



SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10 PRO-7850B with Radeon R7 Graphics)

SPECfp®_rate2006 = 49.0

SPECfp_rate_base2006 = 48.6

CPU2006 license: 13

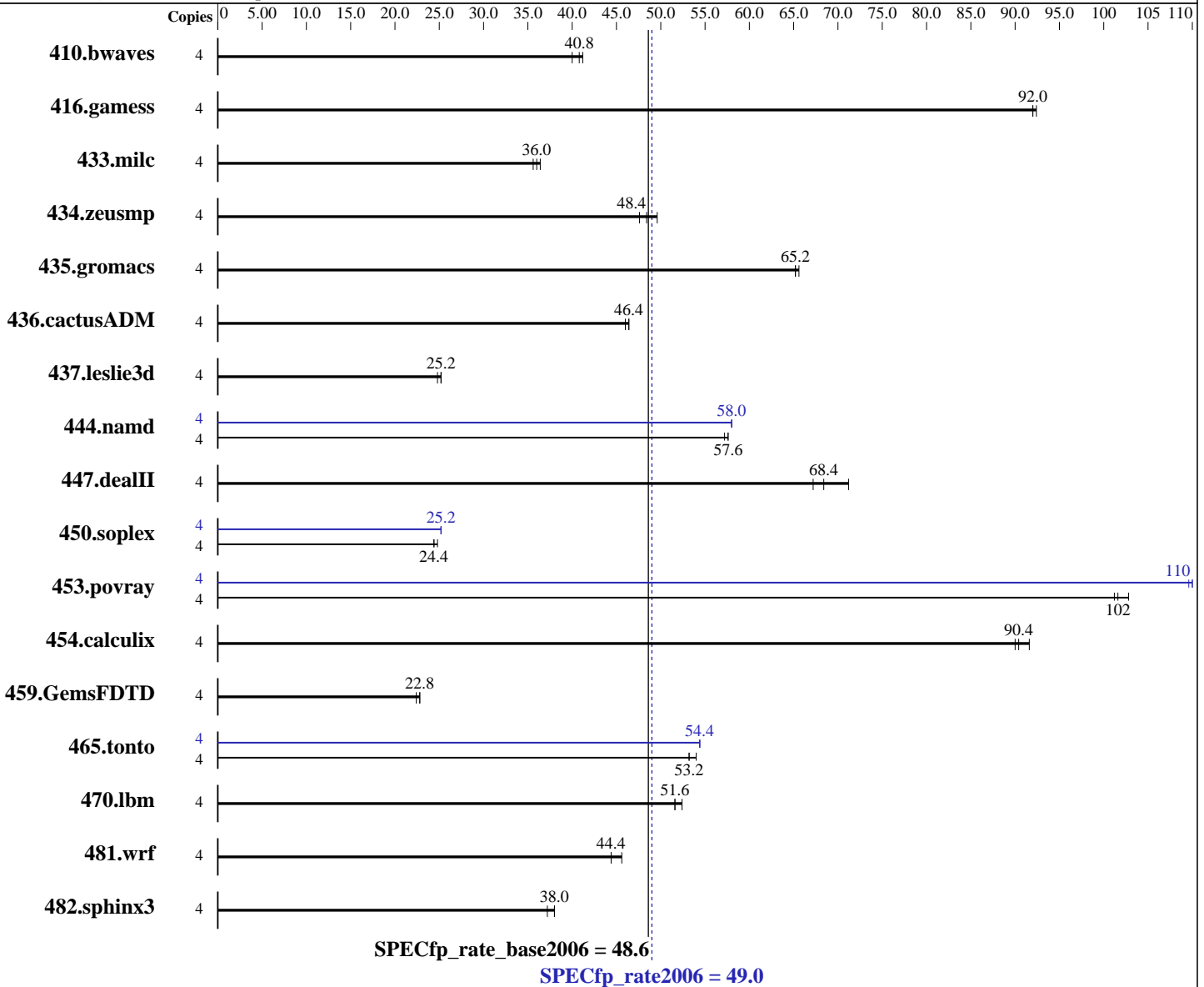
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2014

Hardware Availability: Jul-2014

Software Availability: Oct-2013



Hardware

CPU Name: AMD A10 PRO-7850B
 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

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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: No

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L3 Cache: None
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx4 PC3-17000U-14)
Disk Subsystem: 160 GB Western Digital 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: 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	<u>1327</u>	<u>40.8</u>	1357	40.0	1317	41.2	4	<u>1327</u>	<u>40.8</u>	1357	40.0	1317	41.2
416.gamess	4	<u>850</u>	<u>92.0</u>	852	92.0	849	92.4	4	<u>850</u>	<u>92.0</u>	852	92.0	849	92.4
433.milc	4	<u>1023</u>	<u>36.0</u>	1034	35.6	1012	36.4	4	<u>1023</u>	<u>36.0</u>	1034	35.6	1012	36.4
434.zeusmp	4	<u>755</u>	<u>48.4</u>	765	47.6	736	49.6	4	<u>755</u>	<u>48.4</u>	765	47.6	736	49.6
435.gromacs	4	437	65.6	<u>438</u>	<u>65.2</u>	439	65.2	4	437	65.6	<u>438</u>	<u>65.2</u>	439	65.2
436.cactusADM	4	<u>1034</u>	<u>46.4</u>	1040	46.0	1027	46.4	4	<u>1034</u>	<u>46.4</u>	1040	46.0	1027	46.4
437.leslie3d	4	1496	25.2	1519	24.8	<u>1498</u>	<u>25.2</u>	4	1496	25.2	1519	24.8	<u>1498</u>	<u>25.2</u>
444.namd	4	<u>558</u>	<u>57.6</u>	557	57.6	559	57.2	4	<u>554</u>	<u>58.0</u>	554	58.0	554	58.0
447.dealII	4	<u>669</u>	<u>68.4</u>	681	67.2	644	71.2	4	<u>669</u>	<u>68.4</u>	681	67.2	644	71.2
450.soplex	4	<u>1365</u>	<u>24.4</u>	1367	24.4	1348	24.8	4	<u>1320</u>	<u>25.2</u>	1314	25.2	1332	25.2
453.povray	4	211	101	207	103	<u>210</u>	<u>102</u>	4	194	110	<u>194</u>	<u>110</u>	193	110
454.calculix	4	360	91.6	<u>366</u>	<u>90.4</u>	366	90.0	4	360	91.6	<u>366</u>	<u>90.4</u>	366	90.0
459.GemsFDTD	4	1873	22.8	<u>1875</u>	<u>22.8</u>	1890	22.4	4	1873	22.8	<u>1875</u>	<u>22.8</u>	1890	22.4
465.tonto	4	<u>741</u>	<u>53.2</u>	729	54.0	741	53.2	4	<u>722</u>	<u>54.4</u>	723	54.4	721	54.4
470.lbm	4	1067	51.6	1052	52.4	<u>1063</u>	<u>51.6</u>	4	1067	51.6	1052	52.4	<u>1063</u>	<u>51.6</u>
481.wrf	4	1008	44.4	977	45.6	<u>1003</u>	<u>44.4</u>	4	1008	44.4	977	45.6	<u>1003</u>	<u>44.4</u>
482.sphinx3	4	2089	37.2	2048	38.0	<u>2054</u>	<u>38.0</u>	4	2089	37.2	2048	38.0	<u>2054</u>	<u>38.0</u>

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.



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Platform Notes

Sysinfo program C:\SPEC14.0/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on CltE03F49B01E0D Fri Nov 7 09:36:46 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 ~3700 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 : 3700
Name : AMD A10 PRO-7850B 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

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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-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 other inquiries, please contact webmaster@spec.org.

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