SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

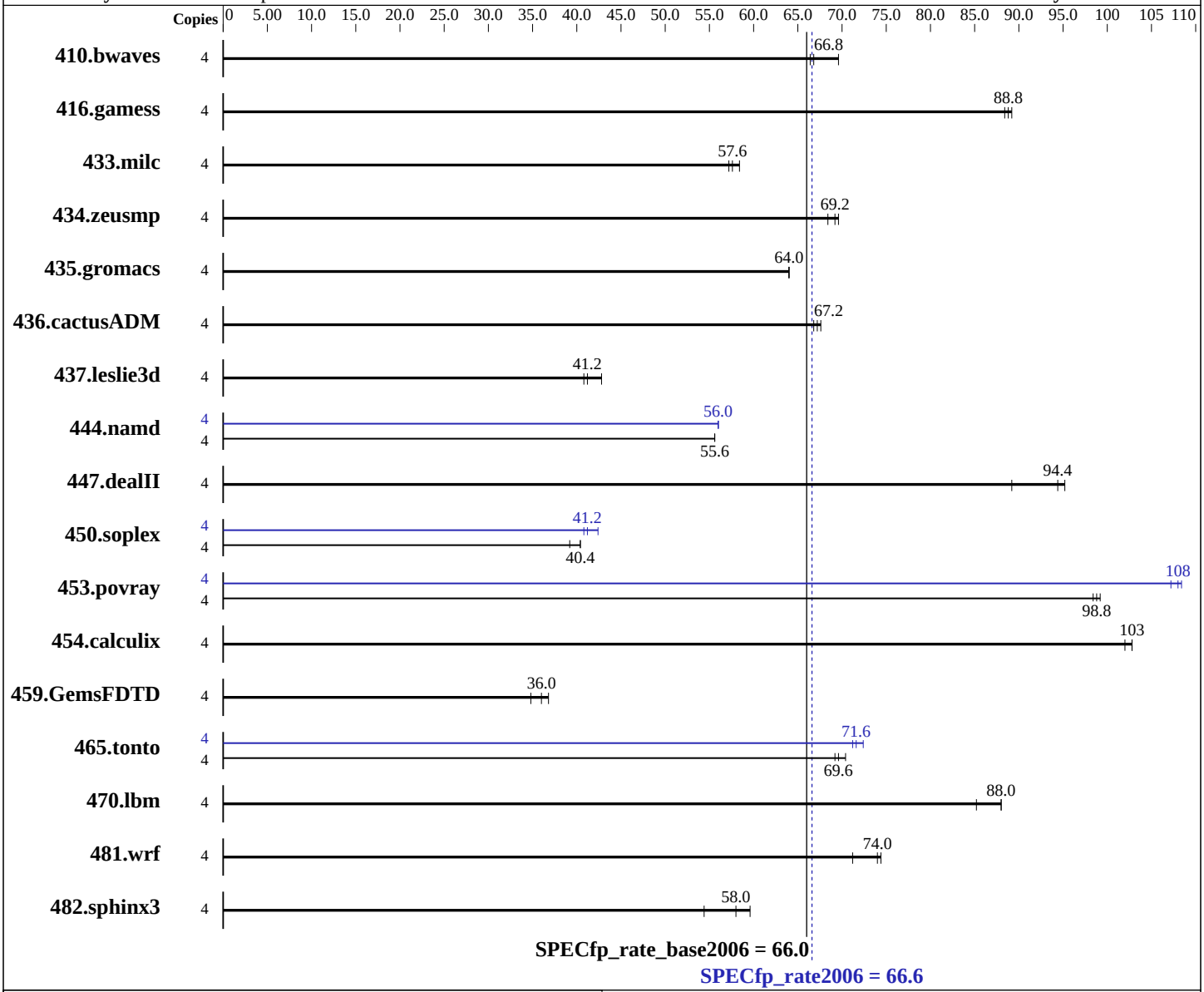
ASUS A88X-PRO Motherboard (AMD A10 PRO-7800B with Radeon R7 Graphics)

SPECfp®_rate2006 = 66.6

SPECfp_rate_base2006 = 66.0

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

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



Hardware

CPU Name:	AMD A10 PRO-7800B
CPU Characteristics:	AMD Turbo CORE technology up to 3.90 GHz
CPU MHz:	3500
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

Continued on next page

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:	No

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L3 Cache:	None	File System:	NTFS
Other Cache:	None	System State:	Default
Memory:	8 GB (2 x 4 GB 2Rx4 PC3-17000U-14)	Base Pointers:	32/64-bit
Disk Subsystem:	160 GB Western Digital SATA HDD, 7200 RPM	Peak Pointers:	32/64-bit
Other Hardware:	None	Other Software:	Microquill SmartHeap V10.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**816**	**66.8**	817	66.4	782	69.6	4	**816**	**66.8**	817	66.4	782	69.6
416.gamess	4	**880**	**88.8**	886	88.4	879	89.2	4	**880**	**88.8**	886	88.4	879	89.2
433.milc	4	630	58.4	**637**	**57.6**	641	57.2	4	630	58.4	**637**	**57.6**	641	57.2
434.zeusmp	4	523	69.6	**525**	**69.2**	531	68.4	4	523	69.6	**525**	**69.2**	531	68.4
435.gromacs	4	**446**	**64.0**	446	64.0	445	64.0	4	**446**	**64.0**	446	64.0	445	64.0
436.cactusADM	4	708	67.6	**712**	**67.2**	715	66.8	4	708	67.6	**712**	**67.2**	715	66.8
437.leslie3d	4	881	42.8	**910**	**41.2**	919	40.8	4	881	42.8	**910**	**41.2**	919	40.8
444.namd	4	578	55.6	**578**	**55.6**	579	55.6	4	574	56.0	**573**	**56.0**	573	56.0
447.dealII	4	**484**	**94.4**	480	95.2	512	89.2	4	**484**	**94.4**	480	95.2	512	89.2
450.soplex	4	823	40.4	**828**	**40.4**	848	39.2	4	816	40.8	785	42.4	**810**	**41.2**
453.povray	4	216	98.4	215	99.2	**215**	**98.8**	4	197	108	198	107	**197**	**108**
454.calculix	4	323	102	**322**	**103**	322	103	4	323	102	**322**	**103**	322	103
459.GemsFDTD	4	**1182**	**36.0**	1149	36.8	1220	34.8	4	**1182**	**36.0**	1149	36.8	1220	34.8
465.tonto	4	569	69.2	559	70.4	**566**	**69.6**	4	553	71.2	**549**	**71.6**	544	72.4
470.lbm	4	644	85.2	**624**	**88.0**	623	88.0	4	644	85.2	**624**	**88.0**	623	88.0
481.wrf	4	628	71.2	**603**	**74.0**	602	74.4	4	628	71.2	**603**	**74.0**	602	74.4
482.sphinx3	4	**1346**	**58.0**	1311	59.6	1434	54.4	4	**1346**	**58.0**	1311	59.6	1434	54.4

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)

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.

Platform Notes

```
Sysinfo program C:\SPEC14.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltE03F49B01DC4 Fri Nov  7 03:09:35 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 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 ~3500 Mhz
BIOS Version  : American Megatrends Inc. 1301, 6/24/2014
Total Physical Memory: 7,105 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 25359
L3CacheSize   : 0
MaxClockSpeed : 3500
Name          : AMD A10-7800 Radeon R7, 12 Compute Cores 4C+8G
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

```
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
```

Continued on next page

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

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.dealII: 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

Continued on next page

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
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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