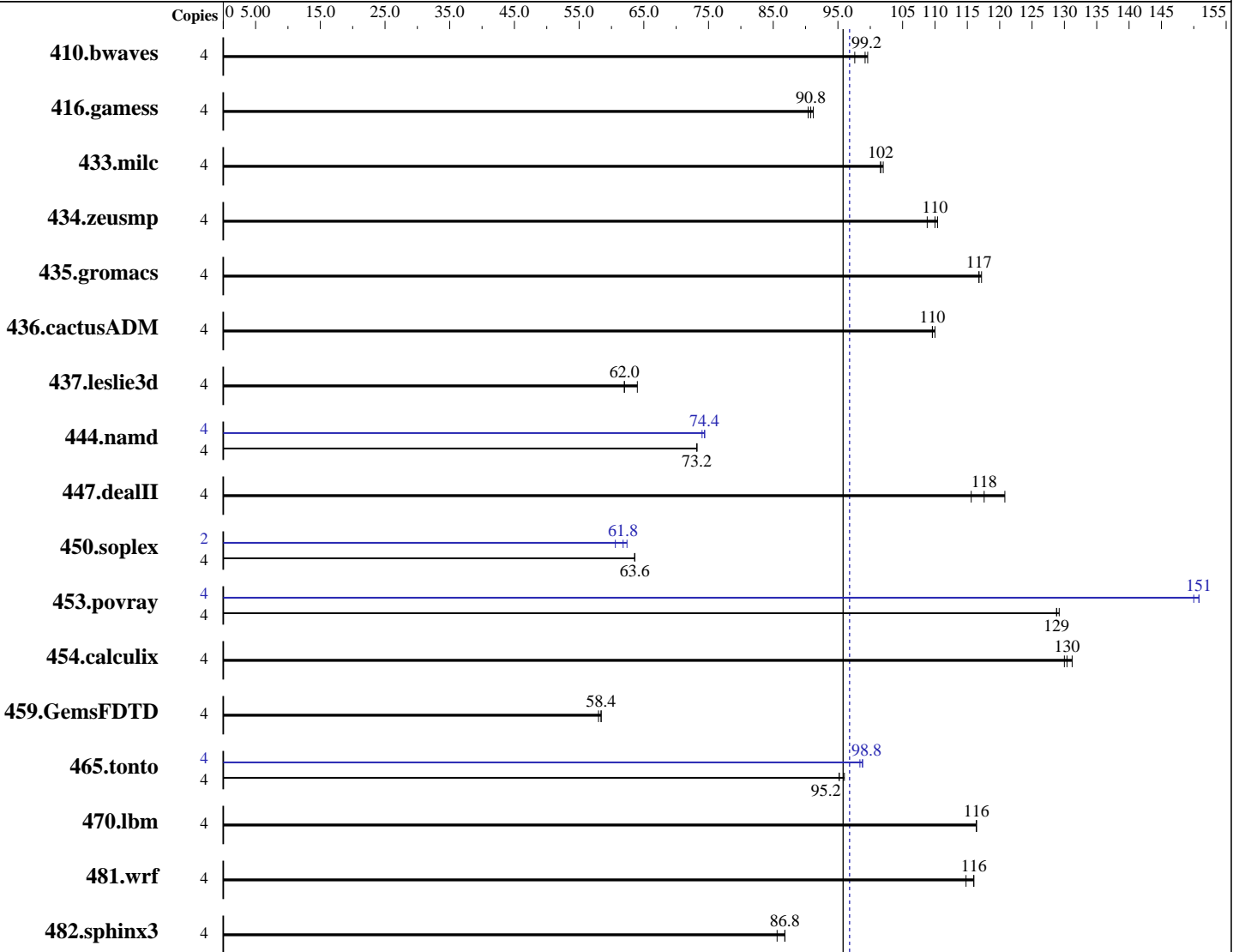
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Sep-2013

Software Availability: Oct-2013



SPECfp\_rate\_base2006 = 95.8

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### Hardware

CPU Name: Intel Core i3-4340  
 CPU Characteristics:  
 CPU MHz: 3600  
 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: 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: No

Continued on next page



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L3 Cache: 4 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	556	97.6	<b>548</b>	<b>99.2</b>	546	99.6	4	556	97.6	<b>548</b>	<b>99.2</b>	546	99.6
416.gamess	4	867	90.4	<b>864</b>	<b>90.8</b>	859	91.2	4	867	90.4	<b>864</b>	<b>90.8</b>	859	91.2
433.milc	4	361	102	<b>361</b>	<b>102</b>	361	102	4	361	102	<b>361</b>	<b>102</b>	361	102
434.zeusmp	4	334	109	330	110	<b>331</b>	<b>110</b>	4	334	109	330	110	<b>331</b>	<b>110</b>
435.gromacs	4	245	117	244	117	<b>245</b>	<b>117</b>	4	245	117	244	117	<b>245</b>	<b>117</b>
436.cactusADM	4	435	110	<b>436</b>	<b>110</b>	437	110	4	435	110	<b>436</b>	<b>110</b>	437	110
437.leslie3d	4	608	62.0	588	64.0	<b>607</b>	<b>62.0</b>	4	608	62.0	588	64.0	<b>607</b>	<b>62.0</b>
444.namd	4	<b>438</b>	<b>73.2</b>	439	73.2	438	73.2	4	433	74.0	432	74.4	<b>432</b>	<b>74.4</b>
447.dealII	4	<b>389</b>	<b>118</b>	396	116	379	121	4	<b>389</b>	<b>118</b>	396	116	379	121
450.soplex	4	<b>525</b>	<b>63.6</b>	526	63.6	524	63.6	2	<b>270</b>	<b>61.8</b>	276	60.6	268	62.4
453.povray	4	<b>165</b>	<b>129</b>	165	129	165	129	4	142	150	141	151	<b>141</b>	<b>151</b>
454.calculix	4	254	130	252	131	<b>253</b>	<b>130</b>	4	254	130	252	131	<b>253</b>	<b>130</b>
459.GemsFDTD	4	729	58.0	<b>727</b>	<b>58.4</b>	726	58.4	4	729	58.0	<b>727</b>	<b>58.4</b>	726	58.4
465.tonto	4	414	95.2	410	96.0	<b>413</b>	<b>95.2</b>	4	398	98.8	<b>399</b>	<b>98.8</b>	400	98.4
470.lbm	4	<b>472</b>	<b>116</b>	473	116	472	116	4	<b>472</b>	<b>116</b>	473	116	472	116
481.wrf	4	385	116	389	115	<b>385</b>	<b>116</b>	4	385	116	389	115	<b>385</b>	<b>116</b>
482.sphinx3	4	911	85.6	896	86.8	<b>898</b>	<b>86.8</b>	4	911	85.6	896	86.8	<b>898</b>	<b>86.8</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)

## Submit Notes

Processes were bound to specific processors using the start command with the /affinity switch. The config file option 'submit' was used to generate the affinity mask for each process.



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## Platform Notes

Sysinfo program C:\SPEC14.0/Docs/sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on Clt54BEF7090207 Sat Jun 28 10:49:40 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<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 ~3600 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 : 512  
L3CacheSize : 4096  
MaxClockSpeed : 3600  
Name : Intel(R) Core(TM) i3-4340 CPU @ 3.60GHz  
NumberOfCores : 2  
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

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

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## 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- -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

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

Fortran benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE



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## 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  
shlW64M.lib -link /FORCE:MULTIPLE

447.dealIII: basepeak = yes

450.soplex: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib  
-link /FORCE:MULTIPLE

453.povray: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32  
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

Continued on next page



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Software Availability: Oct-2013

## Peak Optimization Flags (Continued)

416.gamess: basepeak = yes

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 /F10000000000  
-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 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>

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

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