



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO motherboard (AMD A10-7700K APU with Radeon R7 Graphics)

SPECfp®2006 = 33.6

SPECfp\_base2006 = 32.7

CPU2006 license: 13

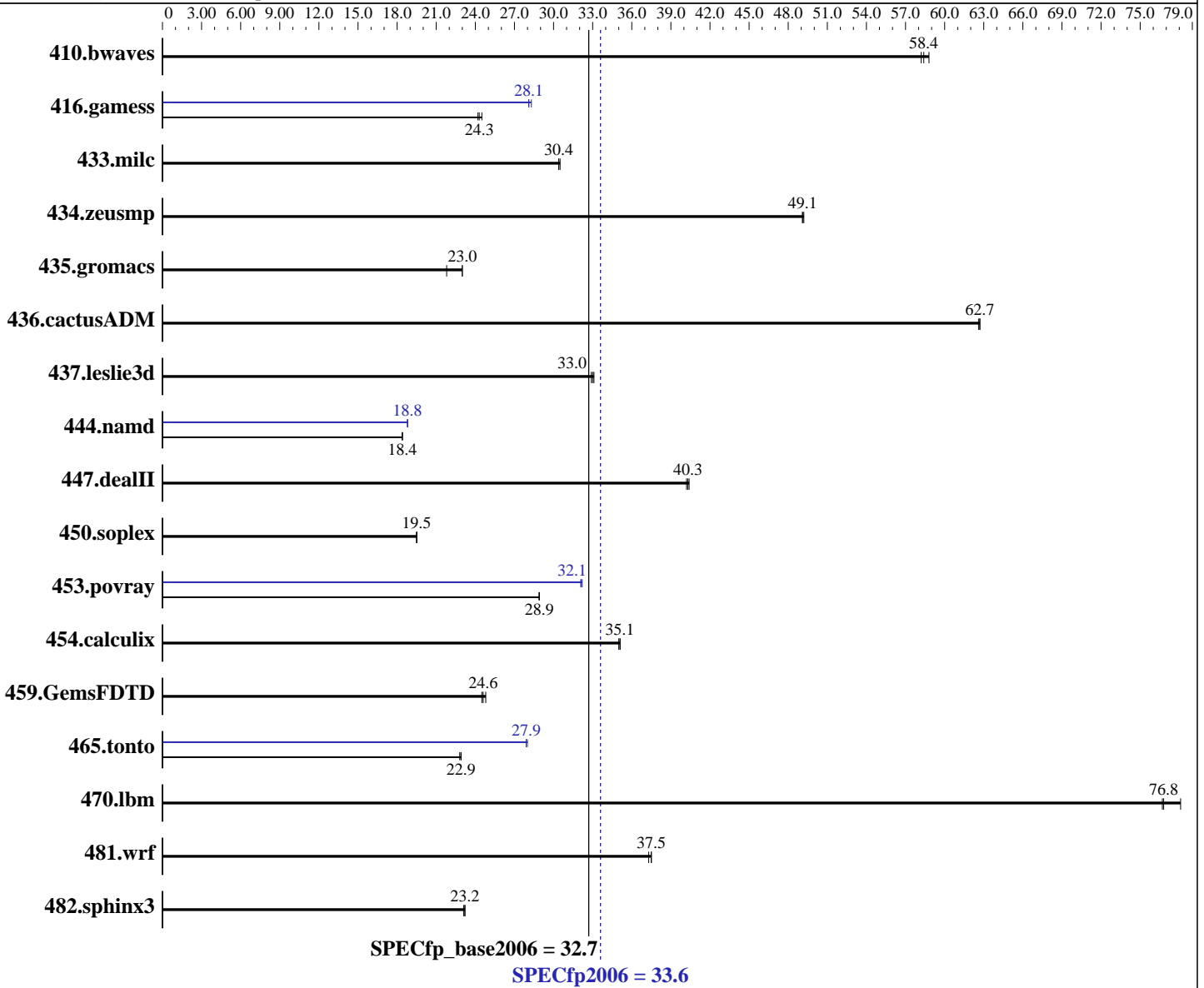
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Jan-2014

Software Availability: Oct-2013



### Hardware

CPU Name: AMD A10-7700K  
 CPU Characteristics: AMD Turbo CORE technology up to 3.80 GHz  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 192 KB I on chip per chip, 96 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 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: 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	234	58.2	231	58.8	<b><u>233</u></b>	<b><u>58.4</u></b>	234	58.2	231	58.8	<b><u>233</u></b>	<b><u>58.4</u></b>
416.gamess	810	24.2	801	24.5	<b><u>807</u></b>	<b><u>24.3</u></b>	<b><u>696</u></b>	<b><u>28.1</u></b>	698	28.1	692	28.3
433.milc	301	30.5	302	30.4	<b><u>302</u></b>	<b><u>30.4</u></b>	301	30.5	302	30.4	<b><u>302</u></b>	<b><u>30.4</u></b>
434.zeusmp	185	49.2	<b><u>185</u></b>	<b><u>49.1</u></b>	185	49.1	<b><u>185</u></b>	<b><u>49.2</u></b>	<b><u>185</u></b>	<b><u>49.1</u></b>	185	49.1
435.gromacs	<b><u>310</u></b>	<b><u>23.0</u></b>	310	23.0	327	21.8	<b><u>310</u></b>	<b><u>23.0</u></b>	310	23.0	327	21.8
436.cactusADM	191	62.7	191	62.6	<b><u>191</u></b>	<b><u>62.7</u></b>	191	62.7	191	62.6	<b><u>191</u></b>	<b><u>62.7</u></b>
437.leslie3d	286	32.9	<b><u>285</u></b>	<b><u>33.0</u></b>	284	33.1	286	32.9	<b><u>285</u></b>	<b><u>33.0</u></b>	284	33.1
444.namd	<b><u>436</u></b>	<b><u>18.4</u></b>	437	18.4	436	18.4	<b><u>428</u></b>	<b><u>18.8</u></b>	427	18.8	428	18.8
447.dealII	<b><u>284</u></b>	<b><u>40.3</u></b>	285	40.2	283	40.4	<b><u>284</u></b>	<b><u>40.3</u></b>	285	40.2	283	40.4
450.soplex	428	19.5	<b><u>429</u></b>	<b><u>19.5</u></b>	429	19.5	<b><u>428</u></b>	<b><u>19.5</u></b>	<b><u>429</u></b>	<b><u>19.5</u></b>	429	19.5
453.povray	184	28.9	184	28.9	<b><u>184</u></b>	<b><u>28.9</u></b>	166	32.1	165	32.2	<b><u>166</u></b>	<b><u>32.1</u></b>
454.calculix	236	35.0	235	35.1	<b><u>235</u></b>	<b><u>35.1</u></b>	236	35.0	235	35.1	<b><u>235</u></b>	<b><u>35.1</u></b>
459.GemsFDTD	428	24.8	<b><u>431</u></b>	<b><u>24.6</u></b>	434	24.5	428	24.8	<b><u>431</u></b>	<b><u>24.6</u></b>	434	24.5
465.tonto	430	22.9	431	22.8	<b><u>430</u></b>	<b><u>22.9</u></b>	353	27.9	351	28.0	<b><u>353</u></b>	<b><u>27.9</u></b>
470.lbm	176	78.1	179	76.7	<b><u>179</u></b>	<b><u>76.8</u></b>	176	78.1	179	76.7	<b><u>179</u></b>	<b><u>76.8</u></b>
481.wrf	300	37.3	298	37.5	<b><u>298</u></b>	<b><u>37.5</u></b>	300	37.3	298	37.5	<b><u>298</u></b>	<b><u>37.5</u></b>
482.sphinx3	<b><u>840</u></b>	<b><u>23.2</u></b>	839	23.2	843	23.1	<b><u>840</u></b>	<b><u>23.2</u></b>	839	23.2	843	23.1

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 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 A88XPRO-PC Sat Jun 28 11:30:35 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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**SPECfp\_base2006 = 32.7**

**CPU2006 license:** 13

**Test sponsor:** Intel Corporation

**Tested by:** Intel Corporation

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**Hardware Availability:** Jan-2014

**Software Availability:** Oct-2013

## 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: System manufacturer
System Model  : System Product Name
Processor(s) : 1 Processor(s) Installed.
               [01]: AMD64 Family 21 Model 48 Stepping 1 AuthenticAMD ~3400 Mhz
BIOS Version : American Megatrends Inc. 0703, 12/30/2013
Total Physical Memory: 3,522 MB

```

Trying 'wmic cpu get /value'

```

DeviceID      : CPU0
L2CacheSize   : 4096
L3CacheSize   : 0
MaxClockSpeed : 3400
Name          : AMD A10-7700K APU with Radeon(TM) R7 Graphics
NumberOfCores : 4
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

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
```

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## Base Compiler Invocation (Continued)

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- -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
```



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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  
sh1W64M.lib -link /FORCE:MULTIPLE

447.dealII: 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

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## Peak Optimization Flags (Continued)

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 -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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