



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A6-8550 with Radeon R5 Graphics)

SPECfp®\_rate2006 = 39.5

SPECfp\_rate\_base2006 = 39.1

CPU2006 license: 13

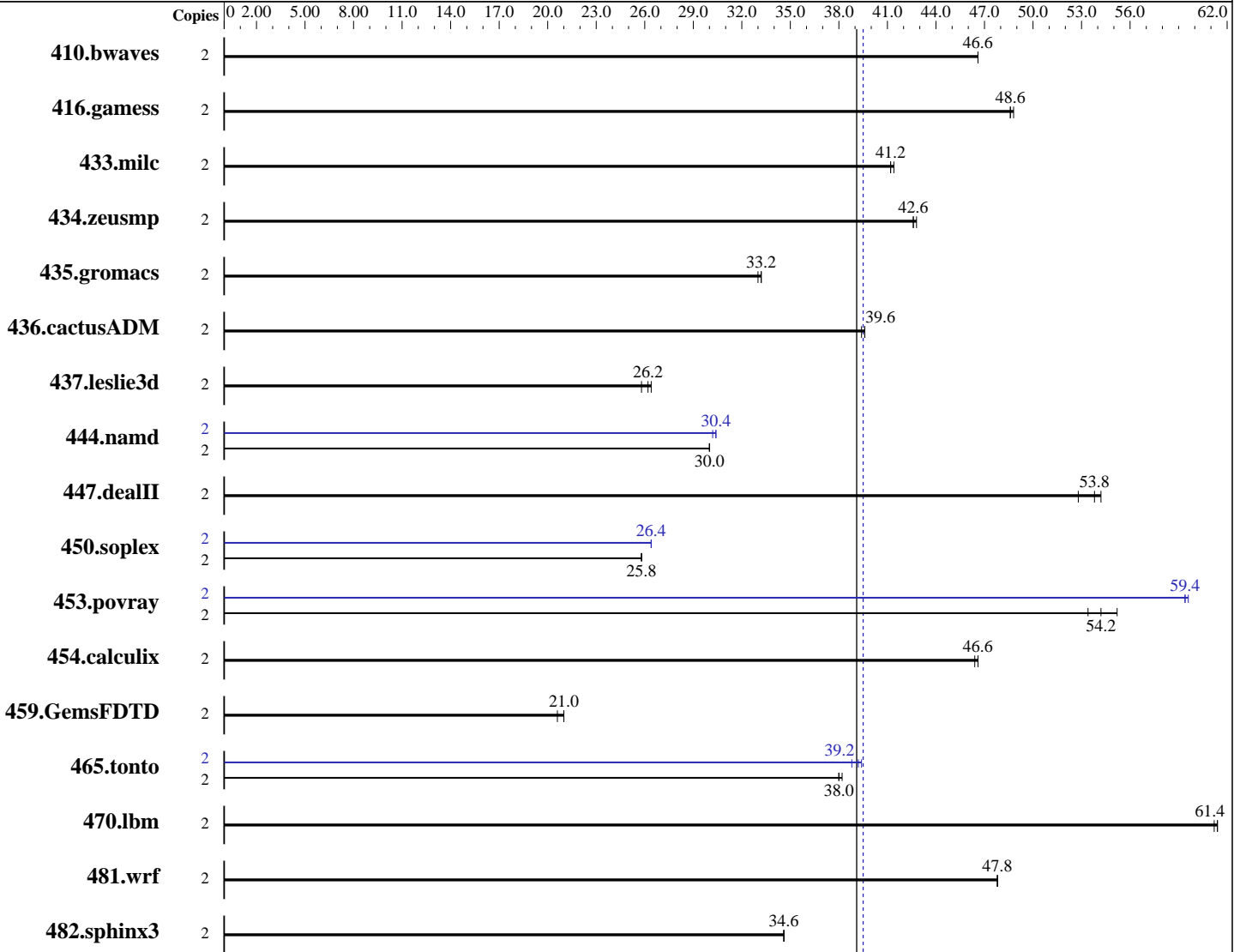
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jul-2016

Hardware Availability: Dec-2015

Software Availability: Aug-2015



SPECfp\_rate\_base2006 = 39.1

SPECfp\_rate2006 = 39.5

### Hardware

CPU Name: AMD A6-8550  
 CPU Characteristics: AMD Turbo CORE technology up to 4.00 GHz  
 CPU MHz: 3700  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 96 KB I on chip per chip; 16 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per chip

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### Software

Operating System: Microsoft Windows 7 Ultimate  
 6.1.7601 Service Pack 1 Build 7601  
 Compiler: C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;  
 Fortran: Version 16.0.0.110 of Intel Fortran Studio XE for Windows;  
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013  
 Auto Parallel: No

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-11)  
Disk Subsystem: Seagate Barracuda 250 GB 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 11.0 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	2	<b>584</b>	<b>46.6</b>	583	46.6	584	46.6	2	<b>584</b>	<b>46.6</b>	583	46.6	584	46.6
416.gamess	2	<b>806</b>	<b>48.6</b>	807	48.6	804	48.8	2	<b>806</b>	<b>48.6</b>	807	48.6	804	48.8
433.milc	2	446	41.2	<b>445</b>	<b>41.2</b>	444	41.4	2	446	41.2	<b>445</b>	<b>41.2</b>	444	41.4
434.zeusmp	2	<b>426</b>	<b>42.6</b>	427	42.6	426	42.8	2	<b>426</b>	<b>42.6</b>	427	42.6	426	42.8
435.gromacs	2	<b>431</b>	<b>33.2</b>	432	33.0	431	33.2	2	<b>431</b>	<b>33.2</b>	432	33.0	431	33.2
436.cactusADM	2	604	39.6	605	39.4	<b>605</b>	<b>39.6</b>	2	604	39.6	605	39.4	<b>605</b>	<b>39.6</b>
437.leslie3d	2	714	26.4	727	25.8	<b>720</b>	<b>26.2</b>	2	714	26.4	727	25.8	<b>720</b>	<b>26.2</b>
444.namd	2	<b>533</b>	<b>30.0</b>	533	30.0	533	30.0	2	<b>528</b>	<b>30.4</b>	530	30.2	528	30.4
447.dealII	2	434	52.8	422	54.2	<b>425</b>	<b>53.8</b>	2	434	52.8	422	54.2	<b>425</b>	<b>53.8</b>
450.soplex	2	647	25.8	<b>647</b>	<b>25.8</b>	646	25.8	2	634	26.4	<b>631</b>	<b>26.4</b>	630	26.4
453.povray	2	199	53.4	<b>196</b>	<b>54.2</b>	193	55.2	2	179	59.4	179	59.6	<b>179</b>	<b>59.4</b>
454.calculix	2	354	46.6	<b>354</b>	<b>46.6</b>	356	46.4	2	354	46.6	<b>354</b>	<b>46.6</b>	356	46.4
459.GemsFDTD	2	1027	20.6	1008	21.0	<b>1010</b>	<b>21.0</b>	2	1027	20.6	1008	21.0	<b>1010</b>	<b>21.0</b>
465.tonto	2	518	38.0	516	38.2	<b>517</b>	<b>38.0</b>	2	<b>503</b>	<b>39.2</b>	507	38.8	501	39.4
470.lbm	2	448	61.4	449	61.2	<b>448</b>	<b>61.4</b>	2	448	61.4	449	61.2	<b>448</b>	<b>61.4</b>
481.wrf	2	468	47.8	467	47.8	<b>468</b>	<b>47.8</b>	2	468	47.8	467	47.8	<b>468</b>	<b>47.8</b>
482.sphinx3	2	<b>1124</b>	<b>34.6</b>	1124	34.6	1127	34.6	2	<b>1124</b>	<b>34.6</b>	1124	34.6	1127	34.6

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 16.0 was set up to generate 64-bit binaries with the command:  
"psxevars.bat intel64" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)

## Platform Notes

Sysinfo program C:\SPEC16.0\Docs\sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on Clt1C872C5DF572 Wed Jul 13 20:59:57 2016

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 Ultimate

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 56 Stepping 1 AuthenticAMD ~3700 Mhz

BIOS Version : American Megatrends Inc. 2502, 12/11/2015

Total Physical Memory: 7,108 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 25359

L3CacheSize : 0

MaxClockSpeed : 3700

Name : AMD A6-8550 Radeon R5, 6 Compute Cores 2C+4G

NumberOfCores : 1

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

450.soplex (peak): "getline\_test" src.alt was used.

447.dealII (base): "max\_prototype" src.alt was used.

447.dealII (base): "cxx11\_make\_pair" src.alt was used.

450.soplex (base): "getline\_test" src.alt was used.

447.dealII (base): "max\_prototype" src.alt was used.

447.dealII (base): "cxx11\_make\_pair" src.alt was used.

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU  
+ 64GB memory using Windows 8.1 Enterprise 64-bit

## Base Compiler Invocation

C benchmarks:

icl -Qvc12 -Qstd=c99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc12

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc12 -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  
 -DSPEC\_CPU\_BOOST\_CONFIG\_MSC\_VER -DSPEC\_NEED\_ALGORITHM  
 450.soplex: -DSPEC\_CPU\_P64 -DSPEC\_GETLINE\_TEST  
 453.povray: -DSPEC\_CPU\_P64  
 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

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

## Peak Compiler Invocation

C benchmarks:

```
icl -Qvc12 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc12
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icl -Qvc12 -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.dealII: 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
```

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## Peak Optimization Flags (Continued)

```
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

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 /F1000000000
           -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-ic16.0-official-windows.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-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).

Tested with SPEC CPU2006 v1.2.  
Report generated on Tue Sep 20 15:06:39 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 20 September 2016.