SPEC® CFP2006 Result

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

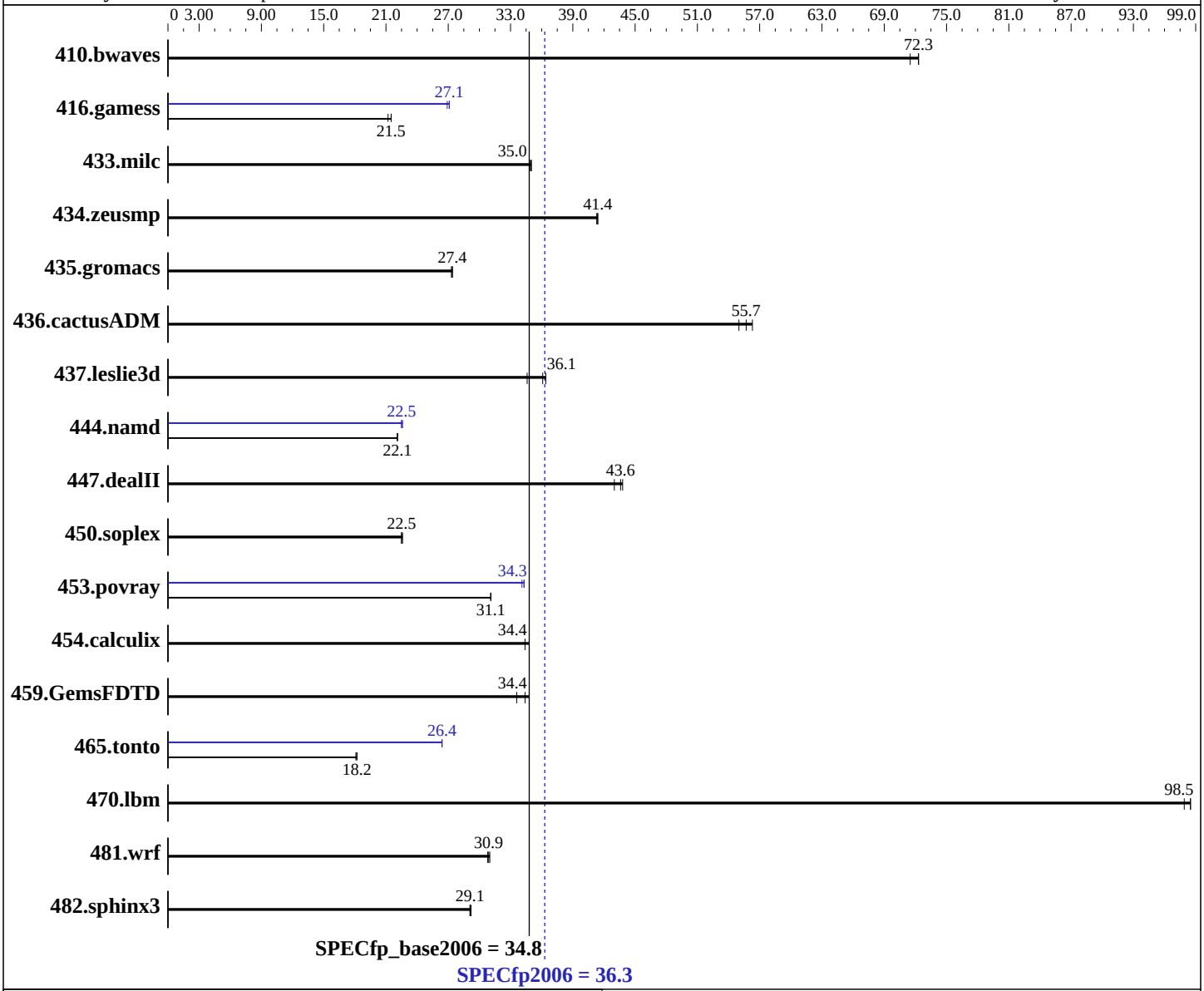
ASUS F2A85-M PRO Motherboard (AMD A10-6800K APU with Radeon HD Graphics)

SPECfp®2006 = 36.3

SPECfp_base2006 = 34.8

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

Test date: Jul-2014
Hardware Availability: Aug-2013
Software Availability: Oct-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 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 Studio XE for Windows; Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
Auto Parallel:	Yes

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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

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	190	71.5	188	72.3	**188**	**72.3**	190	71.5	188	72.3	**188**	**72.3**
416.gamess	909	21.5	923	21.2	**910**	**21.5**	721	27.1	727	26.9	**723**	**27.1**
433.milc	**263**	**35.0**	263	34.9	262	35.0	**263**	**35.0**	263	34.9	262	35.0
434.zeusmp	220	41.3	220	41.4	**220**	**41.4**	220	41.3	220	41.4	**220**	**41.4**
435.gromacs	262	27.3	261	27.4	**261**	**27.4**	262	27.3	261	27.4	**261**	**27.4**
436.cactusADM	217	55.0	**215**	**55.7**	212	56.3	217	55.0	**215**	**55.7**	212	56.3
437.leslie3d	**260**	**36.1**	258	36.4	271	34.6	**260**	**36.1**	258	36.4	271	34.6
444.namd	**362**	**22.1**	362	22.1	362	22.1	**356**	**22.5**	356	22.5	356	22.6
447.dealII	266	43.0	261	43.8	**263**	**43.6**	266	43.0	261	43.8	**263**	**43.6**
450.soplex	369	22.6	370	22.5	**370**	**22.5**	369	22.6	370	22.5	**370**	**22.5**
453.povray	171	31.1	171	31.1	**171**	**31.1**	155	34.3	**155**	**34.3**	156	34.1
454.calculix	240	34.4	**240**	**34.4**	237	34.8	240	34.4	**240**	**34.4**	237	34.8
459.GemsFDTD	316	33.6	305	34.8	**309**	**34.4**	316	33.6	305	34.8	**309**	**34.4**
465.tonto	**541**	**18.2**	540	18.2	542	18.1	373	26.4	**373**	**26.4**	373	26.4
470.lbm	140	97.9	140	98.5	**140**	**98.5**	140	97.9	140	98.5	**140**	**98.5**
481.wrf	**362**	**30.9**	363	30.8	361	31.0	**362**	**30.9**	363	30.8	361	31.0
482.sphinx3	669	29.2	670	29.1	**670**	**29.1**	669	29.2	670	29.1	**670**	**29.1**

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 Clt08606E747CCD Tue Jul  1 01:38:59 2014

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 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 19 Stepping 1 AuthenticAMD ~4100 Mhz
  BIOS Version  : American Megatrends Inc. 6303, 8/13/2013
  Total Physical Memory: 7,366 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
```

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
```

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- -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 shlW64M.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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Peak Compiler Invocation (Continued)

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.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- -Qunroll4 -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- -Qunroll2 -Ob0 -Qansi-alias
-Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page

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
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
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