ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  

ASUS Q170M-C motherboard (Intel Core i3-6320)  

SPECfp®2006 = 86.8  
SPECfp_base2006 = 85.4  

Hardware  
CPU Name: Intel Core i3-6320  
CPU Characteristics:  
CPU MHz: 3900  
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  

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  

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/  
Page 1
**SPEC CFP2006 Result**

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**SPECfp2006 =** 86.8  
**SPECfp_base2006 =** 85.4

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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
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</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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### 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 $S \8787f7622badcf24e01c368b1db4377c
running on CltF832E48856E2 Tue Mar 15 18:15:59 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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SPECfp_base2006 = 85.4

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

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 ~3900 Mhz
BIOS Version : American Megatrends Inc. 0704, 1/12/2016
Total Physical Memory: 8,069 MB

Trying 'wmic cpu get /value'
DeviceID : CPU0
L2CacheSize : 512
L3CacheSize : 4096
MaxClockSpeed : 3900
Name : Intel(R) Core(TM) i3-6320 CPU @ 3.90GHz
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
   /for:TP  
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 -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

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ASUSTeK Computer Inc. (Test Sponsor: Intel Corporation)

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

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 -Qstd=c99

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
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Software Availability: Aug-2015

Peak Optimization Flags (Continued)

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

Fortran benchmarks:

410.bwaves: basepeak = yes
416.gameess: -QxCORE-AVX2(pass 2) -Qprof_gen(pass l) -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 l) -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 browse 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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