



# SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)

SPECfp®2006 = 36.8

SPECfp\_base2006 = 35.7

CPU2006 license: 13

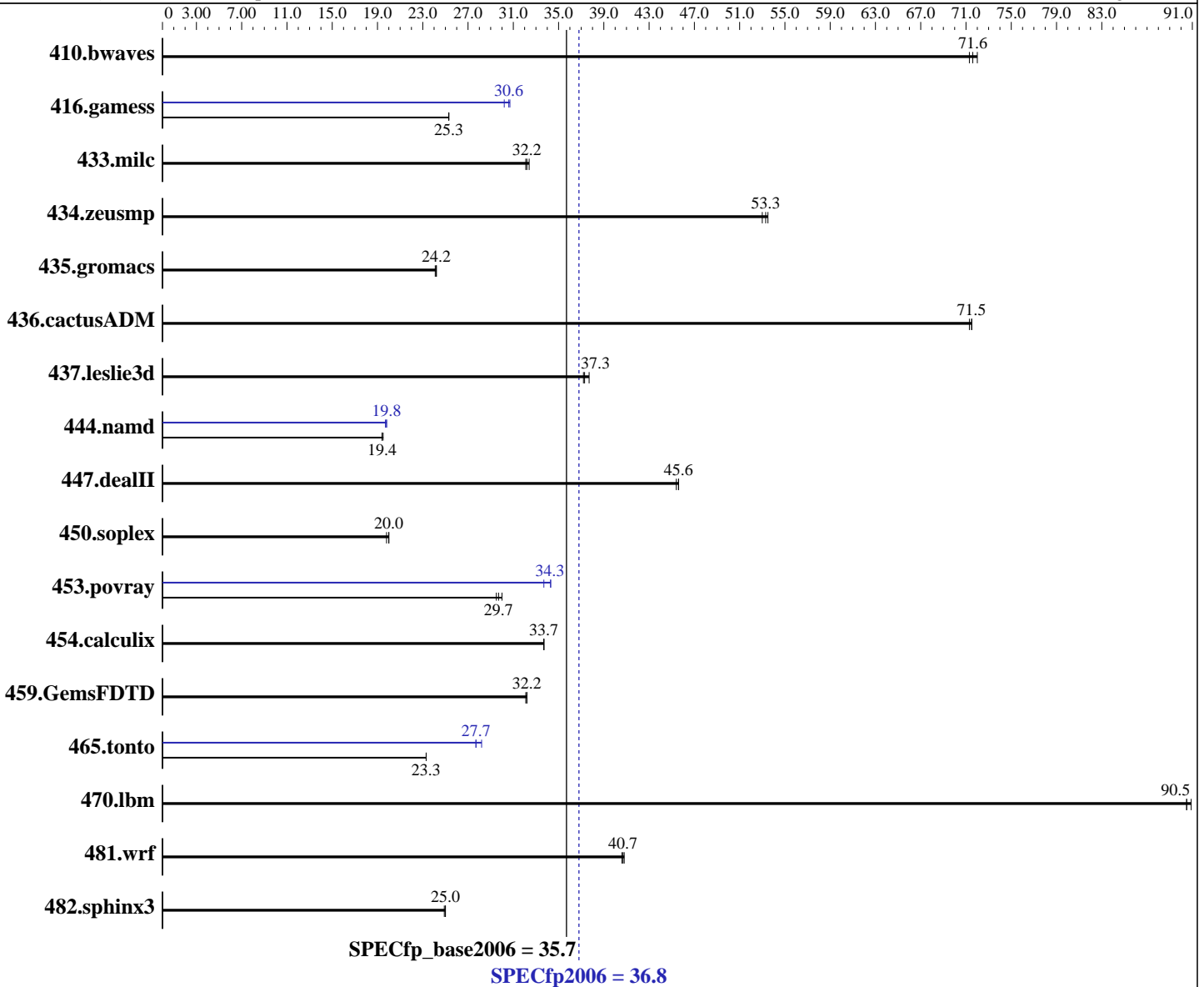
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2016

Hardware Availability: Jan-2014

Software Availability: Aug-2015



## Hardware

CPU Name: AMD A10-7850K  
 CPU Characteristics: AMD Turbo CORE technology up to 4.00 GHz  
 CPU MHz: 3700  
 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

Continued on next page

## Software

Operating System: Microsoft Windows 7 Enterprise 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: Yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)

SPECfp2006 = 36.8

SPECfp\_base2006 = 35.7

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2016

Hardware Availability: Jan-2014

Software Availability: Aug-2015

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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b>190</b>	<b>71.6</b>	191	71.3	189	72.0	<b>190</b>	<b>71.6</b>	191	71.3	189	72.0
416.gamess	772	25.3	773	25.3	<b>773</b>	<b>25.3</b>	648	30.2	639	30.7	<b>640</b>	<b>30.6</b>
433.milc	283	32.4	286	32.1	<b>285</b>	<b>32.2</b>	283	32.4	286	32.1	<b>285</b>	<b>32.2</b>
434.zeusmp	170	53.5	172	53.0	<b>171</b>	<b>53.3</b>	170	53.5	172	53.0	<b>171</b>	<b>53.3</b>
435.gromacs	<b>295</b>	<b>24.2</b>	297	24.1	295	24.2	<b>295</b>	<b>24.2</b>	297	24.1	295	24.2
436.cactusADM	168	71.3	<b>167</b>	<b>71.5</b>	167	71.5	168	71.3	<b>167</b>	<b>71.5</b>	167	71.5
437.leslie3d	253	37.2	249	37.7	<b>252</b>	<b>37.3</b>	253	37.2	249	37.7	<b>252</b>	<b>37.3</b>
444.namd	414	19.4	412	19.5	<b>413</b>	<b>19.4</b>	407	19.7	406	19.8	<b>406</b>	<b>19.8</b>
447.dealII	251	45.6	252	45.4	<b>251</b>	<b>45.6</b>	251	45.6	252	45.4	<b>251</b>	<b>45.6</b>
450.soplex	<b>418</b>	<b>20.0</b>	422	19.8	417	20.0	<b>418</b>	<b>20.0</b>	422	19.8	417	20.0
453.povray	<b>179</b>	<b>29.7</b>	177	30.0	180	29.5	<b>155</b>	<b>34.3</b>	158	33.7	155	34.3
454.calculix	<b>245</b>	<b>33.7</b>	245	33.7	245	33.7	<b>245</b>	<b>33.7</b>	245	33.7	245	33.7
459.GemsFDTD	<b>330</b>	<b>32.2</b>	330	32.1	330	32.2	<b>330</b>	<b>32.2</b>	330	32.1	330	32.2
465.tonto	422	23.3	423	23.3	<b>423</b>	<b>23.3</b>	350	28.2	356	27.7	<b>355</b>	<b>27.7</b>
470.lbm	151	90.9	152	90.5	<b>152</b>	<b>90.5</b>	151	90.9	152	90.5	<b>152</b>	<b>90.5</b>
481.wrf	275	40.6	<b>275</b>	<b>40.7</b>	274	40.8	275	40.6	<b>275</b>	<b>40.7</b>	274	40.8
482.sphinx3	781	25.0	<b>781</b>	<b>25.0</b>	783	24.9	781	25.0	<b>781</b>	<b>25.0</b>	783	24.9

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 Fri Mar 18 23:30:33 2016

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



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

(Test Sponsor: Intel Corporation)

**ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)**

**SPECfp2006 = 36.8**

**SPECfp\_base2006 = 35.7**

**CPU2006 license:** 13

**Test sponsor:** Intel Corporation

**Tested by:** Intel Corporation

**Test date:** Mar-2016

**Hardware Availability:** Jan-2014

**Software Availability:** Aug-2015

## 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 ~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 A10-7850K Radeon R7, 12 Compute Cores 4C+8G
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

```
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.
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.

OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit
```



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)

SPECfp2006 = 36.8

SPECfp\_base2006 = 35.7

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2016

Hardware Availability: Jan-2014

Software Availability: Aug-2015

## Base 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

## 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- -Qparallel -Qansi-alias  
-Qopt-prefetch /F1000000000

C++ benchmarks:

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

Fortran benchmarks:

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)

SPECfp2006 = 36.8

SPECfp\_base2006 = 35.7

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2016

Hardware Availability: Jan-2014

Software Availability: Aug-2015

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

## 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 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE
```

```
447.dealII: basepeak = yes
```

```
450.soplex: basepeak = yes
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10-7850K with Radeon R7 Graphics)

**SPECfp2006 = 36.8**

**SPECfp\_base2006 = 35.7**

**CPU2006 license:** 13

**Test sponsor:** Intel Corporation

**Tested by:** Intel Corporation

**Test date:** Mar-2016

**Hardware Availability:** Jan-2014

**Software Availability:** Aug-2015

## Peak Optimization Flags (Continued)

```
453.povray: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
           -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000
           shlW64M.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

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-alloc
           /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-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>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 15:06:37 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 20 September 2016.