SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

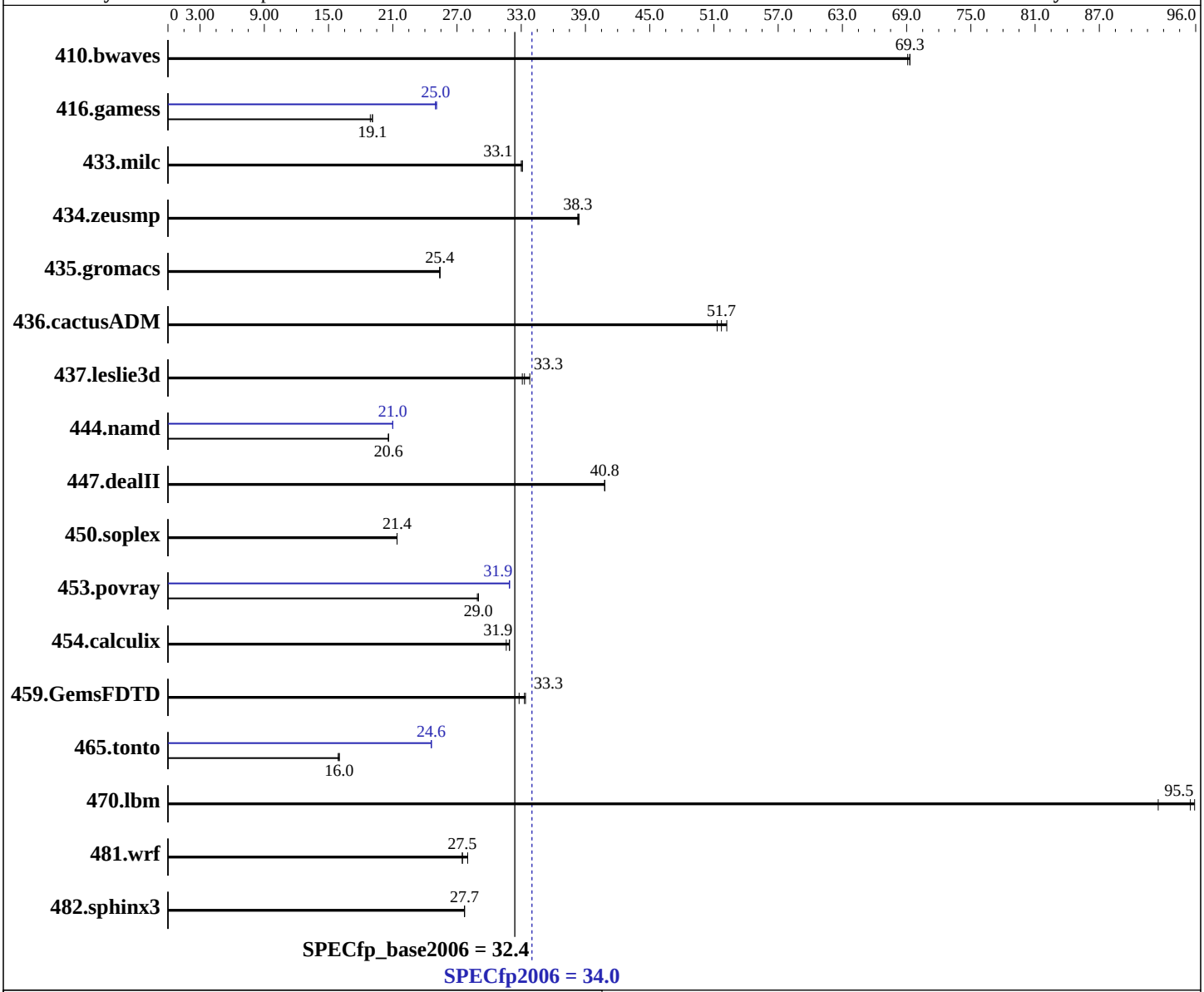
ASUS F2A85-M PRO Motherboard (AMD A8-6500 APU with Radeon HD Graphics)

SPECfp®2006 = 34.0

SPECfp_base2006 = 32.4

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 A8-6500
CPU Characteristics:	AMD Turbo CORE technology up to 4.10 GHz
CPU MHz:	3500
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 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	**196**	**69.3**	197	69.1	196	69.3	**196**	**69.3**	197	69.1	196	69.3
416.gamess	1035	18.9	**1027**	**19.1**	1025	19.1	779	25.1	**782**	**25.0**	783	25.0
433.milc	277	33.1	278	33.0	**277**	**33.1**	277	33.1	278	33.0	**277**	**33.1**
434.zeusmp	**237**	**38.3**	237	38.4	237	38.3	**237**	**38.3**	237	38.4	237	38.3
435.gromacs	281	25.4	**281**	**25.4**	281	25.4	281	25.4	**281**	**25.4**	281	25.4
436.cactusADM	**231**	**51.7**	229	52.2	233	51.3	**231**	**51.7**	229	52.2	233	51.3
437.leslie3d	284	33.1	**282**	**33.3**	278	33.8	284	33.1	**282**	**33.3**	278	33.8
444.namd	390	20.6	**390**	**20.6**	389	20.6	383	21.0	**383**	**21.0**	383	21.0
447.dealII	280	40.8	280	40.8	**280**	**40.8**	280	40.8	280	40.8	**280**	**40.8**
450.soplex	389	21.4	391	21.4	**390**	**21.4**	389	21.4	391	21.4	**390**	**21.4**
453.povray	**184**	**29.0**	183	29.0	184	28.9	**167**	**31.9**	167	31.9	167	31.9
454.calculix	261	31.6	259	31.9	**259**	**31.9**	261	31.6	259	31.9	**259**	**31.9**
459.GemsFDTD	324	32.8	**319**	**33.3**	318	33.4	324	32.8	**319**	**33.3**	318	33.4
465.tonto	614	16.0	**616**	**16.0**	617	15.9	400	24.6	401	24.6	**400**	**24.6**
470.lbm	143	95.9	**144**	**95.5**	149	92.5	143	95.9	**144**	**95.5**	149	92.5
481.wrf	**406**	**27.5**	406	27.5	399	28.0	**406**	**27.5**	406	27.5	399	28.0
482.sphinx3	704	27.7	**703**	**27.7**	703	27.7	704	27.7	**703**	**27.7**	703	27.7

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 Clt50465DB57F98 Tue Jul  1 02:10:16 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

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 ~3500 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 : 3500
Name          : AMD A8-6500 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

Continued on next page

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

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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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