



# SPEC<sup>®</sup> CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A10-6700 APU with Radeon HD Graphics)

SPECfp<sup>®</sup>\_rate2006 = 60.7

SPECfp\_rate\_base2006 = 59.9

CPU2006 license: 13

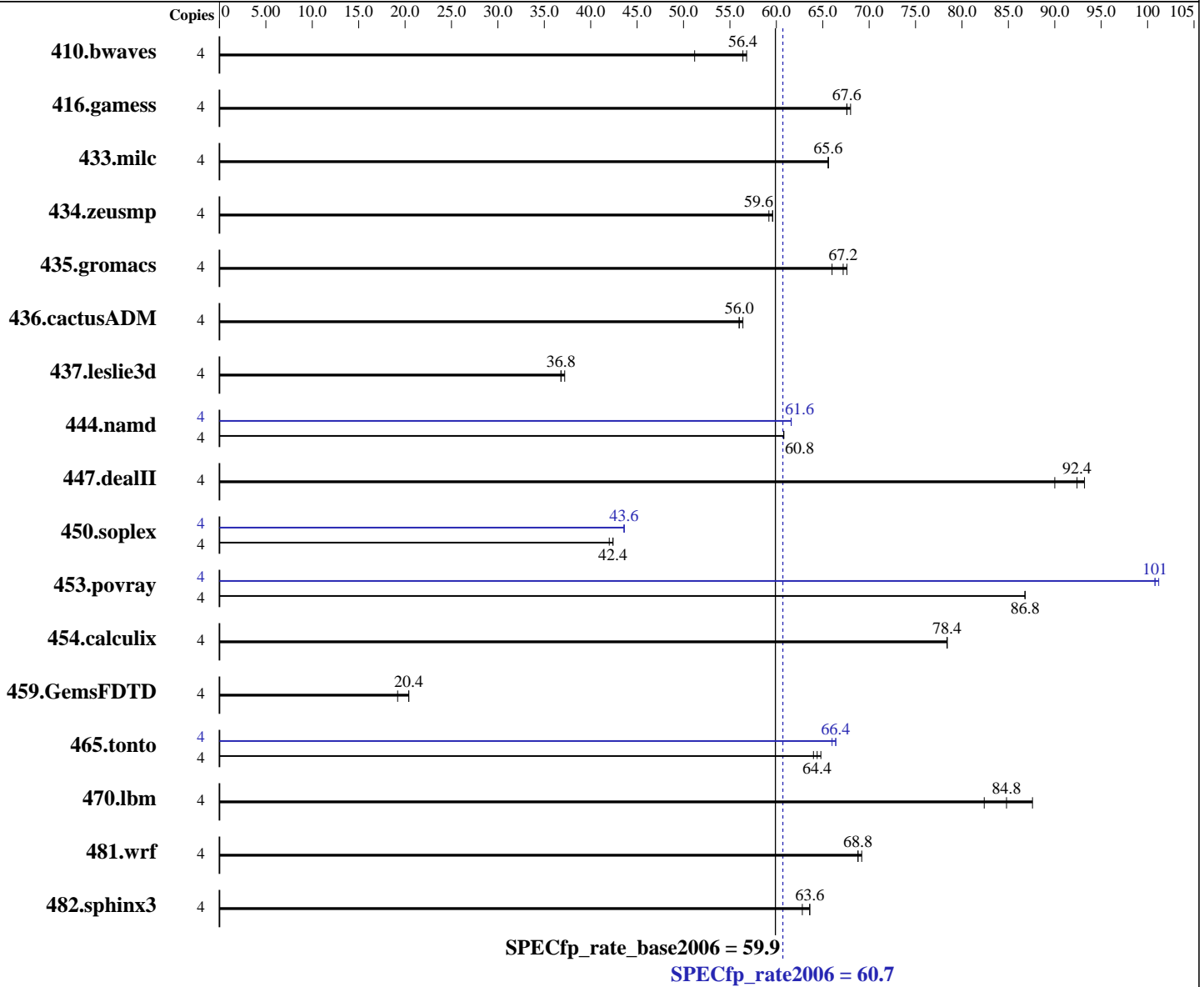
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jan-2014

Hardware Availability: Aug-2013

Software Availability: Apr-2013



### Hardware

CPU Name: AMD A10-6700  
 CPU Characteristics: AMD Turbo CORE technology up to 4.30 GHz  
 CPU MHz: 3700  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 128 KB I on chip per chip, 64 KB I shared / 2 cores; 16 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores

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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: No

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L3 Cache: None  
Other Cache: None  
Memory: 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)  
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	<b>966</b>	<b>56.4</b>	958	56.8	1060	51.2	4	<b>966</b>	<b>56.4</b>	958	56.8	1060	51.2
416.gamess	4	1152	68.0	<b>1159</b>	<b>67.6</b>	1159	67.6	4	1152	68.0	<b>1159</b>	<b>67.6</b>	1159	67.6
433.milc	4	559	65.6	<b>559</b>	<b>65.6</b>	559	65.6	4	559	65.6	<b>559</b>	<b>65.6</b>	559	65.6
434.zeusmp	4	613	59.2	<b>611</b>	<b>59.6</b>	611	59.6	4	613	59.2	<b>611</b>	<b>59.6</b>	611	59.6
435.gromacs	4	<b>424</b>	<b>67.2</b>	432	66.0	422	67.6	4	<b>424</b>	<b>67.2</b>	432	66.0	422	67.6
436.cactusADM	4	<b>851</b>	<b>56.0</b>	848	56.4	852	56.0	4	<b>851</b>	<b>56.0</b>	848	56.4	852	56.0
437.leslie3d	4	<b>1017</b>	<b>36.8</b>	1008	37.2	1021	36.8	4	<b>1017</b>	<b>36.8</b>	1008	37.2	1021	36.8
444.namd	4	528	60.8	<b>528</b>	<b>60.8</b>	528	60.8	4	<b>522</b>	<b>61.6</b>	522	61.6	521	61.6
447.dealII	4	491	93.2	<b>496</b>	<b>92.4</b>	508	90.0	4	491	93.2	<b>496</b>	<b>92.4</b>	508	90.0
450.soplex	4	792	42.0	790	42.4	<b>790</b>	<b>42.4</b>	4	<b>767</b>	<b>43.6</b>	766	43.6	767	43.6
453.povray	4	245	86.8	<b>245</b>	<b>86.8</b>	245	86.8	4	210	101	<b>211</b>	<b>101</b>	212	101
454.calculix	4	420	78.4	421	78.4	<b>421</b>	<b>78.4</b>	4	420	78.4	421	78.4	<b>421</b>	<b>78.4</b>
459.GemsFDTD	4	2188	19.2	<b>2089</b>	<b>20.4</b>	2083	20.4	4	2188	19.2	<b>2089</b>	<b>20.4</b>	2083	20.4
465.tonto	4	609	64.8	<b>613</b>	<b>64.4</b>	615	64.0	4	597	66.0	<b>594</b>	<b>66.4</b>	594	66.4
470.lbm	4	667	82.4	628	87.6	<b>649</b>	<b>84.8</b>	4	667	82.4	628	87.6	<b>649</b>	<b>84.8</b>
481.wrf	4	650	68.8	<b>648</b>	<b>68.8</b>	647	69.2	4	650	68.8	<b>648</b>	<b>68.8</b>	647	69.2
482.sphinx3	4	<b>1228</b>	<b>63.6</b>	1225	63.6	1244	62.8	4	<b>1228</b>	<b>63.6</b>	1225	63.6	1244	62.8

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)

## 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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**CPU2006 license:** 13

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**Test date:** Jan-2014

**Hardware Availability:** Aug-2013

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## Platform Notes

Sysinfo program C:\SPEC13.1\Docs\sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on F2A85MPRO Sun Jan 19 16:31:04 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 7 Enterprise  
OS Version : 6.1.7601 Service Pack 1 Build 7601  
System Manufacturer: System manufacturer  
System Model : System Product Name  
Processor(s) : 1 Processor(s) Installed.  
 [01]: AMD64 Family 21 Model 19 Stepping 1 AuthenticAMD ~3700 Mhz  
BIOS Version : American Megatrends Inc. 6303, 8/13/2013  
Total Physical Memory: 3,271 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0  
L2CacheSize : 4096  
L3CacheSize : 0  
MaxClockSpeed : 3700  
Name : AMD A10-6700 APU with Radeon(tm) HD Graphics  
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  
Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

## 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:

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

C++ benchmarks:

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

Fortran benchmarks:

/arch:AVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

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

453.povray: /arch:AVX(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

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## Peak Optimization Flags (Continued)

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

```
465.tonto: /arch:AVX(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-ic13.1-official-windows.20130924.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.20130924.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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