



# SPEC® CFP2006 Result

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## Intel Corporation

### SPECfp®\_rate2006 = 43.2

### Intel DH61WW motherboard (Intel Pentium G620)

### SPECfp\_rate\_base2006 = 42.6

CPU2006 license: 13

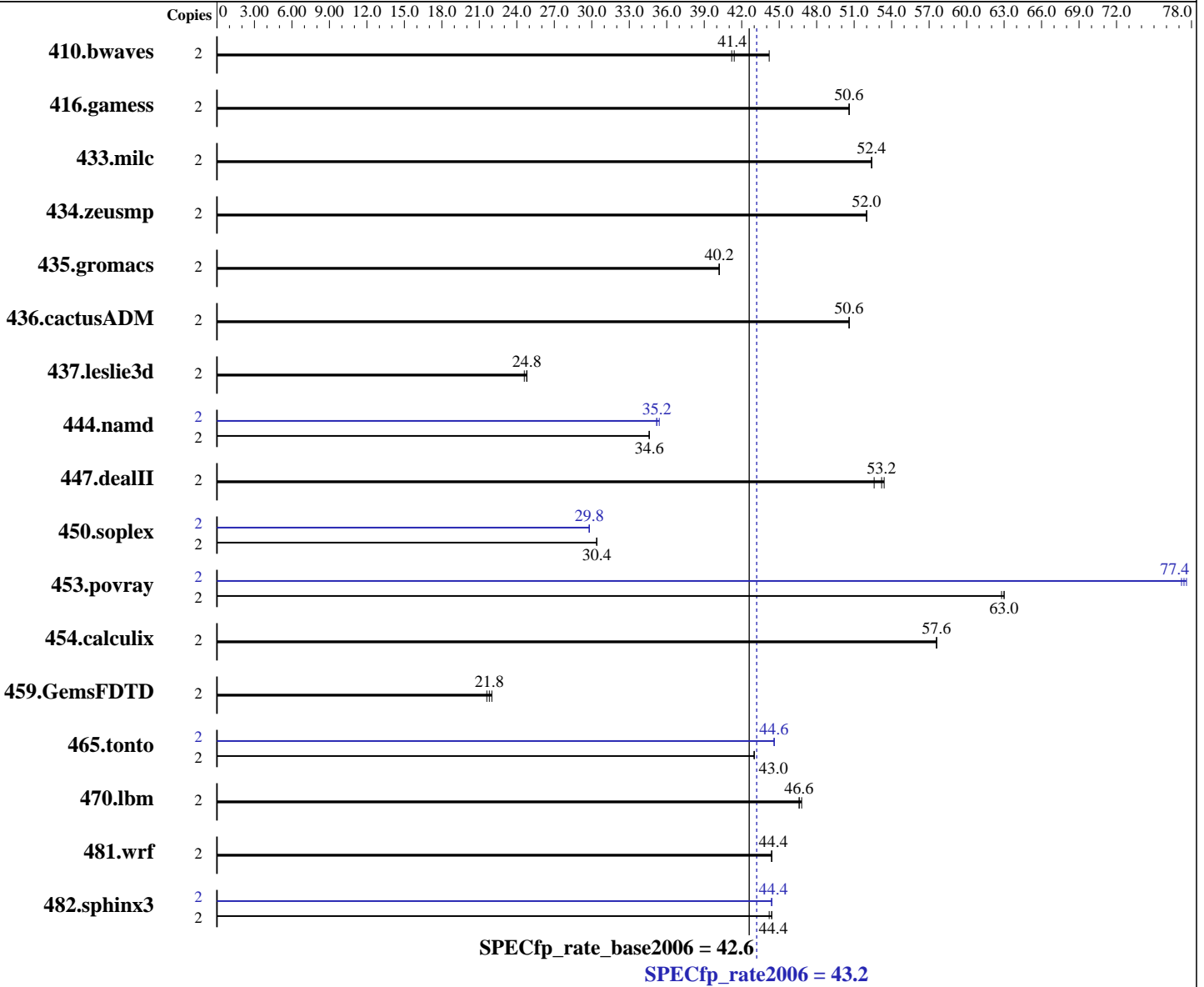
Test date: Dec-2011

Test sponsor: Intel Corporation

Hardware Availability: May-2011

Tested by: Intel Corporation

Software Availability: Sep-2011



#### Hardware

CPU Name: Intel Pentium G620  
 CPU Characteristics:  
 CPU MHz: 2600  
 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, running at 1066 MHz and CL7)  
 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	615	44.2	<b>657</b>	<b>41.4</b>	660	41.2	2	615	44.2	<b>657</b>	<b>41.4</b>	660	41.2
416.gamess	2	774	50.6	<b>775</b>	<b>50.6</b>	775	50.6	2	774	50.6	<b>775</b>	<b>50.6</b>	775	50.6
433.milc	2	350	52.4	<b>350</b>	<b>52.4</b>	351	52.4	2	350	52.4	<b>350</b>	<b>52.4</b>	351	52.4
434.zeusmp	2	<b>350</b>	<b>52.0</b>	350	52.0	350	52.0	2	<b>350</b>	<b>52.0</b>	350	52.0	350	52.0
435.gromacs	2	355	40.2	355	40.2	<b>355</b>	<b>40.2</b>	2	355	40.2	355	40.2	<b>355</b>	<b>40.2</b>
436.cactusADM	2	<b>473</b>	<b>50.6</b>	472	50.6	473	50.6	2	<b>473</b>	<b>50.6</b>	472	50.6	473	50.6
437.leslie3d	2	757	24.8	761	24.6	<b>757</b>	<b>24.8</b>	2	757	24.8	761	24.6	<b>757</b>	<b>24.8</b>
444.namd	2	463	34.6	<b>463</b>	<b>34.6</b>	463	34.6	2	455	35.2	454	35.4	<b>454</b>	<b>35.2</b>
447.dealII	2	429	53.4	<b>431</b>	<b>53.2</b>	435	52.6	2	429	53.4	<b>431</b>	<b>53.2</b>	435	52.6
450.soplex	2	548	30.4	549	30.4	<b>549</b>	<b>30.4</b>	2	560	29.8	561	29.8	<b>560</b>	<b>29.8</b>
453.povray	2	169	63.0	169	62.8	<b>169</b>	<b>63.0</b>	2	138	77.2	<b>138</b>	<b>77.4</b>	137	77.6
454.calculix	2	286	57.6	287	57.6	<b>287</b>	<b>57.6</b>	2	286	57.6	287	57.6	<b>287</b>	<b>57.6</b>
459.GemsFDTD	2	979	21.6	<b>970</b>	<b>21.8</b>	965	22.0	2	979	21.6	<b>970</b>	<b>21.8</b>	965	22.0
465.tonto	2	459	43.0	<b>458</b>	<b>43.0</b>	458	43.0	2	442	44.6	442	44.6	<b>442</b>	<b>44.6</b>
470.lbm	2	588	46.8	589	46.6	<b>589</b>	<b>46.6</b>	2	588	46.8	589	46.6	<b>589</b>	<b>46.6</b>
481.wrf	2	503	44.4	504	44.4	<b>504</b>	<b>44.4</b>	2	503	44.4	504	44.4	<b>504</b>	<b>44.4</b>
482.sphinx3	2	883	44.2	<b>879</b>	<b>44.4</b>	878	44.4	2	<b>878</b>	<b>44.4</b>	878	44.4	877	44.4

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 Thu Dec 29 12:10:12 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 ~2600 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 : 2600  
Name : Intel(R) Pentium(R) CPU G620 @ 2.60GHz  
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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