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

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

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 7 Enterprise  
- Auto Parallel: No

continued on next page
SPEC CFP2006 Result

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SPECfp_rate_base2006 = 61.7

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L3 Cache: None
Other Cache: None
Memory: 4 GB (2 x 2 GB IRx8 PC3-12800U-11)
Disk Subsystem: 250 GB 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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<th>Seconds</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 13.1 was set up to generate 64-bit binaries with the command:
"ipxse-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.
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| SPECfp_rate2006 | 62.3 |
| SPECfp_rate_base2006 | 61.7 |

CPU2006 license: 13
Test sponsor: Intel Corporation
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Platform Notes

Sysinfo program C:\SPEC13.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltE03F4919E4AE Wed May 7 14:22:05 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 7 Enterprise
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. 0703, 12/30/2013
Total Physical Memory: 3,522 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 : 4
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
Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

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

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Hardware Availability: Jan-2014
Software Availability: Apr-2013

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.eusmp: -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-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

Benchmarks using both Fortran and C:
/arch:AVX -Qipo -O3 -Qprec-div -Qansi-alias -Qopt-prefetch
-Qauto-1lp32 /F1000000000 -link /FORCE:MULTIPLE
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Software Availability: Apr-2013

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 /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

453.povray: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
  -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
  /F10000000000 shlw64M.lib
  -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

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Software Availability: Apr-2013

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
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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