



# SPEC<sup>®</sup> CFP2006 Result

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## Intel Corporation

SPECfp<sup>®</sup>\_rate2006 = 47.2

Intel DH61WW motherboard (Intel Pentium G840)

SPECfp\_rate\_base2006 = 46.5

CPU2006 license: 13

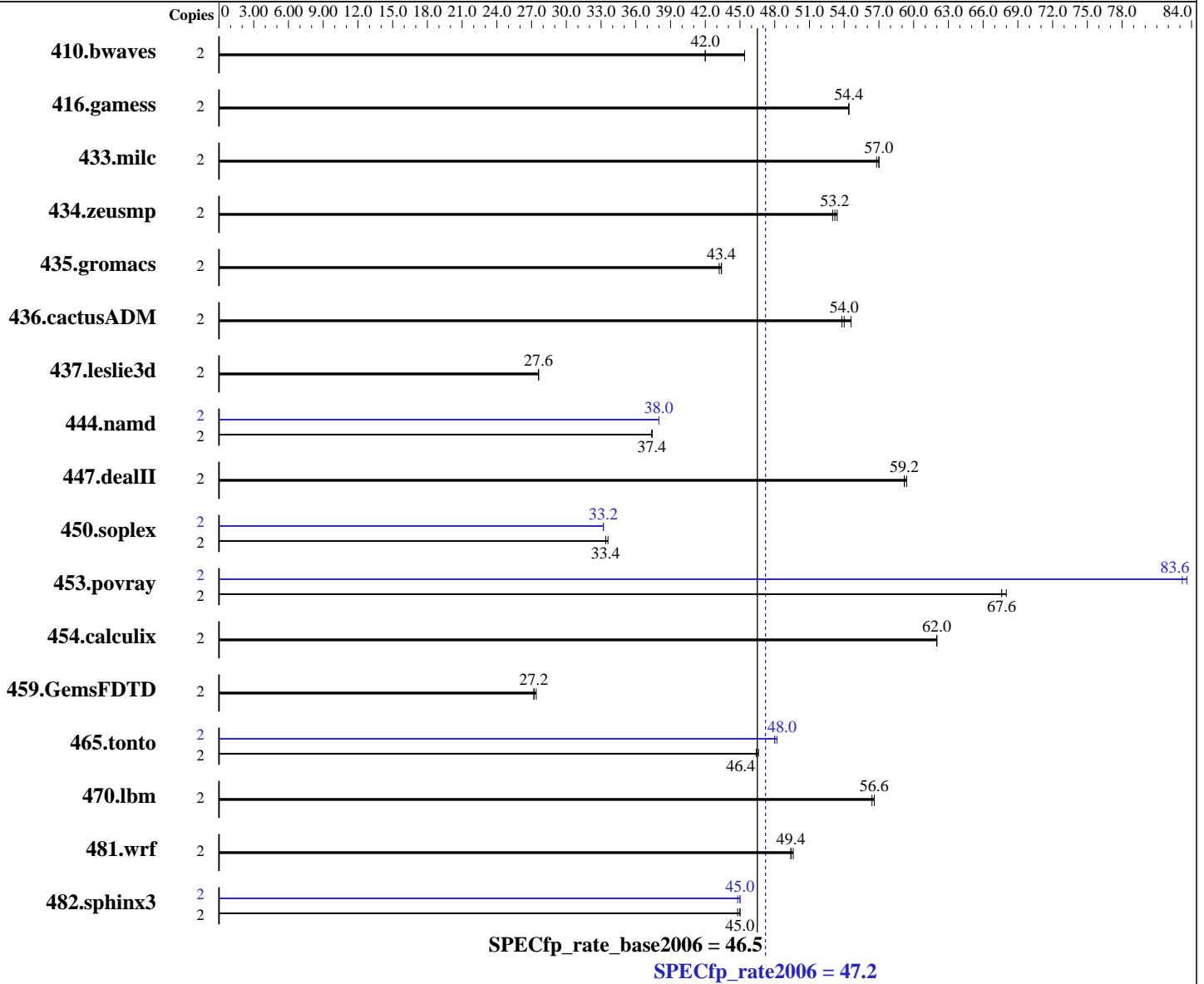
Test date: Dec-2011

Test sponsor: Intel Corporation

Hardware Availability: May-2011

Tested by: Intel Corporation

Software Availability: Sep-2011



### Hardware

CPU Name: Intel Pentium G840  
 CPU Characteristics:  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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

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### Software

Operating System: Microsoft Windows 7 Ultimate  
 6.1.7601 Service Pack 1 Build 7601  
 Compiler: C/C++: Version 12.1.0.229 of Intel C++ Studio XE  
 for Windows;  
 Fortran: Version 12.1.0.229 of Intel Fortran  
 Studio XE for Windows;  
 Libraries: Version 15.00.30729.01 of Microsoft  
 Visual Studio 2008 Professional SP1  
 Auto Parallel: No

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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 2 GB (2 x 1 GB 1Rx16 PC3-10600U-9)  
 Disk Subsystem: 1 TB Seagate SATA, 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 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	2	599	45.4	<b>646</b>	<b>42.0</b>	648	42.0	2	599	45.4	<b>646</b>	<b>42.0</b>	648	42.0
416.gamess	2	720	54.4	720	54.4	<b>720</b>	<b>54.4</b>	2	720	54.4	720	54.4	<b>720</b>	<b>54.4</b>
433.milc	2	323	57.0	323	56.8	<b>323</b>	<b>57.0</b>	2	323	57.0	323	56.8	<b>323</b>	<b>57.0</b>
434.zeusmp	2	<b>343</b>	<b>53.2</b>	341	53.4	343	53.0	2	<b>343</b>	<b>53.2</b>	341	53.4	343	53.0
435.gromacs	2	329	43.4	<b>329</b>	<b>43.4</b>	330	43.2	2	329	43.4	<b>329</b>	<b>43.4</b>	330	43.2
436.cactusADM	2	444	53.8	438	54.6	<b>443</b>	<b>54.0</b>	2	444	53.8	438	54.6	<b>443</b>	<b>54.0</b>
437.leslie3d	2	679	27.6	<b>679</b>	<b>27.6</b>	679	27.6	2	679	27.6	<b>679</b>	<b>27.6</b>	679	27.6
444.namd	2	<b>430</b>	<b>37.4</b>	430	37.4	430	37.4	2	<b>422</b>	<b>38.0</b>	422	38.0	421	38.0
447.dealII	2	385	59.4	<b>386</b>	<b>59.2</b>	387	59.2	2	385	59.4	<b>386</b>	<b>59.2</b>	387	59.2
450.soplex	2	<b>498</b>	<b>33.4</b>	498	33.4	498	33.6	2	<b>504</b>	<b>33.2</b>	504	33.2	503	33.2
453.povray	2	<b>157</b>	<b>67.6</b>	158	67.6	157	68.0	2	127	83.6	<b>127</b>	<b>83.6</b>	128	83.2
454.calculix	2	266	62.0	<b>266</b>	<b>62.0</b>	266	62.0	2	266	62.0	<b>266</b>	<b>62.0</b>	266	62.0
459.GemsFDTD	2	776	27.4	782	27.2	<b>778</b>	<b>27.2</b>	2	776	27.4	782	27.2	<b>778</b>	<b>27.2</b>
465.tonto	2	<b>424</b>	<b>46.4</b>	425	46.4	422	46.6	2	409	48.2	<b>409</b>	<b>48.0</b>	409	48.0
470.lbm	2	<b>486</b>	<b>56.6</b>	486	56.6	486	56.4	2	<b>486</b>	<b>56.6</b>	486	56.6	486	56.4
481.wrf	2	451	49.6	<b>452</b>	<b>49.4</b>	453	49.4	2	451	49.6	<b>452</b>	<b>49.4</b>	453	49.4
482.sphinx3	2	870	44.8	<b>866</b>	<b>45.0</b>	865	45.0	2	869	44.8	864	45.0	<b>867</b>	<b>45.0</b>

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

## Compiler Invocation Notes

ipsxe-comp-vars batch file invoked with intel64

## 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:\SPEC12.1/Docs/sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on CltE06995A30C92 Fri Dec 23 07:57:03 2011

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 7 Ultimate  
OS Version : 6.1.7601 Service Pack 1 Build 7601  
System Manufacturer: INTEL\_  
System Model : DH61WW\_\_  
Processor(s) : 1 Processor(s) Installed.  
 [01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~2800 Mhz  
BIOS Version : Intel Corp. BEH6110H.86A.0016.2011.0118.1128, 1/18/2011  
Total Physical Memory: 1,956 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0  
L2CacheSize : 512  
L3CacheSize : 3072  
MaxClockSpeed : 2800  
Name : Intel(R) Pentium(R) CPU G840 @ 2.80GHz  
NumberOfCores : 2  
NumberOfLogicalProcessors: 2

(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 -Qvc9 -Qstd=c99

C++ benchmarks:

icl -Qvc9

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## Base Compiler Invocation (Continued)

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.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:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib  
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
-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: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias  
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -QxSSE4.2(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: basepeak = yes

450.soplex: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib  
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(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:

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## Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.2(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-ic12.1-official-windows.20120117.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.20120117.xml>

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

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