



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECint®\_rate2006 = 100

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

SPECint\_rate\_base2006 = 94.6

CPU2006 license: 13

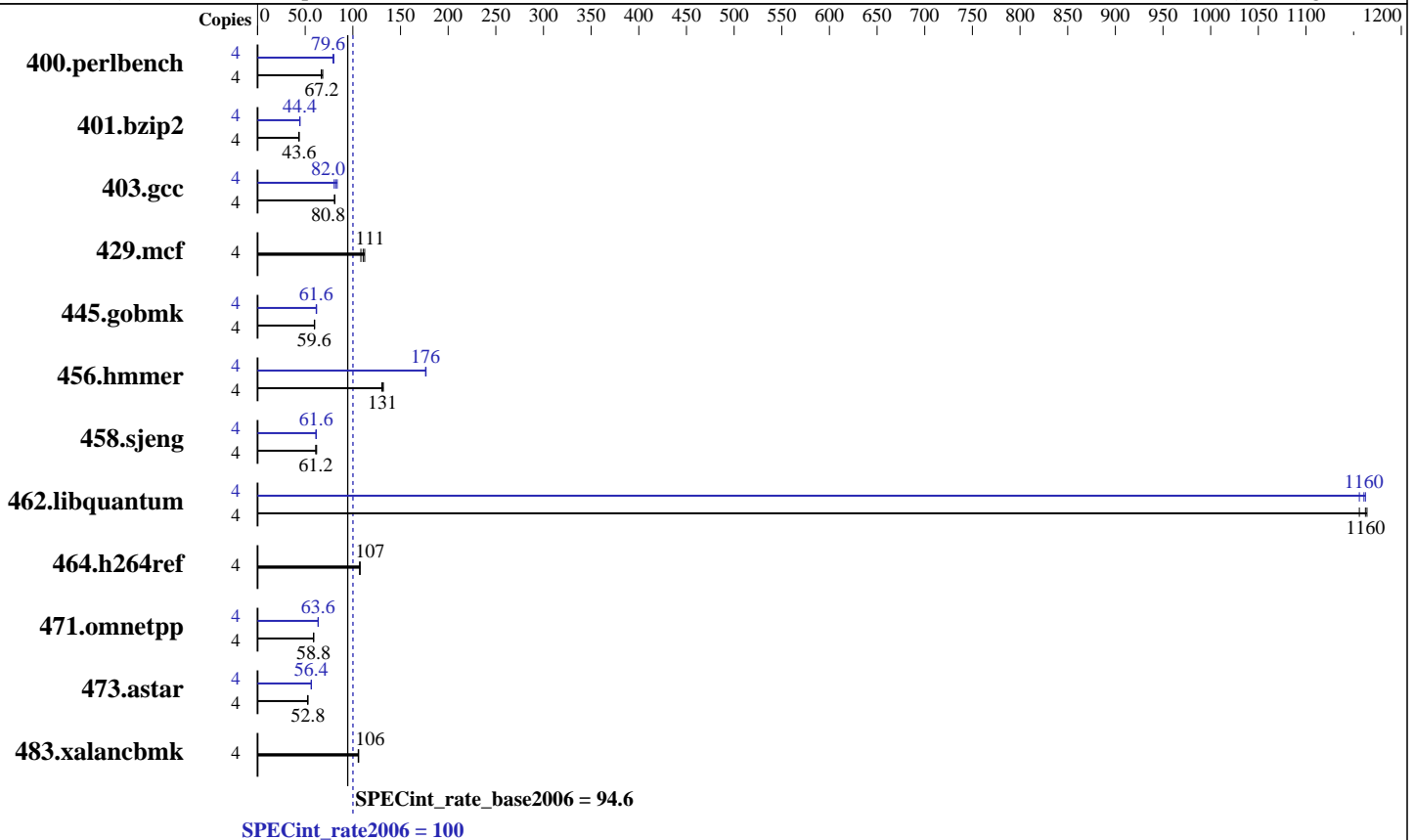
Test date: Apr-2016

Test sponsor: Intel Corporation

Hardware Availability: Sep-2015

Tested by: Intel Corporation

Software Availability: Aug-2015



## Hardware

CPU Name: Intel Core i3-6100T  
 CPU Characteristics: 3200  
 CPU MHz: Integrated  
 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  
 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

## 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;  
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013  
 Auto Parallel: No  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 11.0 from <http://www.microquill.com/>



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## Results Table

| Benchmark      | Base   |             |             |            |             |            |             | Peak   |             |             |            |             |            |            |
|----------------|--------|-------------|-------------|------------|-------------|------------|-------------|--------|-------------|-------------|------------|-------------|------------|------------|
|                | Copies | Seconds     | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Copies | Seconds     | Ratio       | Seconds    | Ratio       | Seconds    | Ratio      |
| 400.perlbench  | 4      | 572         | 68.4        | <b>583</b> | <b>67.2</b> | 585        | 66.8        | 4      | 492         | 79.2        | <b>491</b> | <b>79.6</b> | 489        | 80.0       |
| 401.bzip2      | 4      | 885         | 43.6        | <b>887</b> | <b>43.6</b> | 893        | 43.2        | 4      | 867         | 44.4        | <b>867</b> | <b>44.4</b> | 866        | 44.4       |
| 403.gcc        | 4      | 397         | 81.2        | 399        | 80.8        | <b>398</b> | <b>80.8</b> | 4      | <b>393</b>  | <b>82.0</b> | 401        | 80.4        | 384        | 83.6       |
| 429.mcf        | 4      | 336         | 108         | 325        | 112         | <b>329</b> | <b>111</b>  | 4      | 336         | 108         | 325        | 112         | <b>329</b> | <b>111</b> |
| 445.gobmk      | 4      | 701         | 60.0        | <b>703</b> | <b>59.6</b> | 705        | 59.6        | 4      | <b>679</b>  | <b>61.6</b> | 680        | 61.6        | 677        | 62.0       |
| 456.hammer     | 4      | 283         | 132         | 287        | 130         | <b>285</b> | <b>131</b>  | 4      | 212         | 176         | <b>212</b> | <b>176</b>  | 211        | 177        |
| 458.sjeng      | 4      | 783         | 62.0        | 790        | 61.2        | <b>788</b> | <b>61.2</b> | 4      | 789         | 61.2        | <b>785</b> | <b>61.6</b> | 783        | 61.6       |
| 462.libquantum | 4      | <b>71.3</b> | <b>1160</b> | 71.2       | 1160        | 71.7       | 1160        | 4      | <b>71.4</b> | <b>1160</b> | 71.3       | 1160        | 71.7       | 1160       |
| 464.h264ref    | 4      | 824         | 108         | 825        | 107         | <b>825</b> | <b>107</b>  | 4      | 824         | 108         | 825        | 107         | <b>825</b> | <b>107</b> |
| 471.omnetpp    | 4      | 425         | 58.8        | <b>426</b> | <b>58.8</b> | 426        | 58.8        | 4      | 394         | 63.6        | <b>393</b> | <b>63.6</b> | 393        | 63.6       |
| 473.astar      | 4      | 531         | 52.8        | 537        | 52.4        | <b>532</b> | <b>52.8</b> | 4      | 498         | 56.4        | <b>498</b> | <b>56.4</b> | 498        | 56.4       |
| 483.xalancbmk  | 4      | <b>261</b>  | <b>106</b>  | 262        | 106         | 261        | 106         | 4      | <b>261</b>  | <b>106</b>  | 262        | 106         | 261        | 106        |

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 32-bit binaries with the command:  
"ipsxe-comp-vars.bat ia32 vs2010" (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 CltF832E48859C5 Tue Apr 26 09:26:12 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
```

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Test date: Apr-2016  
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Software Availability: Aug-2015

## Platform Notes (Continued)

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

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU  
+ 64GB memory using Windows 8.1 Enterprise 64-bit

## Base Compiler Invocation

C benchmarks:  
icl -Qvc12 -Qstd=c99  
  
C++ benchmarks:  
icl -Qvc12

## Base Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
464.h264ref: -DWIN32  
483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Base Optimization Flags

C benchmarks:  
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000  
  
C++ benchmarks:  
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F256000000 shlw32M.lib -link /FORCE:MULTIPLE



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## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc12 -Qstd=c99

456.hmmr: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

458.sjeng: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

462.libquantum: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe  
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc12

473.astar: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
456.hmmr: -DSPEC\_CPU\_P64  
458.sjeng: -DSPEC\_CPU\_P64  
462.libquantum: -DSPEC\_CPU\_P64  
464.h264ref: -DWIN32  
473.astar: -DSPEC\_CPU\_P64  
483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Peak Optimization Flags

C benchmarks:

400.perlbench: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F256000000 shlw32M.lib -link /FORCE:MULTIPLE

401.bzp2: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
/F256000000

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## Peak Optimization Flags (Continued)

403.gcc: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000

429.mcf: basepeak = yes

445.gobmk: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias /F256000000

456.hmmer: -Qauto-ilp32 -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo(1) -O3(1) -Qprec-div-(1)  
-Qopt-prefetch(1) /F256000000

458.sjeng: -Qauto-ilp32 -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo(1) -O3(1) -Qprec-div-(1)  
-Qunroll4(1) /F256000000

462.libquantum: -Qauto-ilp32 -QxCORE-AVX2 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch /F256000000

464.h264ref: basepeak = yes

### C++ benchmarks:

471.omnetpp: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias  
-Qopt-ra-region-strategy=block /F256000000 shlW32M.lib  
-link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 -QxCORE-AVX2 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch /F256000000 shlW64M.lib

483.xalancbmk: basepeak = yes

## Peak Other Flags

### C benchmarks:

403.gcc: -Dalloca=\_alloca

```
456.hmmer -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
458.sjeng -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
462.libquantum -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
```

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## Peak Other Flags (Continued)

C++ benchmarks:

```
473.exe -link /FORCE:MULTIPLE -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.04\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
```

```
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
```

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](mailto:webmaster@spec.org).

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