# SPEC® CFP2006 Result



## ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

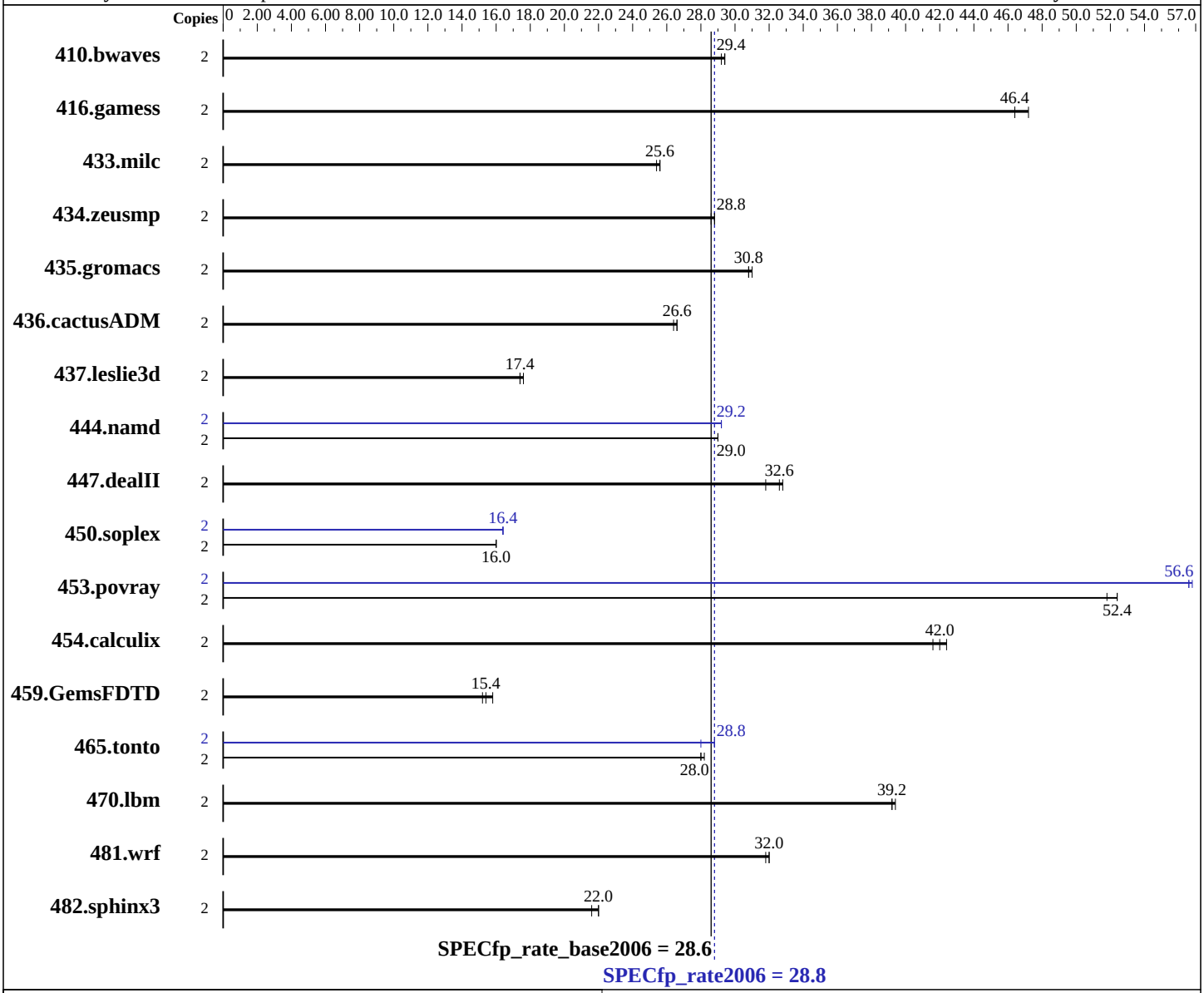
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

SPECfp®_rate2006 = 28.8

SPECfp_rate_base2006 = 28.6

**CPU2006 license:** 13
**Test sponsor:** Intel Corporation
**Tested by:** Intel Corporation

**Test date:** Nov-2014
**Hardware Availability:** Jul-2014
**Software Availability:** Oct-2013




## Hardware

| | |
|---|---|
| CPU Name: | AMD A6 PRO-7400B |
| CPU Characteristics: | AMD Turbo CORE technology up to 3.90 GHz |
| CPU MHz: | 3500 |
| 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 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: | No |

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| | | | |
|---|---|---|---|
| L3 Cache: | None | File System: | NTFS |
| Other Cache: | None | System State: | Default |
| Memory: | 8 GB (2 x 4 GB 2Rx4 PC3-14900U-13) | Base Pointers: | 32/64-bit |
| Disk Subsystem: | 160 GB Western Digital SATA HDD, 7200 RPM | Peak Pointers: | 32/64-bit |
| Other Hardware: | None | Other Software: | Microquill SmartHeap V10.0 |

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 2 | **927** | **29.4** | 929 | 29.2 | 923 | 29.4 | 2 | **927** | **29.4** | 929 | 29.2 | 923 | 29.4 |
| 416.gamess | 2 | 829 | 47.2 | 844 | 46.4 | **844** | **46.4** | 2 | 829 | 47.2 | 844 | 46.4 | **844** | **46.4** |
| 433.milc | 2 | 721 | 25.4 | **720** | **25.6** | 720 | 25.6 | 2 | 721 | 25.4 | **720** | **25.6** | 720 | 25.6 |
| 434.zeusmp | 2 | **633** | **28.8** | 634 | 28.6 | 631 | 28.8 | 2 | **633** | **28.8** | 634 | 28.6 | 631 | 28.8 |
| 435.gromacs | 2 | **462** | **30.8** | 462 | 30.8 | 461 | 31.0 | 2 | **462** | **30.8** | 462 | 30.8 | 461 | 31.0 |
| 436.cactusADM | 2 | 904 | 26.4 | 897 | 26.6 | **901** | **26.6** | 2 | 904 | 26.4 | 897 | 26.6 | **901** | **26.6** |
| 437.leslie3d | 2 | 1087 | 17.4 | **1083** | **17.4** | 1070 | 17.6 | 2 | 1087 | 17.4 | **1083** | **17.4** | 1070 | 17.6 |
| 444.namd | 2 | 553 | 29.0 | **553** | **29.0** | 552 | 29.0 | 2 | 548 | 29.2 | 549 | 29.2 | **548** | **29.2** |
| 447.dealII | 2 | 700 | 32.8 | 719 | 31.8 | **702** | **32.6** | 2 | 700 | 32.8 | 719 | 31.8 | **702** | **32.6** |
| 450.soplex | 2 | **1042** | **16.0** | 1044 | 16.0 | 1038 | 16.0 | 2 | 1016 | 16.4 | **1016** | **16.4** | 1014 | 16.4 |
| 453.povray | 2 | 203 | 52.4 | 206 | 51.8 | **203** | **52.4** | 2 | 188 | 56.8 | 188 | 56.6 | **188** | **56.6** |
| 454.calculix | 2 | **393** | **42.0** | 397 | 41.6 | 389 | 42.4 | 2 | **393** | **42.0** | 397 | 41.6 | 389 | 42.4 |
| 459.GemsFDTD | 2 | **1373** | **15.4** | 1389 | 15.2 | 1348 | 15.8 | 2 | **1373** | **15.4** | 1389 | 15.2 | 1348 | 15.8 |
| 465.tonto | 2 | 702 | 28.0 | 699 | 28.2 | **702** | **28.0** | 2 | 701 | 28.0 | 681 | 28.8 | **684** | **28.8** |
| 470.lbm | 2 | **699** | **39.2** | 699 | 39.4 | 701 | 39.2 | 2 | **699** | **39.2** | 699 | 39.4 | 701 | 39.2 |
| 481.wrf | 2 | **697** | **32.0** | 701 | 31.8 | 697 | 32.0 | 2 | **697** | **32.0** | 701 | 31.8 | 697 | 32.0 |
| 482.sphinx3 | 2 | 1804 | 21.6 | **1775** | **22.0** | 1764 | 22.0 | 2 | 1804 | 21.6 | **1775** | **22.0** | 1764 | 22.0 |

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)
```

## 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.
```

## Platform Notes

```
Sysinfo program C:\SPEC14.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltE03F49B01B77 Fri Nov  7 13:02:53 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 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 48 Stepping 1 AuthenticAMD ~3500 Mhz
BIOS Version  : American Megatrends Inc. 1301, 6/24/2014
Total Physical Memory: 7,105 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 25359
L3CacheSize   : 0
MaxClockSpeed : 3500
Name          : AMD A6 PRO-7400B 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

```
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
```

Continued on next page

## 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

## 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.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

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

Continued on next page

## 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 /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-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



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
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