SPEC® CFP2006 Result

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

SPECfp®2006 = 36.4
SPECfp_base2006 = 35.2

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

Test date: Jul-2014
Hardware Availability: Jan-2014
Software Availability: Oct-2013

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

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 StudioXE for Windows;
  Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
- Auto Parallel: Yes

Continued on next page
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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)  
Disk Subsystem: 1 TB Seagate SATA HDD, 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 10.0 from http://www.microquill.com/

Results Table

<table>
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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 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)

Platform Notes

Sysinfo program C:\SPEC14.0\Docs/sysinfo  
$Rev: 6775 $ $Date:: 2011-08-16 $$ \8787f7622badcf24e01c368b1db4377c  
running on CltD850E6BC6E8A Tue Jul 1 02:00:03 2014

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

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
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Platform Notes (Continued)

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 ~3700 Mhz
BIOS Version : American Megatrends Inc. 0703, 12/30/2013
Total Physical Memory: 7,106 MB

Trying 'wmic cpu get /value'
DeviceID   : CPU0
L2CacheSize : 4096
L3CacheSize : 0
MaxClockSpeed : 3700
Name       : AMD A10-7850K APU with Radeon(TM) R7 Graphics
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

OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
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

Fortran benchmarks:
  ifort

Benchmarks using both Fortran and C:
  icl -Qvc10 -Qstd=c99 ifort
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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.GemsFD: -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 -Qauto-ilp32 /F1000000000

C++ benchmarks:
/arch:AVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

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

Benchmarks using both Fortran and C:
/arch:AVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch-Qauto-ilp32 /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10
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Software Availability: Oct-2013

Peak Compiler Invocation (Continued)

Fortran benchmarks:

```fortran
ifort
```

Benchmarks using both Fortran and C:

```fortran
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: basepeak = yes
- 453.povray: `/arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll14 -Qansi-alias -Qauto-ilp32 /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 -Qunroll12 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000`
- 434.zeusmp: basepeak = yes
- 437.leslie3d: basepeak = yes

Continued on next page
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### Peak Optimization Flags (Continued)

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-calloc  
/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  

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

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For other inquiries, please contact webmaster@spec.org.

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