ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

| SPECfp_rate2006 = 39.0 |
| SPECfp_rate_base2006 = 38.5 |

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
- **Primary Cache:** 96 KB L1 on chip per chip; 16 KB D on chip per core
- **Secondary Cache:** 1 MB L1+D on chip per chip

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
ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)  

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

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>bwaves</td>
<td>2</td>
<td>585</td>
<td>46.4</td>
<td>583</td>
<td>46.6</td>
<td>583</td>
<td>46.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gamess</td>
<td>2</td>
<td>823</td>
<td>47.6</td>
<td>832</td>
<td>47.0</td>
<td>831</td>
<td>47.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>milc</td>
<td>2</td>
<td>448</td>
<td>41.0</td>
<td>448</td>
<td>41.0</td>
<td>448</td>
<td>41.0</td>
<td>448</td>
<td>41.0</td>
</tr>
<tr>
<td>zeusmp</td>
<td>2</td>
<td>433</td>
<td>42.0</td>
<td>432</td>
<td>42.0</td>
<td>433</td>
<td>42.0</td>
<td>433</td>
<td>42.0</td>
</tr>
<tr>
<td>gromacs</td>
<td>2</td>
<td>440</td>
<td>32.4</td>
<td>443</td>
<td>32.2</td>
<td>443</td>
<td>32.2</td>
<td>443</td>
<td>32.2</td>
</tr>
<tr>
<td>cactusADM</td>
<td>2</td>
<td>614</td>
<td>39.0</td>
<td>614</td>
<td>39.0</td>
<td>611</td>
<td>39.2</td>
<td>614</td>
<td>39.0</td>
</tr>
<tr>
<td>Leslie3d</td>
<td>2</td>
<td>716</td>
<td>26.2</td>
<td>728</td>
<td>25.8</td>
<td>723</td>
<td>26.0</td>
<td>716</td>
<td>26.2</td>
</tr>
<tr>
<td>namd</td>
<td>2</td>
<td>549</td>
<td>29.2</td>
<td>548</td>
<td>29.2</td>
<td>549</td>
<td>29.2</td>
<td>544</td>
<td>29.6</td>
</tr>
<tr>
<td>dealII</td>
<td>2</td>
<td>431</td>
<td>53.2</td>
<td>432</td>
<td>53.0</td>
<td>430</td>
<td>53.2</td>
<td>431</td>
<td>53.2</td>
</tr>
<tr>
<td>soplex</td>
<td>2</td>
<td>652</td>
<td>25.6</td>
<td>652</td>
<td>25.6</td>
<td>649</td>
<td>25.8</td>
<td>633</td>
<td>26.4</td>
</tr>
<tr>
<td>povray</td>
<td>2</td>
<td>203</td>
<td>52.4</td>
<td>203</td>
<td>52.4</td>
<td>201</td>
<td>53.0</td>
<td>182</td>
<td>58.4</td>
</tr>
<tr>
<td>calculix</td>
<td>2</td>
<td>362</td>
<td>45.6</td>
<td>398</td>
<td>41.4</td>
<td>361</td>
<td>45.6</td>
<td>362</td>
<td>45.6</td>
</tr>
<tr>
<td>GemsFDTD</td>
<td>2</td>
<td>1014</td>
<td>21.0</td>
<td>1019</td>
<td>20.8</td>
<td>1016</td>
<td>20.8</td>
<td>1014</td>
<td>21.0</td>
</tr>
<tr>
<td>tonto</td>
<td>2</td>
<td>529</td>
<td>37.2</td>
<td>531</td>
<td>37.0</td>
<td>526</td>
<td>37.4</td>
<td>510</td>
<td>38.6</td>
</tr>
<tr>
<td>ibm</td>
<td>2</td>
<td>449</td>
<td>61.2</td>
<td>450</td>
<td>61.0</td>
<td>450</td>
<td>61.2</td>
<td>449</td>
<td>61.2</td>
</tr>
<tr>
<td>wrf</td>
<td>2</td>
<td>469</td>
<td>47.6</td>
<td>468</td>
<td>47.6</td>
<td>470</td>
<td>47.6</td>
<td>469</td>
<td>47.6</td>
</tr>
<tr>
<td>sphinx3</td>
<td>2</td>
<td>1134</td>
<td>34.4</td>
<td>1135</td>
<td>34.4</td>
<td>1136</td>
<td>34.4</td>
<td>1134</td>
<td>34.4</td>
</tr>
</tbody>
</table>

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 Sun May 15 07:29:18 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

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

SPECfp_rate2006 = 39.0
SPECfp_rate_base2006 = 38.5

CPU2006 license: 13
Test sponsor: Intel Corporation
Test date: May-2016
Tested by: Intel Corporation
Hardware Availability: Jul-2014
Software Availability: Aug-2015

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 Product Name : 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. 2502, 12/11/2015
Total Physical Memory: 7,108 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

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

Continued on next page
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
482.sphinx3: -DSPEC_CPU_P64 -DSPEC_CPU_Windows_ICL

Base Optimization Flags

C benchmarks:
   /arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch
   -Qauto-1lp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:
   /arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch
   -Qcxx-features -Qauto-1lp32 /F1000000000 shlw64m.lib
   -link /FORCE:MULTIPLE

Fortran benchmarks:
   /arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch
   /F1000000000 -link /FORCE:MULTIPLE

Continued on next page
SPEC CFP2006 Result

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

SPECfp_rate2006 = 39.0
SPECfp_rate_base2006 = 38.5

CPU2006 license: 13
Test date: May-2016
Test sponsor: Intel Corporation
Hardware Availability: Jul-2014
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

Continued on next page
ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)  

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

SPECfp_rate2006 = 39.0  
SPECfp_rate_base2006 = 38.5

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.gamepp: 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  

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

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.

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