SPEC® CFP2006 Result

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)
ASUS A88X-PRO Motherboard (AMD A10 PRO-7850B with
Radeon R7 Graphics)

SPECfp_rate2006 = 72.4
SPECfp_rate_base2006 = 72.0

Hardware
CPU Name: AMD A10 PRO-7850B
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

Software
Operating System: Microsoft Windows 7 Ultimate
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

Test date: Jul-2016
Hardware Availability: Jul-2014
Software Availability: Aug-2015

Test sponsor: Intel Corporation
Tested by: Intel Corporation
CPU2006 license: 13
Test date: Jul-2016
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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>
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<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</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 intell64" (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

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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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 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 PRO-7850B 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 (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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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

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-1lp32 /F10000000000 -link /FORCE:MULTIPLE

C++ benchmarks:  
/arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch  
-Qcxx-features -Qauto-1lp32 /F10000000000 sliW64M.lib  
-link /FORCE:MULTIPLE

Fortran benchmarks:  
/arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch  
/F10000000000 -link /FORCE:MULTIPLE

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:  
/arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F10000000000 -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 /F10000000000  
  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 /F10000000000 shlW64M.lib  
  -link /FORCE:MULTIPLE

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| Test date: | Jul-2016 |
| Hardware Availability: | Jul-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 -Qopt-prefetch -Qauto-ilp32  
/F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

- 410.bwaves: basepeak = yes
- 416.gamesp: 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:


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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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