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

$SPECfp^{®}\_rate2006 =$ 105

ASUS Q170M-C motherboard (Intel Core i3-6100T)

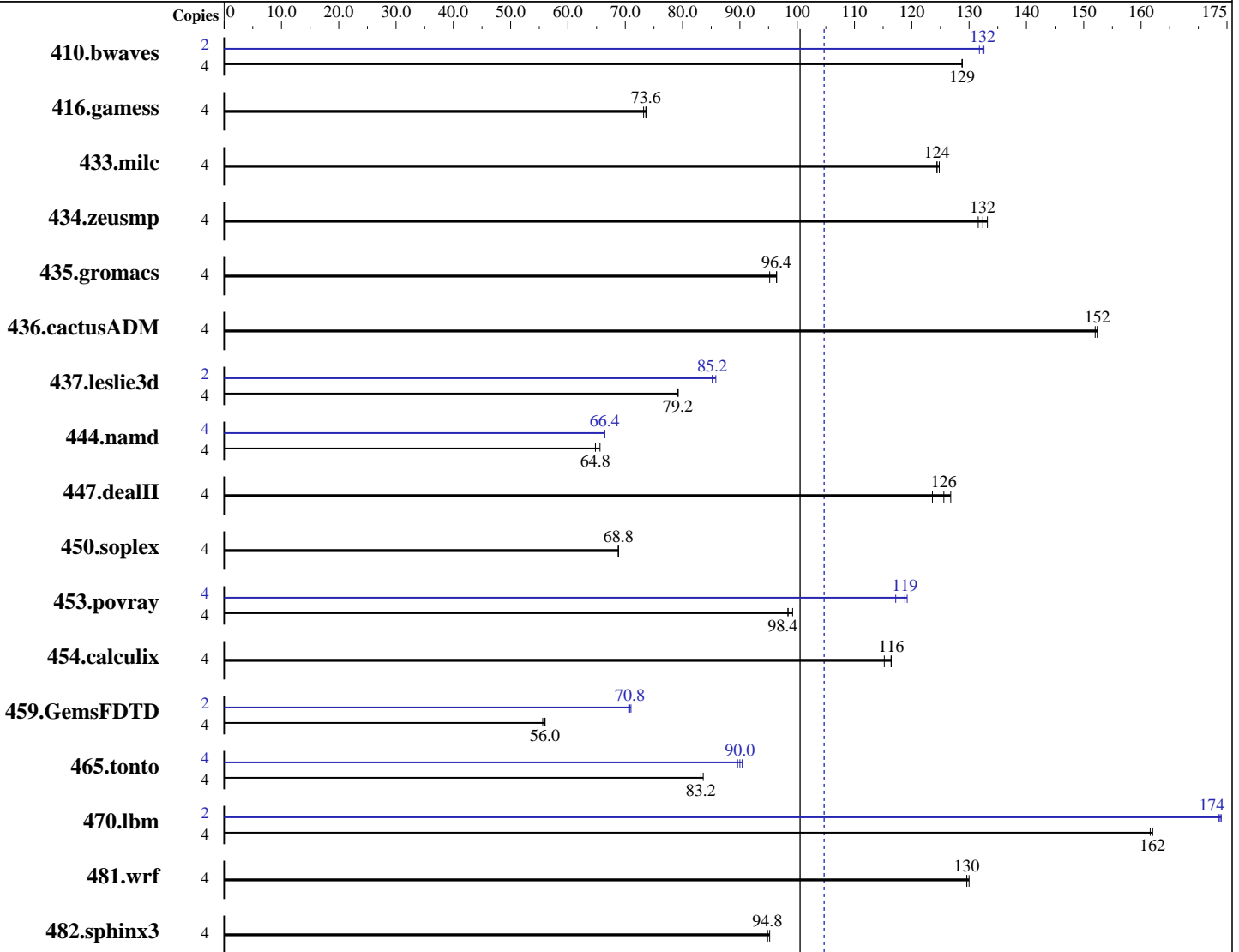SPECfp_rate_base2006 =   101

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Apr-2016

Hardware Availability: Sep-2015

Software Availability: Aug-2015

SPECfp_rate_base2006 = 101

SPECfp_rate2006 = 105

Hardware

CPU Name:	Intel Core i3-6100T
CPU Characteristics:	
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
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 7 Professional 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:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx4 PC4-2133P-U)
Disk Subsystem:	1 TB Seagate Barracuda HDD, 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	4	422	129	**422**	**129**	422	129	2	205	133	**205**	**132**	206	132
416.gamess	4	1068	73.2	**1065**	**73.6**	1064	73.6	4	1068	73.2	**1065**	**73.6**	1064	73.6
433.milc	4	296	124	**295**	**124**	294	125	4	296	124	**295**	**124**	294	125
434.zeusmp	4	277	132	273	133	**275**	**132**	4	277	132	273	133	**275**	**132**
435.gromacs	4	300	95.2	296	96.4	**297**	**96.4**	4	300	95.2	296	96.4	**297**	**96.4**
436.cactusADM	4	314	152	**314**	**152**	315	152	4	314	152	**314**	**152**	315	152
437.leslie3d	4	475	79.2	474	79.2	**475**	**79.2**	2	219	85.8	221	85.2	**221**	**85.2**
444.namd	4	494	64.8	**494**	**64.8**	489	65.6	4	485	66.4	**484**	**66.4**	484	66.4
447.dealII	4	361	127	370	124	**364**	**126**	4	361	127	370	124	**364**	**126**
450.soplex	4	486	68.8	485	68.8	**485**	**68.8**	4	486	68.8	485	68.8	**485**	**68.8**
453.povray	4	**216**	**98.4**	216	98.4	214	99.2	4	178	119	**179**	**119**	181	117
454.calculix	4	287	115	284	116	**284**	**116**	4	287	115	284	116	**284**	**116**
459.GemsFDTD	4	761	55.6	757	56.0	**757**	**56.0**	2	299	71.0	**299**	**70.8**	300	70.6
465.tonto	4	**472**	**83.2**	472	83.6	474	83.2	4	436	90.4	**438**	**90.0**	439	89.6
470.lbm	4	340	162	339	162	**339**	**162**	2	158	174	**158**	**174**	158	174
481.wrf	4	345	130	**345**	**130**	344	130	4	345	130	**345**	**130**	344	130
482.sphinx3	4	**821**	**94.8**	820	95.2	822	94.8	4	**821**	**94.8**	820	95.2	822	94.8

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)

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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Hardware Availability: Sep-2015

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Platform Notes

```
Sysinfo program C:\SPEC16.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltF832E48859C5 Tue Apr 26 19:44:24 2016

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 7 Professional
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]: Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~3201 Mhz
BIOS Version  : American Megatrends Inc. 0704, 1/12/2016
Total Physical Memory: 8,070 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 512
L3CacheSize   : 3072
MaxClockSpeed : 3201
Name          : Intel(R) Core(TM) i3-6100T CPU @ 3.20GHz
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.

 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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CPU2006 license: 13		**Test date:**	Apr-2016
Test sponsor:	Intel Corporation	**Hardware Availability:**	Sep-2015
Tested by:	Intel Corporation	**Software Availability:**	Aug-2015

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:
```
    -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    -Qauto-ilp32 /F1000000000 shlW64M.lib           -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
    -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    -Qcxx-features -Qauto-ilp32 /F1000000000 shlW64M.lib
               -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
    -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    /F1000000000 shlW64M.lib              -link /FORCE:MULTIPLE
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
```
    -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
    -Qauto-ilp32 /F1000000000 shlW64M.lib         -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: -QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
         -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch -Qauto-ilp32
         /F1000000000 shlW64M.lib   -link /FORCE:MULTIPLE

   482.sphinx3: basepeak = yes

C++ benchmarks:

   444.namd: -QxCORE-AVX2(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

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Peak Optimization Flags (Continued)

450.soplex: basepeak = yes

453.povray: -QxCORE-AVX2(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: -QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch /F1000000000
shlW64M.lib   -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

465.tonto: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
shlW64M.lib   -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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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