



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO Motherboard (AMD A10 PRO-7800B with Radeon R7 Graphics)

SPECint®2006 = 30.6

SPECint\_base2006 = 29.9

CPU2006 license: 13

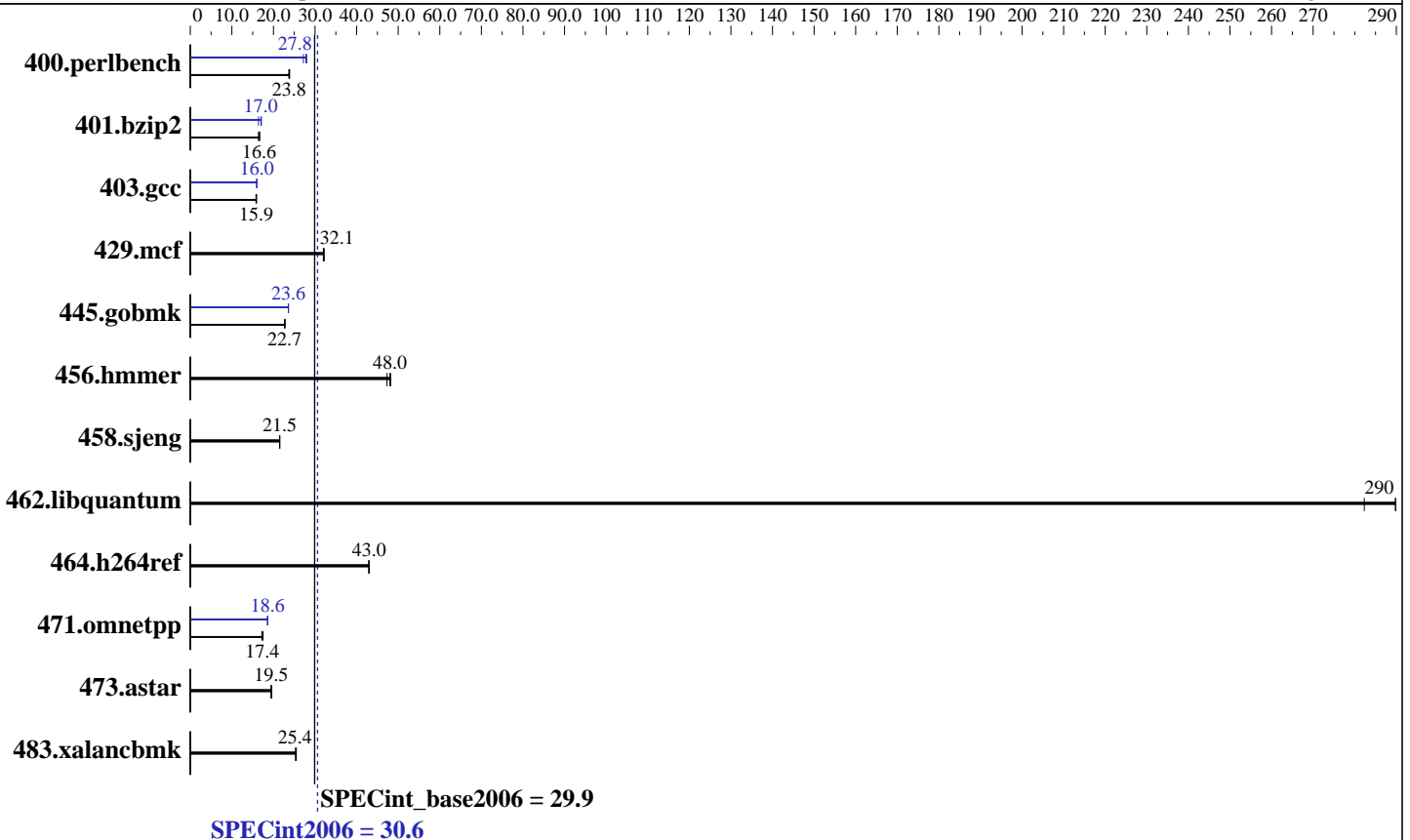
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jul-2016

Hardware Availability: Jul-2014

Software Availability: Aug-2015



## Hardware

CPU Name: AMD A10 PRO-7800B  
 CPU Characteristics: AMD Turbo CORE technology up to 3.90 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 192 KB I on chip per chip, 96 KB I shared / 2 cores; 16 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-11)  
 Disk Subsystem: Seagate Barracuda 250 GB SATA, 7200 RPM  
 Other Hardware: None

## Software

Operating System: Microsoft Windows 7 Ultimate 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: Yes  
 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/>



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b><u>411</u></b>	<b><u>23.8</u></b>	411	23.7	409	23.9	359	27.2	349	28.0	<b><u>351</u></b>	<b><u>27.8</u></b>
401.bzip2	588	16.4	579	16.7	<b><u>583</u></b>	<b><u>16.6</u></b>	<b><u>567</u></b>	<b><u>17.0</u></b>	587	16.4	565	17.1
403.gcc	<b><u>508</u></b>	<b><u>15.9</u></b>	508	15.8	508	15.9	<b><u>503</u></b>	<b><u>16.0</u></b>	502	16.0	503	16.0
429.mcf	283	32.2	285	32.0	<b><u>284</u></b>	<b><u>32.1</u></b>	283	32.2	285	32.0	<b><u>284</u></b>	<b><u>32.1</u></b>
445.gobmk	461	22.8	461	22.7	<b><u>461</u></b>	<b><u>22.7</u></b>	444	23.6	444	23.6	<b><u>444</u></b>	<b><u>23.6</u></b>
456.hammer	<b><u>194</u></b>	<b><u>48.0</u></b>	197	47.3	194	48.2	<b><u>194</u></b>	<b><u>48.0</u></b>	197	47.3	194	48.2
458.sjeng	563	21.5	562	21.5	<b><u>563</u></b>	<b><u>21.5</u></b>	563	21.5	562	21.5	<b><u>563</u></b>	<b><u>21.5</u></b>
462.libquantum	71.5	290	<b><u>71.5</u></b>	<b><u>290</u></b>	73.4	282	71.5	290	<b><u>71.5</u></b>	<b><u>290</u></b>	73.4	282
464.h264ref	<b><u>515</u></b>	<b><u>43.0</u></b>	516	42.9	514	43.0	<b><u>515</u></b>	<b><u>43.0</u></b>	516	42.9	514	43.0
471.omnetpp	358	17.5	<b><u>360</u></b>	<b><u>17.4</u></b>	363	17.2	336	18.6	337	18.6	<b><u>336</u></b>	<b><u>18.6</u></b>
473.astar	<b><u>360</u></b>	<b><u>19.5</u></b>	362	19.4	359	19.6	<b><u>360</u></b>	<b><u>19.5</u></b>	362	19.4	359	19.6
483.xalancbmk	272	25.3	271	25.5	<b><u>272</u></b>	<b><u>25.4</u></b>	272	25.3	271	25.5	<b><u>272</u></b>	<b><u>25.4</u></b>

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 CltE03F49ACBFDE Sat Jul 2 02:34:14 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 Ultimate
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]: AMD64 Family 21 Model 48 Stepping 1 AuthenticAMD ~3500 Mhz
BIOS Version  : American Megatrends Inc. 2502, 12/11/2015
Total Physical Memory: 7,108 MB
```

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
```

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## Platform Notes (Continued)

L2CacheSize : 25359  
L3CacheSize : 0  
MaxClockSpeed : 3500  
Name : AMD A10 PRO-7800B R7, 12 Compute Cores 4C+8G  
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

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

## Base Compiler Invocation

C benchmarks:

icl -Qvc12 -Qstd=c99

C++ benchmarks:

icl -Qvc12

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WIN64\_X64  
401.bzip2: -DSPEC\_CPU\_P64  
403.gcc: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WIN64  
429.mcf: -DSPEC\_CPU\_P64  
445.gobmk: -DSPEC\_CPU\_P64  
456.hmmmer: -DSPEC\_CPU\_P64  
458.sjeng: -DSPEC\_CPU\_P64  
462.libquantum: -DSPEC\_CPU\_P64  
464.h264ref: -DSPEC\_CPU\_P64 -DWIN32  
471.omnetpp: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WIN64  
473.astar: -DSPEC\_CPU\_P64  
483.xalancbmk: -DSPEC\_CPU\_P64 -Qoption,cpp,--no\_wchar\_t\_keyword -DWIN64



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## Base Optimization Flags

C benchmarks:

```
/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F64000000
```

C++ benchmarks:

```
/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F64000000 shlw64M.lib -link /FORCE:MULTIPLE
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks:

```
icl -Qvc12 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc12
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
400.perlbench: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F64000000 shlw64M.lib
/F256000000 -link /FORCE:MULTIPLE
```

```
401.bzip2: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
-Qauto-ilp32 /F64000000
```

```
403.gcc: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F64000000
```

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## Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: /arch:AVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias -Qauto-ilp32  
/F64000000

456.hmmer: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: /arch:AVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias  
-Qopt-ra-region-strategy=block -Qauto-ilp32 /F64000000  
shlW64M.lib -link /FORCE:MULTIPLE

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

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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