



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO Motherboard (AMD A8-6500 APU with Radeon HD Graphics)

SPECfp®2006 = 34.0

SPECfp\_base2006 = 32.4

CPU2006 license: 13

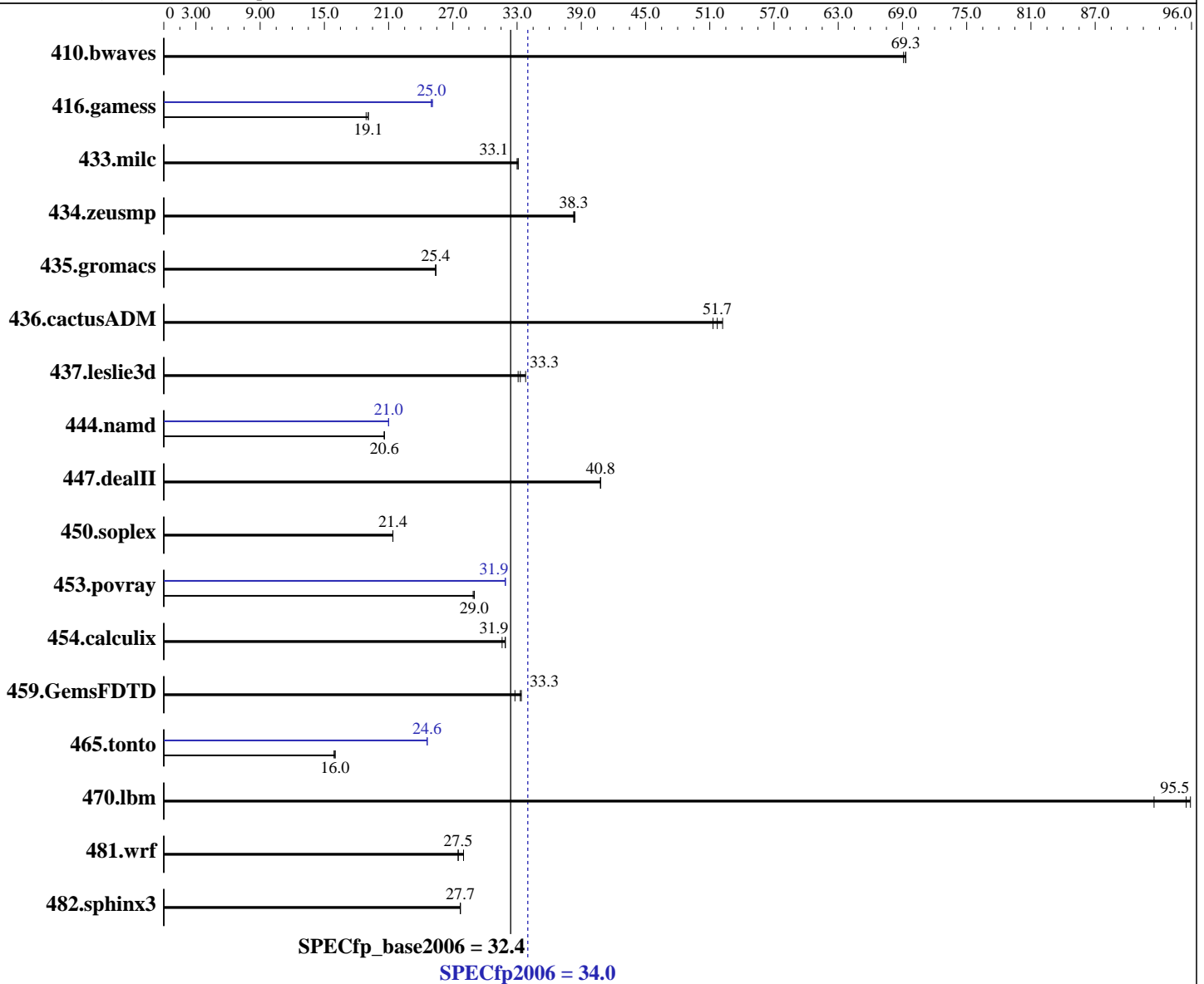
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jul-2014

Hardware Availability: Aug-2013

Software Availability: Oct-2013



### Hardware

CPU Name: AMD A8-6500  
 CPU Characteristics: AMD Turbo CORE technology up to 4.10 GHz  
 CPU MHz: 3500  
 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 8.1 Pro  
 6.3.9600 N/A Build 9600  
 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  
 Auto Parallel: Yes

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)  
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	<b>196</b>	<b>69.3</b>	197	69.1	196	69.3	<b>196</b>	<b>69.3</b>	197	69.1	196	69.3
416.gamess	1035	18.9	<b>1027</b>	<b>19.1</b>	1025	19.1	<b>779</b>	<b>25.1</b>	<b>782</b>	<b>25.0</b>	783	25.0
433.milc	277	33.1	278	33.0	<b>277</b>	<b>33.1</b>	277	33.1	278	33.0	<b>277</b>	<b>33.1</b>
434.zeusmp	<b>237</b>	<b>38.3</b>	237	38.4	237	38.3	<b>237</b>	<b>38.3</b>	237	38.4	237	38.3
435.gromacs	281	25.4	<b>281</b>	<b>25.4</b>	281	25.4	281	25.4	<b>281</b>	<b>25.4</b>	281	25.4
436.cactusADM	<b>231</b>	<b>51.7</b>	229	52.2	233	51.3	<b>231</b>	<b>51.7</b>	229	52.2	233	51.3
437.leslie3d	284	33.1	<b>282</b>	<b>33.3</b>	278	33.8	284	33.1	<b>282</b>	<b>33.3</b>	278	33.8
444.namd	390	20.6	<b>390</b>	<b>20.6</b>	389	20.6	383	21.0	<b>383</b>	<b>21.0</b>	383	21.0
447.dealII	280	40.8	280	40.8	<b>280</b>	<b>40.8</b>	280	40.8	280	40.8	<b>280</b>	<b>40.8</b>
450.soplex	389	21.4	391	21.4	<b>390</b>	<b>21.4</b>	389	21.4	391	21.4	<b>390</b>	<b>21.4</b>
453.povray	<b>184</b>	<b>29.0</b>	183	29.0	184	28.9	<b>167</b>	<b>31.9</b>	167	31.9	167	31.9
454.calculix	261	31.6	259	31.9	<b>259</b>	<b>31.9</b>	261	31.6	259	31.9	<b>259</b>	<b>31.9</b>
459.GemsFDTD	324	32.8	<b>319</b>	<b>33.3</b>	318	33.4	324	32.8	<b>319</b>	<b>33.3</b>	318	33.4
465.tonto	614	16.0	<b>616</b>	<b>16.0</b>	617	15.9	400	24.6	401	24.6	<b>400</b>	<b>24.6</b>
470.lbm	143	95.9	<b>144</b>	<b>95.5</b>	149	92.5	143	95.9	<b>144</b>	<b>95.5</b>	149	92.5
481.wrf	<b>406</b>	<b>27.5</b>	406	27.5	399	28.0	<b>406</b>	<b>27.5</b>	406	27.5	399	28.0
482.sphinx3	704	27.7	<b>703</b>	<b>27.7</b>	703	27.7	704	27.7	<b>703</b>	<b>27.7</b>	703	27.7

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 Clt50465DB57F98 Tue Jul 1 02:10:16 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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**Software Availability:** Oct-2013

## 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: System manufacturer

System Model : System Product Name

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

[01]: AMD64 Family 21 Model 19 Stepping 1 AuthenticAMD ~3500 Mhz

BIOS Version : American Megatrends Inc. 6303, 8/13/2013

Total Physical Memory: 7,366 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 4096

L3CacheSize : 0

MaxClockSpeed : 3500

Name : AMD A8-6500 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

## 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:

```

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

```

C++ benchmarks:

```

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

```

Fortran benchmarks:

```

/arch:AVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

```

Benchmarks using both Fortran and C:

```

/arch:AVX -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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CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jul-2014

Hardware Availability: Aug-2013

Software Availability: Oct-2013

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

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: /arch:AVX(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: /arch:AVX(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

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## Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

```
465.tonto: /arch:AVX(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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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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