



SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A10-6800K APU with Radeon HD Graphics)

SPECfp®_rate2006 = 63.7

SPECfp_rate_base2006 = 62.8

CPU2006 license: 13

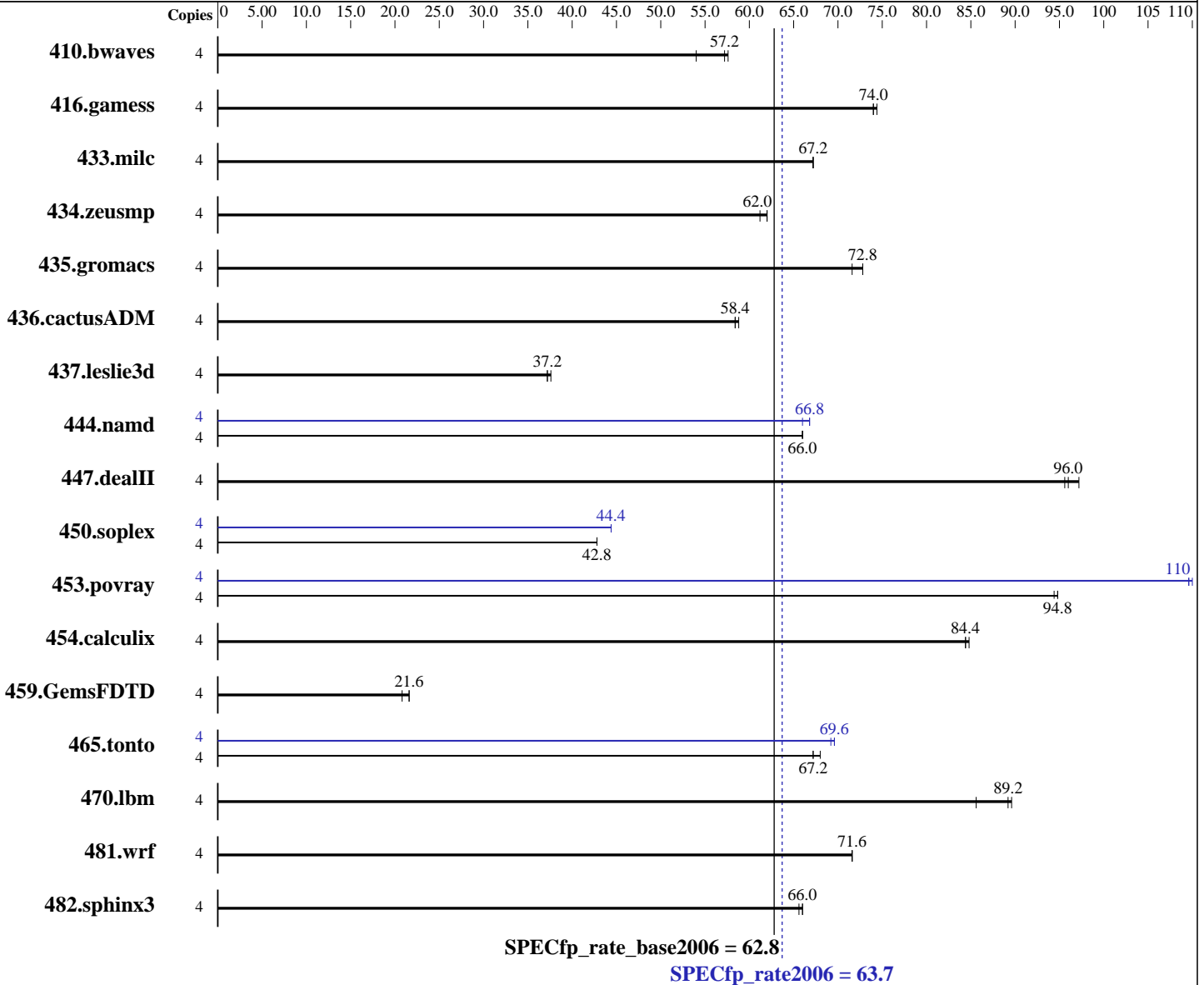
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013



Hardware

CPU Name: AMD A10-6800K
 CPU Characteristics: AMD Turbo CORE technology up to 4.40 GHz
 CPU MHz: 4100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 128 KB I on chip per chip, 64 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

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Software

Operating System: Microsoft Windows 7 Ultimate 6.1.7601 Service Pack 1 Build 7601
 Compiler: C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows;
 Fortran: Version 13.1.1.171 of Intel Fortran Studio XE for Windows;
 Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
 Auto Parallel: No

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L3 Cache: None
Other Cache: None
Memory: 4 GB (2 x 2 GB 1Rx8 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

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1007	54.0	<u>953</u>	<u>57.2</u>	945	57.6	4	1007	54.0	<u>953</u>	<u>57.2</u>	945	57.6
416.gamess	4	1060	74.0	<u>1058</u>	<u>74.0</u>	1052	74.4	4	1060	74.0	<u>1058</u>	<u>74.0</u>	1052	74.4
433.milc	4	546	67.2	545	67.2	<u>546</u>	<u>67.2</u>	4	546	67.2	545	67.2	<u>546</u>	<u>67.2</u>
434.zeusmp	4	<u>588</u>	<u>62.0</u>	593	61.2	586	62.0	4	<u>588</u>	<u>62.0</u>	593	61.2	586	62.0
435.gromacs	4	400	71.6	392	72.8	<u>392</u>	<u>72.8</u>	4	400	71.6	392	72.8	<u>392</u>	<u>72.8</u>
436.cactusADM	4	<u>819</u>	<u>58.4</u>	820	58.4	814	58.8	4	<u>819</u>	<u>58.4</u>	820	58.4	814	58.8
437.leslie3d	4	1010	37.2	996	37.6	<u>1009</u>	<u>37.2</u>	4	1010	37.2	996	37.6	<u>1009</u>	<u>37.2</u>
444.namd	4	<u>487</u>	<u>66.0</u>	486	66.0	487	66.0	4	480	66.8	486	66.0	<u>480</u>	<u>66.8</u>
447.dealII	4	480	95.6	<u>478</u>	<u>96.0</u>	471	97.2	4	480	95.6	<u>478</u>	<u>96.0</u>	471	97.2
450.soplex	4	<u>781</u>	<u>42.8</u>	778	42.8	782	42.8	4	749	44.4	<u>751</u>	<u>44.4</u>	754	44.4
453.povray	4	226	94.4	225	94.8	<u>225</u>	<u>94.8</u>	4	194	110	194	110	<u>194</u>	<u>110</u>
454.calculix	4	<u>391</u>	<u>84.4</u>	391	84.4	389	84.8	4	<u>391</u>	<u>84.4</u>	391	84.4	389	84.8
459.GemsFDTD	4	<u>1964</u>	<u>21.6</u>	1961	21.6	2031	20.8	4	<u>1964</u>	<u>21.6</u>	1961	21.6	2031	20.8
465.tonto	4	<u>586</u>	<u>67.2</u>	587	67.2	580	68.0	4	566	69.6	<u>567</u>	<u>69.6</u>	568	69.2
470.lbm	4	<u>615</u>	<u>89.2</u>	613	89.6	642	85.6	4	<u>615</u>	<u>89.2</u>	613	89.6	642	85.6
481.wrf	4	<u>624</u>	<u>71.6</u>	625	71.6	623	71.6	4	<u>624</u>	<u>71.6</u>	625	71.6	623	71.6
482.sphinx3	4	<u>1185</u>	<u>66.0</u>	1181	66.0	1190	65.6	4	<u>1185</u>	<u>66.0</u>	1181	66.0	1190	65.6

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:
"ipsxe-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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Platform Notes

Sysinfo program C:\SPEC13.1\Docs\sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt14DAE908A2BC Fri Sep 20 01:10:55 2013

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 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 19 Stepping 1 AuthenticAMD ~4100 Mhz
BIOS Version : American Megatrends Inc. 6105, 5/8/2013
Total Physical Memory: 3,111 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0
L2CacheSize : 4096
L3CacheSize : 0
MaxClockSpeed : 4100
Name : AMD A10-6800K APU with Radeon(tm) HD 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
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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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.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.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-ilp32 /F1000000000 -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

Benchmarks using both Fortran and C:

/arch:AVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE



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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 /F1000000000
shlW64M.lib -link /FORCE:MULTIPLE

447.dealIII: 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

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

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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 /F10000000000
           -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

<http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.20130924.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.20130924.xml>

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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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