ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)
ASUS A88X-PRO Motherboard (AMD A8 PRO-8650B with Radeon R7 Graphics)

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

Hardware
CPU Name: AMD A8 PRO-8650B
CPU Characteristics: AMD Turbo CORE technology up to 3.90 GHz
CPU MHz: 3200
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

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;
Auto Parallel: No

SPECfp®_rate2006 = 68.7
SPECfp_rate_base2006 = 68.1

SPECfp_rate_base2006 = 68.1:

Continued on next page
### SPEC CFP2006 Result

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- **CPU2006 license:** 13  
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<thead>
<tr>
<th>L3 Cache:</th>
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<td>Other Cache:</td>
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<td>Memory:</td>
<td>8 GB (2 x 4 GB 2Rx8 PC3-10600U-11)</td>
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<tr>
<td>Disk Subsystem:</td>
<td>Seagate Barracuda 250 GB SATA, 7200 RPM</td>
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<td>Other Hardware:</td>
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| Disk Subsystem: | None |
| Other Hardware: | None |
| Memory: | 8 GB (2 x 4 GB 2Rx8 PC3-10600U-11) |

**SPECfp_rate2006 = 68.7**  
**SPECfp_rate_base2006 = 68.1**

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### Results Table

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</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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### 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 CltE03P49ACBFDE Wed Jul 27 03:34:52 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

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CPU2006 license: 13
Test sponsor: Intel Corporation
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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 ~3200 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 : 3200
Name : AMD PRO A8-8650B R7, 10 Compute Cores 4C+6G
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 (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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CPU2006 license: 13
Test date: Jul-2016
Test sponsor: Intel Corporation
Hardware Availability: Sep-2015
Tested by: Intel Corporation
Software Availability: Aug-2015

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.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 -Qopt-prefetch
  -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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SPEC CFP2006 Result  

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CPU2006 license: 13  
Test date: Jul-2016  
Test sponsor: Intel Corporation  
Hardware Availability: Sep-2015  
Tested by: Intel Corporation  
Software Availability: Aug-2015  

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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| SPECfp_rate2006 | 68.7  
| SPECfp_rate_base2006 | 68.1  

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**Test sponsor:** Intel Corporation  
**Tested by:** Intel Corporation  
**Test date:** Jul-2016  
**Hardware Availability:** Sep-2015  
**Software Availability:** Aug-2015  

### Peak Optimization Flags (Continued)

```
453.povray: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)  
-qqipo -O3 -qqprec-div -Qopt-prefetch -Qauto-ilp32  
/F1000000000 shlw64M.lib -link /FORCE:MULTIPLE
```

Fortran benchmarks:

- 410.bwaves: basepeak = yes  
- 416.game5: 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)  
  -qqipo -O3 -qqprec-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  

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

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

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