



SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A8 PRO-8650B with Radeon R7 Graphics)

SPECfp®2006 = 36.1

SPECfp_base2006 = 34.9

CPU2006 license: 13

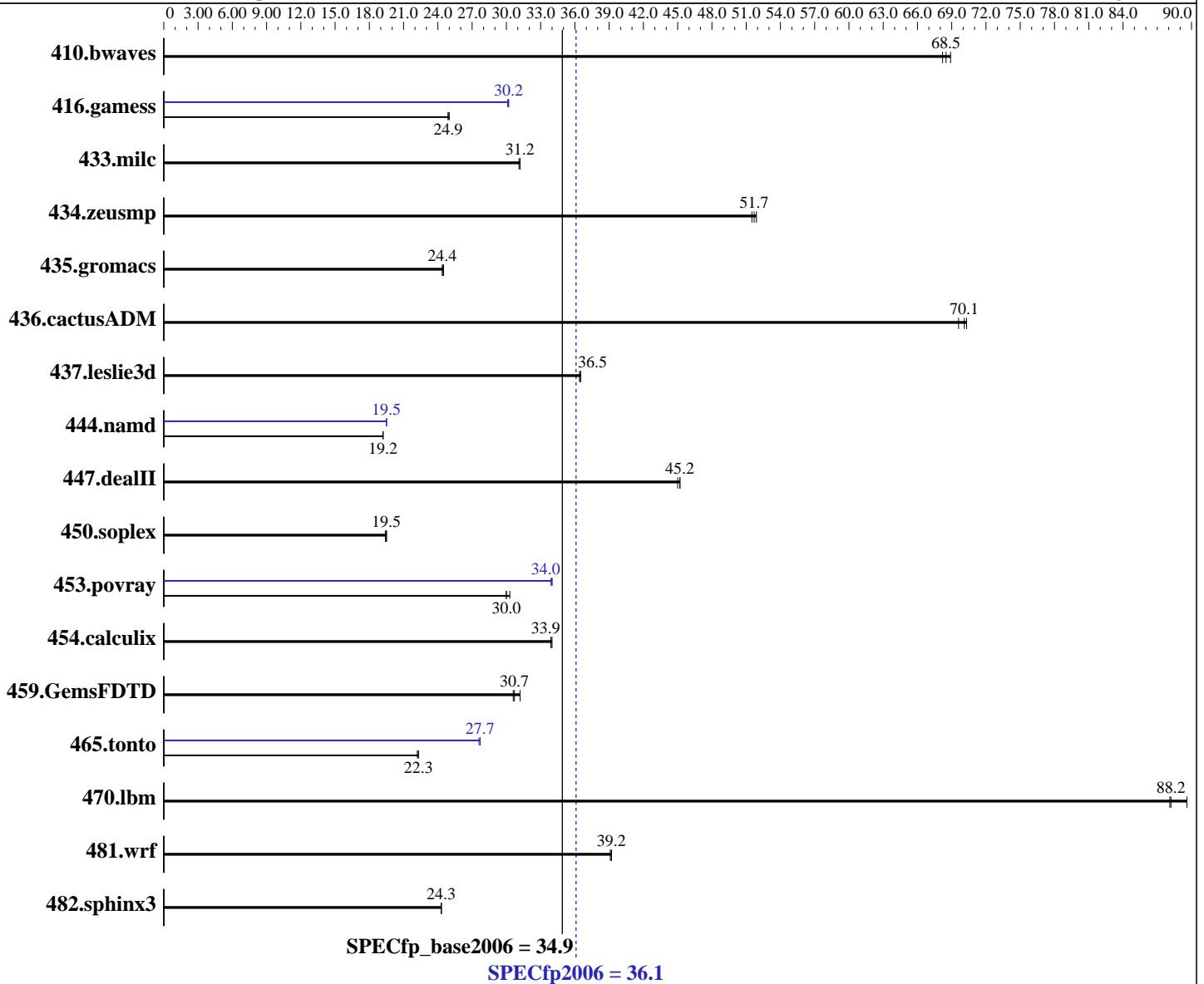
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jul-2016

Hardware Availability: Sep-2015

Software Availability: Aug-2015



Hardware

CPU Name: AMD A8 PRO-8650B
 CPU Characteristics: AMD Turbo CORE technology up to 3.90 GHz
 CPU MHz: 3200
 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 7 Ultimate 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: Yes

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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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	198	68.5	199	68.2	197	68.9	198	68.5	199	68.2	197	68.9
416.gamess	785	24.9	784	25.0	788	24.9	648	30.2	650	30.1	648	30.2
433.milc	295	31.1	294	31.2	294	31.2	295	31.1	294	31.2	294	31.2
434.zeusmp	176	51.7	177	51.5	175	51.9	176	51.7	177	51.5	175	51.9
435.gromacs	292	24.5	292	24.4	292	24.4	292	24.5	292	24.4	292	24.4
436.cactusADM	172	69.6	170	70.1	170	70.3	172	69.6	170	70.1	170	70.3
437.leslie3d	257	36.5	258	36.5	258	36.4	257	36.5	258	36.5	258	36.4
444.namd	418	19.2	418	19.2	418	19.2	411	19.5	411	19.5	411	19.5
447.dealII	254	45.0	253	45.2	253	45.2	254	45.0	253	45.2	253	45.2
450.soplex	427	19.5	429	19.4	428	19.5	427	19.5	429	19.4	428	19.5
453.povray	176	30.3	178	30.0	178	30.0	157	34.0	157	34.0	157	33.9
454.calculix	243	33.9	243	33.9	243	34.0	243	33.9	243	33.9	243	34.0
459.GemsFDTD	340	31.2	345	30.7	346	30.6	340	31.2	345	30.7	346	30.6
465.tonto	443	22.2	441	22.3	441	22.3	356	27.7	356	27.6	355	27.7
470.lbm	153	89.6	156	88.2	156	88.1	153	89.6	156	88.2	156	88.1
481.wrf	285	39.2	286	39.1	285	39.2	285	39.2	286	39.1	285	39.2
482.sphinx3	802	24.3	801	24.3	802	24.3	802	24.3	801	24.3	802	24.3

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 Tue Jul 26 07:25:14 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 Ultimate

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 56 Stepping 1 AuthenticAMD ~3200 Mhz

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

Total Physical Memory: 7,108 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 25359

L3CacheSize : 0

MaxClockSpeed : 3200

Name : AMD PRO A8-8650B R7, 10 Compute Cores 4C+6G

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

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.

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.

OMP_NUM_THREADS set to number of processors cores

KMP_AFFINITY set to granularity=fine,scatter

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU

+ 64GB memory using Windows 8.1 Enterprise 64-bit



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Base 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

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- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

C++ benchmarks:

/arch:AVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

/arch:AVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
/arch:AVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000
```

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 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE
```

```
447.dealII: basepeak = yes
```

```
450.soplex: basepeak = yes
```

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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- -Qunroll4 -Qansi-alias /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

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-alloc
/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-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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