## SPEC® CFP2006 Result

**ASUSTeK Computer Inc.**  
(Test Sponsor: Intel Corporation)  
ASUS Q170M-C motherboard (Intel Core i5-6500T)

### SPECfp®2006 = 77.9  
**SPECfp_base2006 = 76.0**

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

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<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
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<tbody>
<tr>
<td>410.bwaves</td>
<td></td>
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<tr>
<td>416.gamess</td>
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<tr>
<td>433.milc</td>
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<td>436.cactusADM</td>
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<tr>
<td>437.leslie3d</td>
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<tr>
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<tr>
<td>482.sphinx3</td>
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</tbody>
</table>

**Test date:** May-2016  
**Hardware Availability:** Sep-2015  
**Software Availability:** Aug-2015

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### Hardware

- **CPU Name:** Intel Core i5-6500T  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.10 GHz  
- **CPU MHz:** 2500  
- **FPU:** Integrated  
- **CPU(s) enabled:** 4 cores, 1 chip, 4 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

### Software

- **Operating System:** Microsoft Windows 7 Professional  
- **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;  
- **Auto Parallel:** Yes
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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

L3 Cache: 6 MB I+D on chip per chip
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

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Ratio</th>
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<td>269</td>
<td>72.5</td>
</tr>
</tbody>
</table>

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 CltF832E4885693 Wed May 4 15:32:49 2016

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: Continued on next page
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Platform Notes (Continued)

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 ~2501 Mhz
BIOS Version : American Megatrends Inc. 0704, 1/12/2016
Total Physical Memory: 8,070 MB

Trying 'wmic cpu get /value'
DeviceID : CPU0
L2CacheSize : 1024
L3CacheSize : 6144
MaxClockSpeed : 2501
Name : Intel(R) Core(TM) i5-6500T CPU @ 2.50GHz
NumberOfCores : 4
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.game5s: -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 -D DEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DSPEC_CPU_BOOST_CONFIG_MSC_VER -DSPEC_NEED_ALGORITHM -DSPEC_GETLINE_TEST
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -names:lowercase
459.GemsFDID: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
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 -03 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

C++ benchmarks:
-QxCORE-AVX2 -Qipo -03 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features /F1000000000 shlW64M.lib
- link /FORCE:MULTIPLE

Fortran benchmarks:
-QxCORE-AVX2 -Qipo -03 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

Continued on next page
Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
- QxCORE-AVX2
- 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: -QxCORE-AVX2(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

Continued on next page
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**Peak Optimization Flags (Continued)**

453.povray: -QxCORE-AVX2 (pass 2) -Qprof_gen (pass 1) -Qprof_use (pass 2)  
- Qipo -O3 -Qprec-div -Qunroll14 -Qansi-alias /F1000000000  
shlw64m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxCORE-AVX2 (pass 2) -Qprof_gen (pass 1) -Qprof_use (pass 2)  
- Qipo -O3 -Qprec-div -Qunroll12 -Ob0 -Qansi-alias  
- Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxCORE-AVX2 (pass 2) -Qprof_gen (pass 1) -Qprof_use (pass 2)  
- Qipo -O3 -Qprec-div -Qunroll14 -Qauto -Qinline-calloc  
/ 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  

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

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

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