



# SPEC® CFP2006 Result

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## Intel Corporation

SPECfp®2006 = 44.2

Intel DQ87PG motherboard (Intel Celeron G1820)

SPECfp\_base2006 = 43.4

CPU2006 license: 13

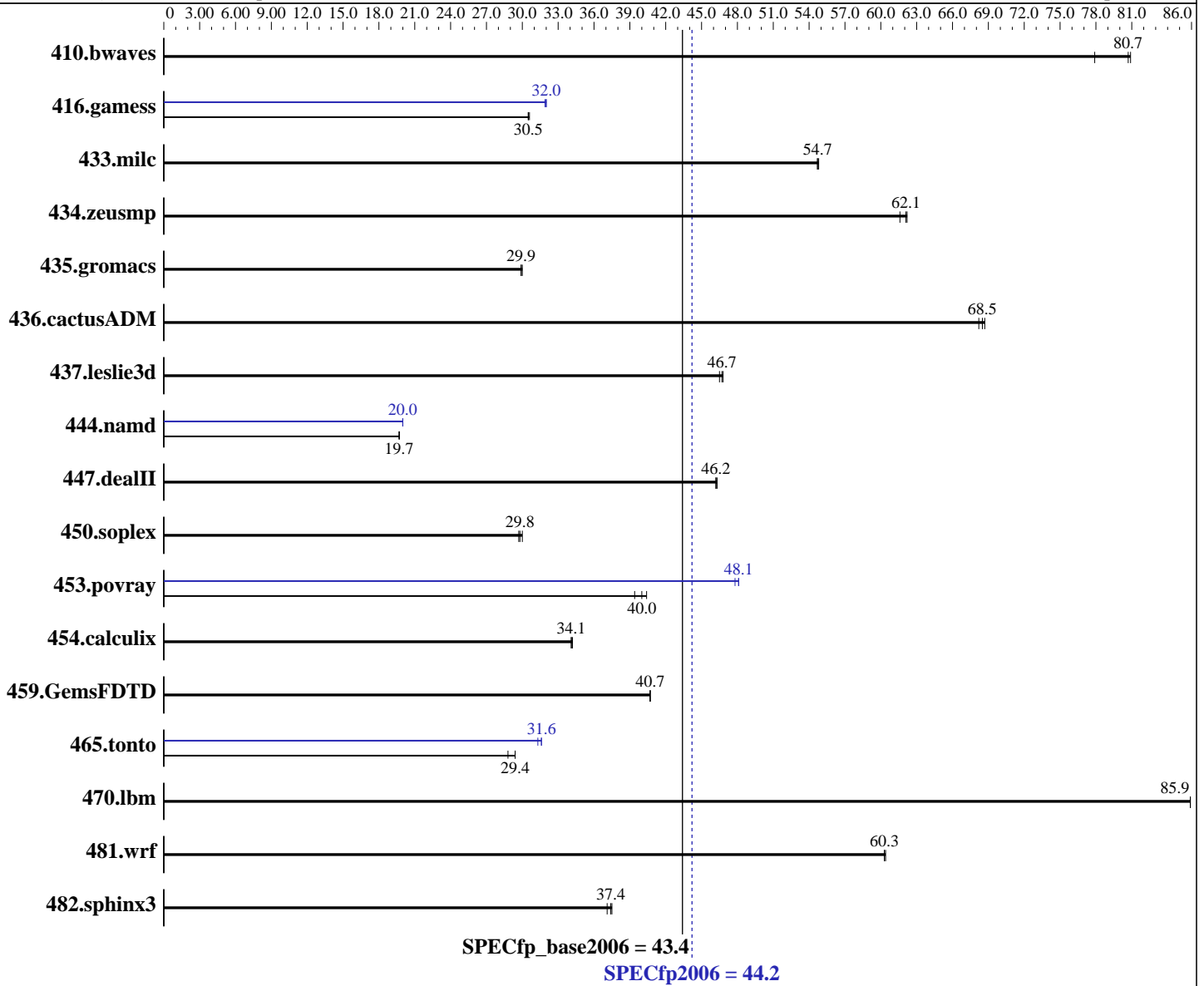
Test date: Feb-2014

Test sponsor: Intel Corporation

Hardware Availability: Dec-2013

Tested by: Intel Corporation

Software Availability: Apr-2013



**Hardware**

CPU Name: Intel Celeron G1820  
 CPU Characteristics:  
 CPU MHz: 2700  
 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 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

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L3 Cache: 2 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11, running at 1333 MHz and CL9)  
 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	<b>168</b>	<b>80.7</b>	168	80.9	175	77.9	<b>168</b>	<b>80.7</b>	168	80.9	175	77.9
416.gamess	<b>641</b>	<b>30.5</b>	640	30.6	642	30.5	<b>611</b>	<b>32.0</b>	<b>612</b>	<b>32.0</b>	615	31.9
433.milc	<b>168</b>	<b>54.7</b>	168	54.7	168	54.8	<b>168</b>	<b>54.7</b>	168	54.7	168	54.8
434.zeusmp	146	62.2	148	61.6	<b>147</b>	<b>62.1</b>	146	62.2	148	61.6	<b>147</b>	<b>62.1</b>
435.gromacs	<b>239</b>	<b>29.9</b>	239	29.9	238	30.0	<b>239</b>	<b>29.9</b>	239	29.9	238	30.0
436.cactusADM	175	68.2	174	68.7	<b>174</b>	<b>68.5</b>	175	68.2	174	68.7	<b>174</b>	<b>68.5</b>
437.leslie3d	202	46.5	<b>201</b>	<b>46.7</b>	201	46.8	202	46.5	<b>201</b>	<b>46.7</b>	201	46.8
444.namd	<b>407</b>	<b>19.7</b>	407	19.7	407	19.7	<b>401</b>	<b>20.0</b>	401	20.0	401	20.0
447.dealII	247	46.3	248	46.2	<b>248</b>	<b>46.2</b>	247	46.3	248	46.2	<b>248</b>	<b>46.2</b>
450.soplex	281	29.7	278	30.0	<b>280</b>	<b>29.8</b>	281	29.7	278	30.0	<b>280</b>	<b>29.8</b>
453.povray	<b>133</b>	<b>40.0</b>	132	40.4	135	39.4	111	47.8	<b>111</b>	<b>48.1</b>	111	48.1
454.calculix	242	34.1	<b>242</b>	<b>34.1</b>	242	34.2	242	34.1	<b>242</b>	<b>34.1</b>	242	34.2
459.GemsFDTD	<b>261</b>	<b>40.7</b>	261	40.7	261	40.7	<b>261</b>	<b>40.7</b>	261	40.7	261	40.7
465.tonto	334	29.4	342	28.8	<b>334</b>	<b>29.4</b>	314	31.3	311	31.6	<b>311</b>	<b>31.6</b>
470.lbm	160	85.9	160	85.9	<b>160</b>	<b>85.9</b>	160	85.9	160	85.9	<b>160</b>	<b>85.9</b>
481.wrf	<b>185</b>	<b>60.3</b>	185	60.3	185	60.4	<b>185</b>	<b>60.3</b>	185	60.3	185	60.4
482.sphinx3	520	37.5	<b>522</b>	<b>37.4</b>	526	37.1	520	37.5	<b>522</b>	<b>37.4</b>	526	37.1

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 Clt00224D4FB715 Wed Feb 12 11:26:48 2014

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

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## 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 ~2700 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 : 512

L3CacheSize : 2048

MaxClockSpeed : 2700

Name : Intel(R) Celeron(R) CPU G1820 @ 2.70GHz

NumberOfCores : 2

NumberOfLogicalProcessors: 2

(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

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



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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:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias  
-Qopt-prefetch -Qauto-ilp32 /F1000000000

C++ benchmarks:

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

Fortran benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias  
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias  
-Qopt-prefetch -Qauto-ilp32 /F1000000000



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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: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000  
sh1W64M.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias  
-Qscalar-rep- /F1000000000

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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: -QxSSE4.2(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>

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

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