



SPEC[®] CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A4-7300 with Radeon HD Graphics)

SPECfp[®]_rate2006 = 36.7

SPECfp_rate_base2006 = 36.3

CPU2006 license: 13

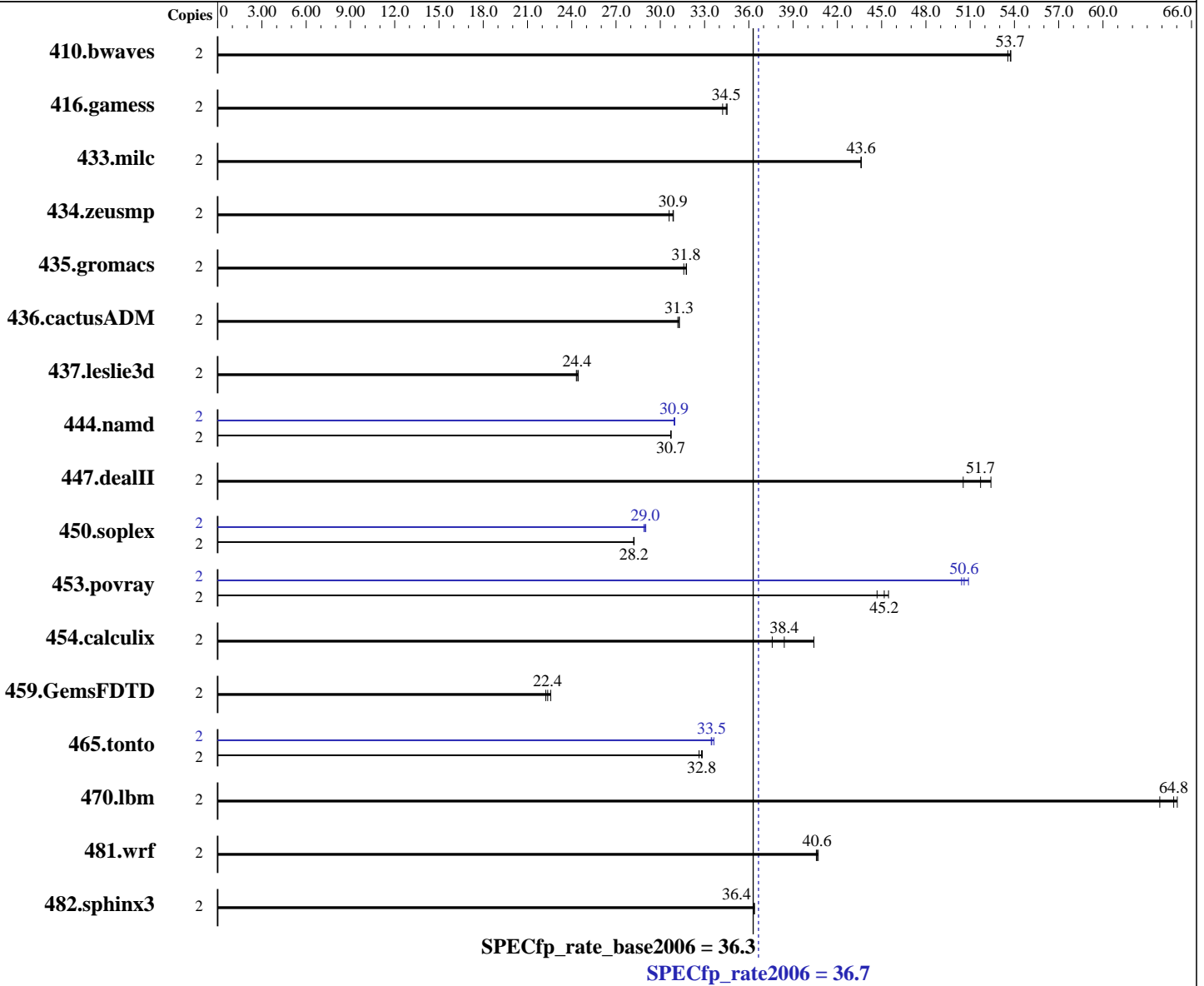
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2016

Hardware Availability: Jul-2014

Software Availability: Aug-2015



Hardware

CPU Name: AMD A4-7300
 CPU Characteristics: AMD Turbo CORE technology up to 4.00 GHz
 CPU MHz: 3800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I on chip per chip; 16 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per chip

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Software

Operating System: Microsoft Windows 7 Enterprise 6.1.7601 Service Pack 1 Build 7601
 Compiler: C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;
 Fortran: Version 16.0.0.110 of Intel Fortran Studio XE for Windows;
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013
 Auto Parallel: No

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L3 Cache: None
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-11)
Disk Subsystem: Seagate Barracuda 250 GB SATA, 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 11.0 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	2	508	53.6	506	53.7	506	53.8	2	508	53.6	506	53.7	506	53.8
416.gamess	2	1136	34.5	1144	34.2	1134	34.5	2	1136	34.5	1144	34.2	1134	34.5
433.milc	2	421	43.6	421	43.6	421	43.6	2	421	43.6	421	43.6	421	43.6
434.zeusmp	2	590	30.9	595	30.6	589	30.9	2	590	30.9	595	30.6	589	30.9
435.gromacs	2	450	31.8	449	31.8	452	31.6	2	450	31.8	449	31.8	452	31.6
436.cactusADM	2	766	31.2	764	31.3	764	31.3	2	766	31.2	764	31.3	764	31.3
437.leslie3d	2	769	24.4	772	24.4	773	24.3	2	769	24.4	772	24.4	773	24.3
444.namd	2	522	30.7	522	30.7	522	30.7	2	518	30.9	518	30.9	518	31.0
447.dealII	2	437	52.4	453	50.5	443	51.7	2	437	52.4	453	50.5	443	51.7
450.soplex	2	591	28.2	591	28.2	591	28.2	2	576	29.0	577	28.9	575	29.0
453.povray	2	238	44.7	234	45.5	236	45.2	2	209	50.9	210	50.6	211	50.4
454.calculix	2	439	37.6	408	40.4	430	38.4	2	439	37.6	408	40.4	430	38.4
459.GemsFDTD	2	954	22.2	949	22.4	940	22.6	2	954	22.2	949	22.4	940	22.6
465.tonto	2	603	32.6	599	32.8	600	32.8	2	588	33.5	585	33.6	588	33.5
470.lbm	2	430	63.9	424	64.8	423	65.0	2	430	63.9	424	64.8	423	65.0
481.wrf	2	551	40.6	549	40.7	550	40.6	2	551	40.6	549	40.7	550	40.6
482.sphinx3	2	1074	36.3	1072	36.4	1071	36.4	2	1074	36.3	1072	36.4	1071	36.4

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 16.0 was set up to generate 64-bit binaries with the command:
"psxevars.bat intel64" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)

Platform Notes

Sysinfo program C:\SPEC16.0\Docs\sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on CltE03F49ACBFDE Wed Mar 23 19:36:18 2016

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 7 Enterprise

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 ~3800 Mhz

BIOS Version : American Megatrends Inc. 2502, 12/11/2015

Total Physical Memory: 7,364 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 24847

L3CacheSize : 0

MaxClockSpeed : 3800

Name : AMD A4-7300 APU with Radeon HD Graphics

NumberOfCores : 1

NumberOfLogicalProcessors: 2

(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

450.soplex (peak): "getline_test" src.alt was used.

447.dealII (base): "max_prototype" src.alt was used.

447.dealII (base): "cxx11_make_pair" src.alt was used.

450.soplex (base): "getline_test" src.alt was used.

447.dealII (base): "max_prototype" src.alt was used.

447.dealII (base): "cxx11_make_pair" src.alt was used.

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit

Base Compiler Invocation

C benchmarks:

icl -Qvc12 -Qstd=c99

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Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc12

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc12 -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
 -DSPEC_CPU_BOOST_CONFIG_MSC_VER -DSPEC_NEED_ALGORITHM
 450.soplex: -DSPEC_CPU_P64 -DSPEC_GETLINE_TEST
 453.povray: -DSPEC_CPU_P64
 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

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Base Optimization Flags (Continued)

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 -Qvc12 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc12
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icl -Qvc12 -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
```

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Peak Optimization Flags (Continued)

```
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

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-ic16.0-official-windows.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.xml>

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

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