SPEC® CFP2006 Result
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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

ASUS H97M-PLUS Motherboard (Intel Pentium G3250)

$SPECfp®\_rate2006 =$ 76.2

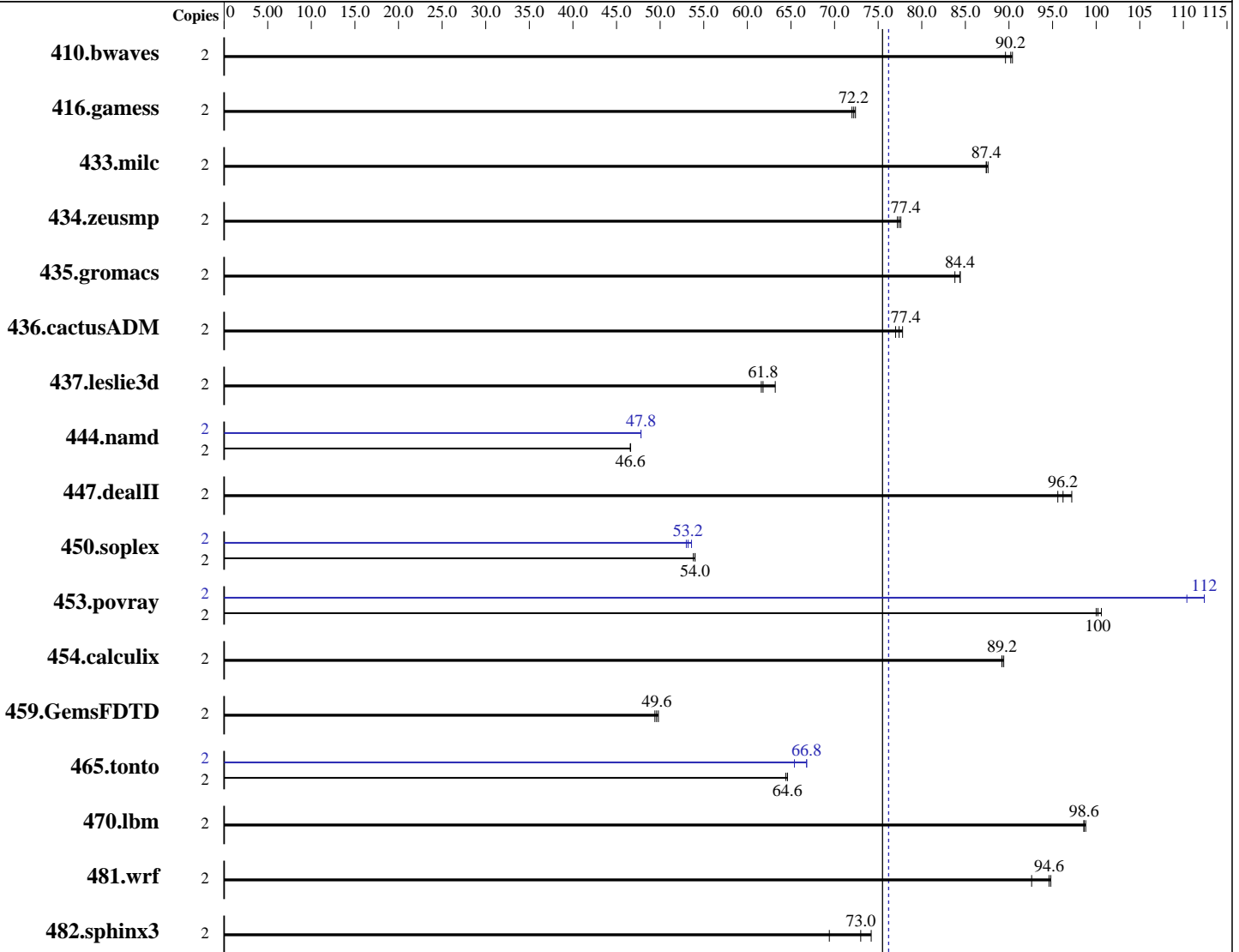$SPECfp\_rate\_base2006 =$ 75.5

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

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

SPECfp_rate_base2006 = 75.5

SPECfp_rate2006 = 76.2

Copies	
410.bwaves	2 — 90.2
416.gamess	2 — 72.2
433.milc	2 — 87.4
434.zeusmp	2 — 77.4
435.gromacs	2 — 84.4
436.cactusADM	2 — 77.4
437.leslie3d	2 — 61.8
444.namd	2 — 47.8 / 2 — 46.6
447.dealII	2 — 96.2
450.soplex	2 — 53.2 / 2 — 54.0
453.povray	2 — 112 / 2 — 100
454.calculix	2 — 89.2
459.GemsFDTD	2 — 49.6
465.tonto	2 — 66.8 / 2 — 64.6
470.lbm	2 — 98.6
481.wrf	2 — 94.6
482.sphinx3	2 — 73.0

Hardware
CPU Name:	Intel Pentium G3250
CPU Characteristics:	
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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

Continued on next page

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L3 Cache:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx4 PC3-12800U-11, running at 1333 MHz and CL9)
Disk Subsystem:	1 TB Seagate SATA, 7200RPM
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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	303	89.6	301	90.4	**301**	**90.2**	2	303	89.6	301	90.4	**301**	**90.2**
416.gamess	2	544	72.0	**543**	**72.2**	541	72.4	2	544	72.0	**543**	**72.2**	541	72.4
433.milc	2	210	87.6	**210**	**87.4**	210	87.4	2	210	87.6	**210**	**87.4**	210	87.4
434.zeusmp	2	235	77.6	**235**	**77.4**	236	77.2	2	235	77.6	**235**	**77.4**	236	77.2
435.gromacs	2	171	83.8	**169**	**84.4**	169	84.4	2	171	83.8	**169**	**84.4**	169	84.4
436.cactusADM	2	**309**	**77.4**	308	77.8	310	77.0	2	**309**	**77.4**	308	77.8	310	77.0
437.leslie3d	2	**304**	**61.8**	305	61.6	298	63.2	2	**304**	**61.8**	305	61.6	298	63.2
444.namd	2	**344**	**46.6**	344	46.6	344	46.6	2	335	47.8	335	47.8	**335**	**47.8**
447.dealII	2	239	95.6	**238**	**96.2**	236	97.2	2	239	95.6	**238**	**96.2**	236	97.2
450.soplex	2	310	53.8	309	54.0	**309**	**54.0**	2	311	53.6	**313**	**53.2**	315	53.0
453.povray	2	**106**	**100**	106	101	106	100	2	94.7	112	**94.7**	**112**	96.3	110
454.calculix	2	185	89.4	**185**	**89.2**	185	89.2	2	185	89.4	**185**	**89.2**	185	89.2
459.GemsFDTD	2	430	49.4	**428**	**49.6**	426	49.8	2	430	49.4	**428**	**49.6**	426	49.8
465.tonto	2	305	64.6	**305**	**64.6**	306	64.4	2	301	65.4	295	66.8	**295**	**66.8**
470.lbm	2	279	98.6	**279**	**98.6**	278	98.8	2	279	98.6	**279**	**98.6**	278	98.8
481.wrf	2	241	92.6	236	94.8	**236**	**94.6**	2	241	92.6	236	94.8	**236**	**94.6**
482.sphinx3	2	525	74.2	561	69.4	**535**	**73.0**	2	525	74.2	561	69.4	**535**	**73.0**

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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CPU2006 license: 13	**Test date:** Dec-2014
Test sponsor: Intel Corporation	**Hardware Availability:** Jul-2014
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Platform Notes

```
Sysinfo program C:\SPEC14.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt7824AF406A63 Wed Dec  3 08:36:25 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: ASUS
System Model  : All Series
Processor(s)  : 1 Processor(s) Installed.
    [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3200 Mhz
BIOS Version  : American Megatrends Inc. 2001, 6/13/2014
Total Physical Memory: 8,069 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 512
L3CacheSize   : 3072
MaxClockSpeed : 3200
Name          : Intel(R) Pentium(R) CPU G3250 @ 3.20GHz
NumberOfCores : 2
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

```
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:
```
    -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    -Qauto-ilp32 /F1000000000              -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
    -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    -Qcxx-features -Qauto-ilp32 /F1000000000 shlW64M.lib
            -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
    -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    /F1000000000            -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:
```
    -QxSSE4.2 -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: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(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

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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: -QxSSE4.2(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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Dec 30 16:12:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 December 2014.