



# SPEC<sup>®</sup> CFP2006 Result

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## Intel Corporation

**SPECfp<sup>®</sup>2006 = 51.6**

ASUS H97M-PLUS Motherboard (Intel Pentium G3240)

**SPECfp\_base2006 = 50.7**

CPU2006 license: 13

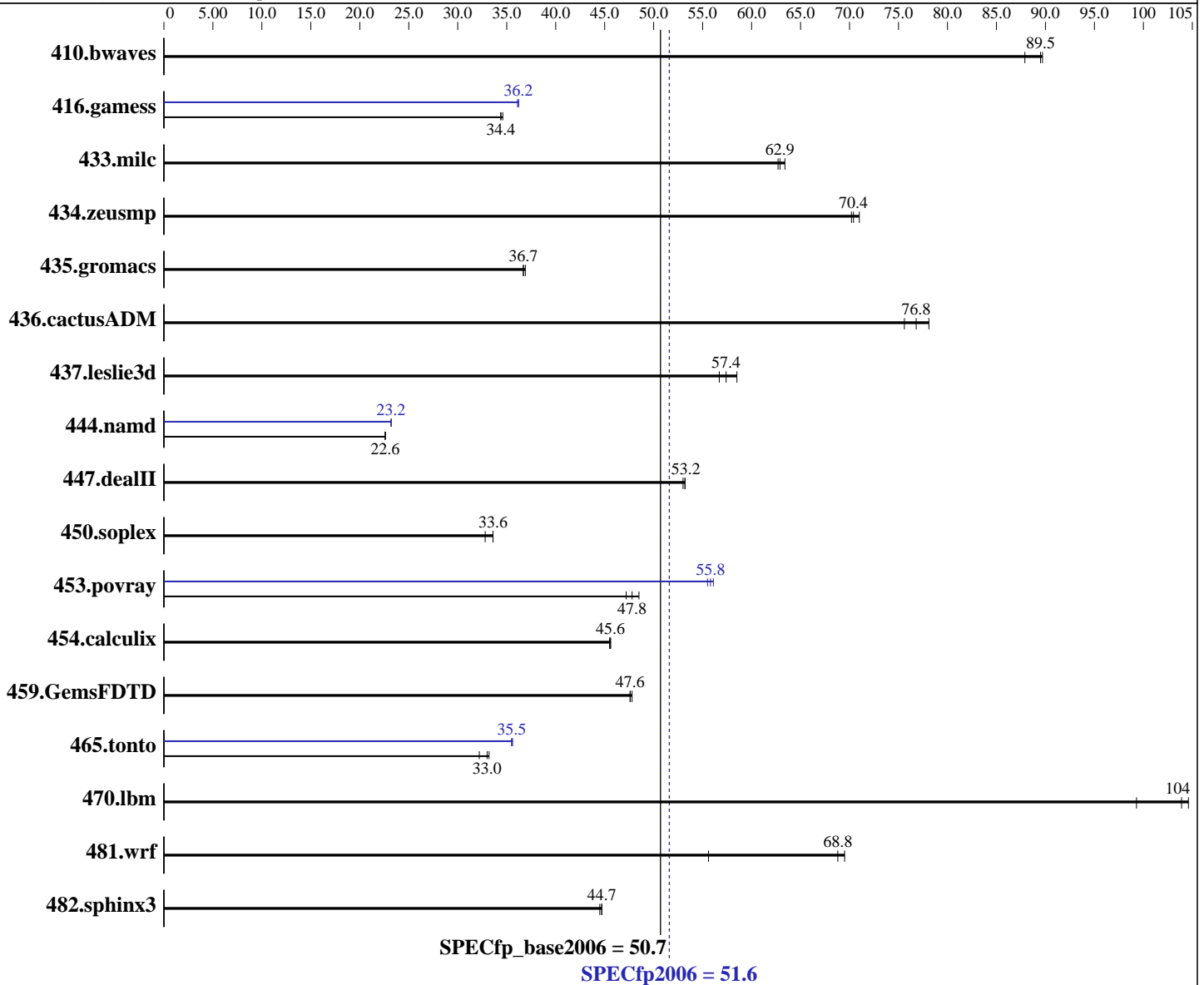
Test date: Jun-2014

Test sponsor: Intel Corporation

Hardware Availability: Jun-2014

Tested by: Intel Corporation

Software Availability: Oct-2013



Hardware		Software	
CPU Name:	Intel Pentium G3240	Operating System:	Microsoft Windows 8.1 Pro 6.3.9600 N/A Build 9600
CPU Characteristics:		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
CPU MHz:	3100	Auto Parallel:	Yes
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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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11, running at 1333 MHz and CL9)  
 Disk Subsystem: 1 TB 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	155	87.9	<b>152</b>	<b>89.5</b>	152	89.7	155	87.9	<b>152</b>	<b>89.5</b>	152	89.7
416.gamess	570	34.4	567	34.6	<b>569</b>	<b>34.4</b>	542	36.1	<b>541</b>	<b>36.2</b>	541	36.2
433.milc	145	63.4	<b>146</b>	<b>62.9</b>	146	62.7	145	63.4	<b>146</b>	<b>62.9</b>	146	62.7
434.zeusmp	128	71.0	<b>129</b>	<b>70.4</b>	130	70.2	128	71.0	<b>129</b>	<b>70.4</b>	130	70.2
435.gromacs	194	36.7	<b>194</b>	<b>36.7</b>	194	36.9	194	36.7	<b>194</b>	<b>36.7</b>	194	36.9
436.cactusADM	153	78.1	<b>156</b>	<b>76.8</b>	158	75.6	153	78.1	<b>156</b>	<b>76.8</b>	158	75.6
437.leslie3d	166	56.7	161	58.5	<b>164</b>	<b>57.4</b>	166	56.7	161	58.5	<b>164</b>	<b>57.4</b>
444.namd	354	22.6	<b>354</b>	<b>22.6</b>	354	22.6	345	23.2	345	23.2	<b>345</b>	<b>23.2</b>
447.dealII	215	53.2	216	53.0	<b>215</b>	<b>53.2</b>	215	53.2	216	53.0	<b>215</b>	<b>53.2</b>
450.soplex	248	33.6	254	32.8	<b>248</b>	<b>33.6</b>	248	33.6	254	32.8	<b>248</b>	<b>33.6</b>
453.povray	113	47.2	110	48.5	<b>111</b>	<b>47.8</b>	94.9	56.1	<b>95.4</b>	<b>55.8</b>	95.8	55.5
454.calculix	<b>181</b>	<b>45.6</b>	181	45.5	181	45.6	<b>181</b>	<b>45.6</b>	181	45.5	181	45.6
459.GemsFDTD	222	47.8	<b>223</b>	<b>47.6</b>	223	47.6	222	47.8	<b>223</b>	<b>47.6</b>	223	47.6
465.tonto	306	32.2	296	33.2	<b>298</b>	<b>33.0</b>	<b>277</b>	<b>35.5</b>	278	35.5	277	35.6
470.lbm	131	105	138	99.3	<b>132</b>	<b>104</b>	131	105	138	99.3	<b>132</b>	<b>104</b>
481.wrf	161	69.5	201	55.6	<b>162</b>	<b>68.8</b>	161	69.5	201	55.6	<b>162</b>	<b>68.8</b>
482.sphinx3	<b>436</b>	<b>44.7</b>	436	44.7	438	44.5	<b>436</b>	<b>44.7</b>	436	44.7	438	44.5

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)

## Platform Notes

Sysinfo program C:\SPEC14.0\Docs\sysinfo  
 \$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
 running on Clt10C37B4C8421 Fri Jun 27 22:39:53 2014

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



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## Platform Notes (Continued)

<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: ASUS

System Model : All Series

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

[01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3100 Mhz

BIOS Version : American Megatrends Inc. 2001, 6/13/2014

Total Physical Memory: 8,007 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 512

L3CacheSize : 3072

MaxClockSpeed : 3100

Name : Intel(R) Pentium(R) CPU G3240 @ 3.10GHz

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

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

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc10 -Qstd=c99 ifort



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## 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

```

## Peak Compiler Invocation

C benchmarks:

```

icl -Qvc10 -Qstd=c99

```

C++ benchmarks:

```

icl -Qvc10

```

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## Peak Compiler Invocation (Continued)

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

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page



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Software Availability: Oct-2013

## Peak Optimization Flags (Continued)

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-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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Tested with SPEC CPU2006 v1.2.

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